

THE PRODUCTION AND MARKETING OF SOUTH AFRICAN
MAIZE SINCE 1910, WITH SPECIAL REFERENCE TO
THE YEARS 1954 TO 1966

b y

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DECLARATION

I hereby declare that this thesis is my own work
and has not been submitted previously for any
degree in any university.


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F O R E W O R D

The research for this thesis was done during the period September 1963 to May 1967. Towards the end of this time it became known that a very important report of the Maize Marketing Committee of the Maize Board, on possible changes in the technique of maize marketing, was about to appear. It was, therefore, decided that the presentation of this thesis should be held back until it would be possible to comment on the contents of the report. This report was made available to the public late in the second half of 1967 and the Addendum to this thesis is a summary of the report, together with comments on it.

To present a thesis such as this, requires constant reference to statistical data. As such data often break the reader's train of thought, when appearing in a table in the body of the thesis, it was decided that, with very few exceptions, the majority of statistical tables should be placed in an appendix. These tables will, therefore, be found in Appendix A to the thesis. Many of the tables are, however, graphically presented in the body of the thesis.

While investigating ways and means of increasing the South African maize yield per morgen, a great deal of technical data was uncovered which, though interesting to the more ardent student of this subject, was not really relevant to an economic study of this nature. It was therefore decided to place also a limited amount of such detail in an appendix to the thesis. This will be found in Appendix B to the thesis.

During the course of the writer's investigations, it became clear that the bibliography was assuming alarming proportions. It was therefore decided that only those books, Government and other official publications, paper's and unpublished works actually referred to in the thesis would be included in the bibliography.

To my supervisor, Professor H.H. Smith, I owe a debt of gratitude for the guidance he has given me over the years. If the thesis has any merit, this is in no small way the result of his quizzical and sceptical approach to my claims of progress and my tentative conclusions. However, for the opinions expressed, the writer carries the sole responsibility.

It must be stressed that it would have been impossible to produce a piece of research of this nature without the co-operation of many officials of the Maize Board and those of the office of the Registrar of Co-operative Associations, who spent many hours with the writer clearing up numerous points of difficulty. To all of them go my sincere thanks and appreciation. Special thanks must also go to the various wholesale Grain Merchants in Johannesburg, who helped the writer from time to time.

A word of thanks and appreciation is due to ~~Mr~~ Mrs. B. Lunn, lecturer in Bibliography, Librarianship and Typography at the University of the Witwatersrand, who very kindly inspected the bibliography and suggested certain improvements.

The writer also wishes to express his appreciation to the staff of the Library of the University of the Witwatersrand, who spared no effort in obtaining works

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of reference for him from libraries throughout the Republic.

Lastly very special thanks go to Mrs. Marie Basson, who typed the stencils, and to my wife, Joan, who spent many laborious hours checking the statistics.

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CHAPTER I

Introduction

There is no evidence available that maize was known in the old world in ancient times. Seeds of barley and wheat have been found in ancient near eastern sites, but never has there been any trace of maize at all. Furthermore, maize as a plant is not mentioned in the Bible, and neither Greek nor Chinese literature makes any reference to maize. There is, therefore, nothing that suggests that maize was known in the Old World before about 1492. However, at that time, Christopher Columbus returned with a report about a new grain called "Maiz". At a later date explorers visiting America found that maize was being grown and consumed by the Red Indians in places as far apart as Canada and Chile. The consensus of opinion is, therefore, that maize originated in America and was only subsequently imported into Europe.

Having established that maize is of American origin, the next step is to inquire how old maize is. Fortunately, it is not necessary to guess its age. Fairly accurate estimates can be made, as a result of an ingenious method devised by Willard F. Libby of the University of Chicago, for determining the age of ancient vegetal remains. This method measures the radioactive carbon in the remains, and enables the researcher to establish how much of the radio-carbon originally absorbed by the plant from the atmosphere, has since disappeared. The extent of radio-active decay is a measure of the age of the remains.¹⁾

From about 6700 B.C. until about 5000 B.C. there existed in America a culture known as El Riego. The people of this culture were predominantly trappers and hunters and

1) Paul C. Mangelsdorf: "The Mystery of Corn".
Journal, Scientific American, Volume 183, No. 1;
July 1950, pp. 20/24.

collected only a limited amount of plant foods. The most important plants collected were a wild variety of squashes, avocados, beans, amarrouth and chilipeppers. There is no sign that their diet included maize. However, from about 5000 B.C. a new phase known as the Coxcatlan culture evolved. These people spent less time hunting and more time developing vegetable foods. In fact, archaeological studies show that maize was definitely one of the foods they consumed in fair quantities.²⁾ It is therefore concluded that maize has been consumed by humans as food for the best part of 7000 years.

Turning to South Africa, the question arises as to when maize was first introduced. No less an authority than Professor A.R. Saunders states that maize was planted in South Africa in small quantities soon after the arrival of Jan van Riebeeck.³⁾ Burt-Davy, another authority, is, however, of the opinion that maize was probably introduced into South Africa before the establishment of the Dutch colony in 1652. He points out that Portuguese vessels calling at the Cape on the voyage to and from the East, probably traded maize with the natives for meat and other necessities.⁴⁾ The view that maize was grown at the Cape before the arrival of the Dutch settlers is borne out by Hector who wrote "The first reference to maize (in South Africa) according to Mr. Gubbins (was) in 1635. At that date Joseph de Cabreya, wrecked off the coast of Natal, stated that maize was grown by the natives."⁵⁾

2) Richard S. MacNeish: "The Origins of New World Civilization". Journal: Scientific American, Volume 211, No. 5; Nov. 1964, p. 31.

3) A.R. Saunders: Maize in South Africa, C.N.A., Johannesburg, 1930, p. 15.

4) J. Burt-Davy: Maize: Its history, cultivation, handling and uses, Longmans, London, 1914, p. 14.

5) J.M. Hector: "The Origin of certain of our cultivated plants". S.A. Journal of Science, Volume 30; October 1934, p. 58.

However, in a very excellent paper, Dr. M.D.W. Jeffreys comes to the very convincing conclusion that "Maize, a non-self-propogating American plant, was introduced to east African littorals before the Portuguese rounded the Cape and was seen by the Chinese navigators at Melinde Circa 1414 Maize was brought to the Indian Ocean littorals by Arabs before 1400. Maize was brought into southern Africa by the Nguni by 1400 and later by the baVenda. Maize was introduced by the Dutch in 1658. There is no evidence that maize was introduced by the Portuguese."⁶⁾

Irrespective of the exact date when maize was introduced into South Africa, it was only from the year 1840 that there was any real agricultural development in South Africa. At this date, all those who had participated in the Great Trek had more or less settled down, and substantial areas were planted with wheat, maize and oats.

1866 and 1886 brought the discoveries of diamonds and gold and therefore the influx of immigrants who had to be fed. The result was an increased demand for agricultural products and a general feeling of optimism amongst farmers that, as was to be expected, led to a much more rapid development of agricultural production.⁷⁾

The importance of maize as a crop increased at a steady pace, mainly so in areas of South Africa that are today recognised as its major maize producing districts. At first there were inferior varieties not suited to South African conditions, but this could not be known before they had been tried. Gradually, however, these unsuitable varieties gave way to more productive types that were imported mainly

6) M.D.W. Jeffreys: "Who introduced maize into Southern Africa?" S.A. Journal of Science, Vol. 63; January 1967.

7) M.D. Marais: Die Ontwikkeling van die Mielienywerheid in Suid-Afrika. Unpublished thesis for M.A. degree, Potchefstroom University College, 1944, pp. 5 - 10.

from America. It was, however, not till the first decade of the twentieth century that maize became a crop of national importance. 8)

Soon after the end of the South African War in 1902, the depression that had been anticipated, overtook the country and, within a very short period, it became very apparent that the great hopes for a prosperous post war period were ill-founded. It now became clear that much of the past prosperity was stimulated by extensive capital expenditure on the part of the gold mines, and by Government expenditure on public works and by "wholesale distribution of doles, implements and stock, repatriation grants, land-settlement loans, and all kinds of advances from the public purse." 9)

Immediately after the war, and before depression conditions had set in, a loan of R70m. was obtained from the British government.¹⁰⁾ This loan gave the country's economy the necessary economic uplift. During this short-lived boom maize became more important than ever as a crop. New types of maize were imported. New machines and methods of production were used and within ten years South Africa was exporting instead of importing maize. With this development the position of the farmer changed completely. Gone were the days of subsistence economy and simple barter transactions. He was now producing for a market on a cash basis. His lack of commercial training and experience put him at a disadvantage every time he bought and sold through the various middlemen, with whom he now came into regular contact. It was, therefore, not long before he regarded the middleman with a deep suspicion that was not altogether

8) A.R. Saunders: Op.cit., p. 27.

9) H. Frankel: Co-operation and Competition in the Marketing of Maize in South Africa. University of the Witwatersrand Press, Johannesburg, 1925, p. 3.

10) M.H. de Kock: Economic Development of South Africa. P.S. King & Sons Ltd., London, 1936, p. 64.

unjustified.¹¹⁾ This opposition of the farmer to the middleman has played a very important part in the development of an agricultural policy by the various South African Governments. In fact, it is this enmity of the farmer towards the middleman, that was one of the main reasons for the establishment of Agricultural Co-operative associations. Thus, as far back as 1908 the Government of the Province of the Transvaal was making considerable efforts to encourage the co-operative marketing of farm products.¹²⁾ Probably the Transvaal Government of the time were noting the critics of other countries throughout the world, who were busy waging a full-scale war against wasteful marketing methods and advocating co-operative marketing. Unfortunately, in South Africa, the farmer was not yet ready for co-operative marketing. While the state spent a great deal of money importing such people as Mr. Stilling-Anderson, who was a recognised authority on co-operative associations, and who travelled through the Transvaal promoting the movement among farmers, they, the farmers, remained very suspicious of co-operation, especially of those associations which were run on an unlimited liability basis.¹³⁾ In fact, co-operative marketing was pushed so hard towards the farmer by the Government, that it was almost doomed to failure before it had started. Agricultural co-operative associations can be successful only if the farmer feels there is a real need for such a type of organisation and then does something himself about getting it established. It is of no use establishing a co-operative association for the farmer if he is not certain that he wants such an institution.

11) H. Frankel: Op. cit., p. 4.

12) Annual Report of the Transvaal Dept. of Agriculture 1907/8, p. 27.

13) Ibid, p. 27.

The fact that the State was doing everything in its power to encourage the growth of the co-operative movement amongst farmers did not go unnoticed by those who thought that they would be among the losers, if Agricultural co-operation succeeded. In fact, in July 1909 a special Committee was set up by the Johannesburg Chamber of Commerce to investigate the Agricultural Co-operative Movement.¹⁴⁾ This Committee reported: "The position now is practically that of the Government entering into direct trading in competition with the recognised merchants and dealers, who have been established here for many years." The Committee also pointed out that much public money was being spent on co-operation - to which it did not object, provided the expenditure was being kept within limits. Also, the money should be used, said the report of the Committee, by developing standardization and the channeling of produce into suitable warehouses, and not to the detriment of the distributive trade. A further point made by the report was that, under the Amended Land Bank Act of 1908, power was given to advance moneys to Agricultural co-operative associations, up to 50 per cent of the value of immovable property, to enable a society to make loans to members on the produce supplied to it.

However, in spite of these and other objections to the co-operative movement among farmers, and its method of finance by the government, the movement grew, slowly at first, mainly due to the unlimited liability of members and at a much greater pace in later years, when this deficiency had been eliminated. In the path of development of the Agricultural Co-operative Movement there were, however, many obstacles about which more will be said at a later stage.

14) Annual Report of the Johannesburg Chamber of Commerce for the year ended 28th February, 1910, pp. 58, 83 and 101.

The above introductory remarks are sufficient to show that, at the date of the Union of the four provinces of South Africa in 1910, maize had established itself very clearly as one of the leading crops of the country. Just how important maize has been to the South African farmer, will now be investigated first of all purely from the production point of view, and secondly from a marketing point of view.

CHAPTER II

The Production of Maize in South Africa

Because it is a staple food for a large section of the Republic's population, and because it is used (although only to a limited extent) as a stock feed and, furthermore, as it was and is, at times, exported at a profit, the production of maize covers a greater acreage in the Republic than any other agricultural crop.

In spite of the fact that maize occupies such an important position in the Republic's economy, South Africa in 1909-13 produced less than 1% of the total maize crop of the world, but, even in these pre World War I days, the Republic was known to the world as a producer of good quality maize. "The Union of South Africa has become known to the principal markets of the world as one of the foremost fields for the production of maize of good quality." 1)

Just how small the Republic's contribution to the world's production of maize was in the years just before and after the Union of the four provinces, is shown by the statistics in Table I, Appendix A. This shows the main maize producers during the period 1909-13. According to this table South Africa's average annual maize production at that time was 8 million bags of 200 lbs. each. The U.S.A. was by far the largest maize producer and had an annual production of 758 million bags. The Argentine was second with 54 million bags, while Brazil and Mexico produced 42 million and 37 million bags respectively. From the table it can be seen that there were at least six other countries that were far bigger maize producers than South Africa.

South Africa's position in the world in regard to maize at that time was, therefore, not one of great importance.

1) Official Year Book of the Union of South Africa, 1921, No. 4; p. 531.

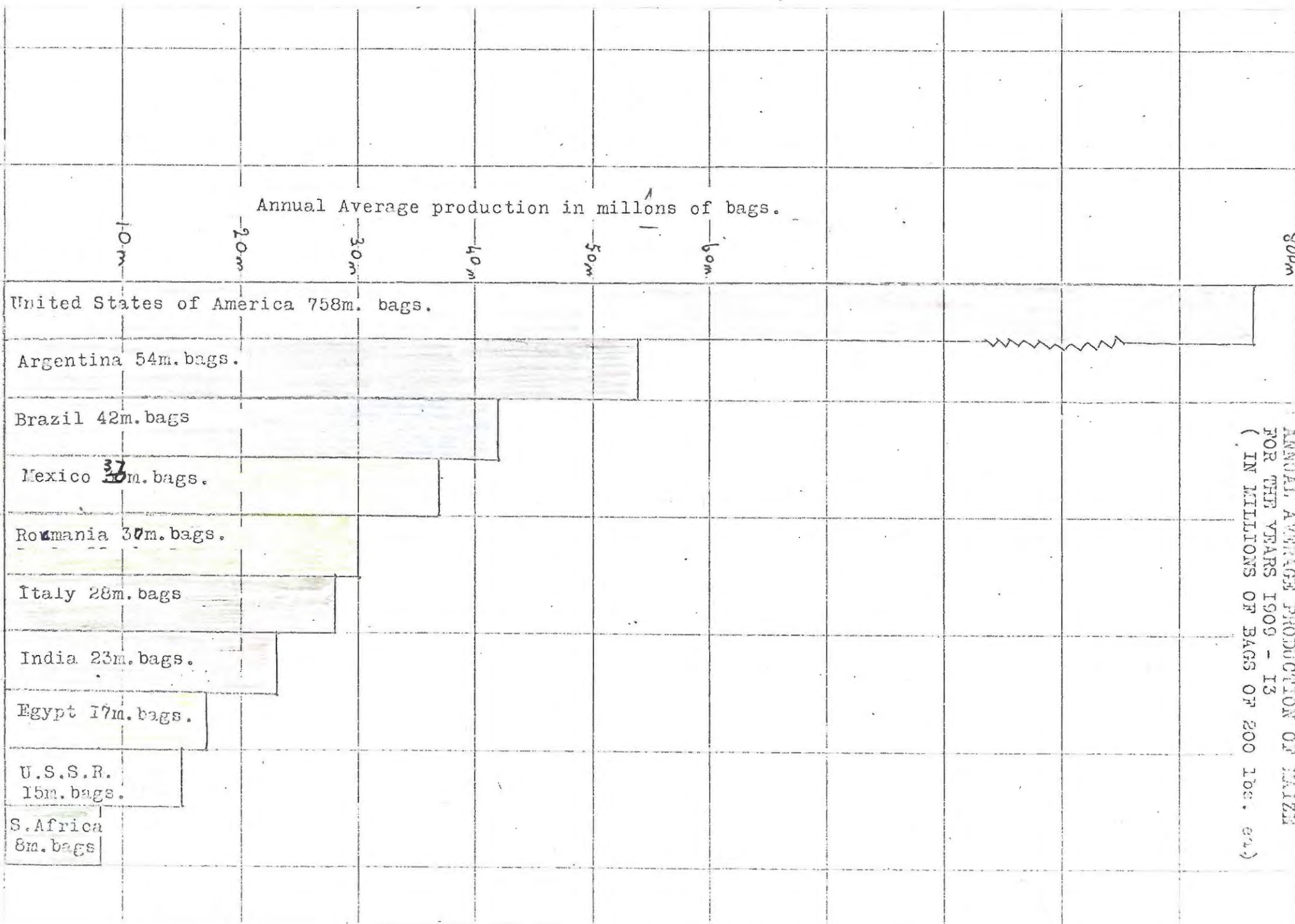
The production of bags of maize per morgen was also, for that period, well below that of the other countries of the world as is shown by Table II, Appendix A. The figures given in both Tables I and II of Appendix A are reproduced graphically on the next two pages.

It may well be argued that the countries with the very high yields per morgen, such as New Zealand, Switzerland and Mauritius, did not feature in Table I as being among the leading maize producers of the world, and that, therefore, maize was probably grown in these countries only in small selected areas that were ideally suited for its production.

That may well be the case, and a comparison with those countries may therefore be irrelevant, but it is still unsatisfactory to observe that Egypt produced nearly three times as much maize as South Africa per morgen and that both the Argentine and the United States of America produced more than twice as much maize per morgen as South Africa did. This leads one to inquire why the South African maize farmers' results compared so unfavourably with those of other maize farmers.

In all countries throughout the world, it is found that the production of agricultural products is less stable and more uncertain than the production of manufactured goods. The manufacturer, provided he has the necessary ability, can plan and organise the land, labour and capital at his disposal in such a manner that the end result of his venture will be very little different from that which he originally anticipated it would be. The success of his undertaking depends, to a large extent, on his ability to organise and direct. In the case of the farmer, however, forces beyond his control, such as temperature, wind and rain play a very important part in determining the final result. It is, therefore, very difficult, if not impossible, for him to say what the final outcome of his plans will be. These are, however, factors which play their part in all countries and

Annual Average production in millions of bags.



ANNUAL AVERAGE PRODUCTION OF WAXES FOR THE YEARS 1909 - 13 (IN MILLIONS OF BAGS OF 200 lbs. ea.)

YIELD IN BAGS PER MORGAN

5.0 10.0 15.0 20.0 25.0 30.0

NEW ZEALAND 28.7 BAGS.

SWITZERLAND 28.4 BAGS.

MAURITIUS 27.6 BAGS.

CANADA 25.5 BAGS.

EGYPT 21.4 BAGS.

HUNGARY 19.1 BAGS.

ARGENTINA 18.1 BAGS.

AUSTRIA 17.8 BAGS.

UNITED STATES OF AMERICA
16.6 BAGS.

ITALY 16.5 BAGS.

SOUTH AFRICA
7.6 BAGS.

page 9 b.

YIELD PER MORGAN IN BAGS
OF 200 LBS. EACH.
See Spn 1925 or 1924/25

are not peculiar to South African agricultural production. In spite of this fact it does seem that South Africa's poor maize yield per morgen can be explained as follows:

Reasons for South Africa's poor maize yield per morgen

- a. Climatic conditions do vary more in South Africa than in other countries. During some years the rainfall can be as low as only 30% of the average for the previous years.
- b. The soils of South Africa appear to be less fertile than the soils of the countries where the bulk of the world's maize crop is produced. "The deficiency of available phosphates is characteristic of nearly all South African soils and in many instances, where potential fertility is high, the land is made useless through the presence of alkali salts or 'brak'" 2)
- c. Maize farmers did not realise the importance of crop rotations, which must include a hoed crop to keep the weeds under control. Furthermore, a crop must be included to which fertilisers can be added. In addition, the soil must be treated with manure that will build up its ability to produce after it has been exhausted by the maize crop. Maize farmers were generally very ignorant with regard to the preparation of soil.
- d. Also, at this time, very little seed selection was done, with the result that often varieties of seeds were used that were not suitable. Dent maize was often grown in parts having relatively low rainfall, where flint varieties would have been more successful. 3)

2) A.R. Saunders, Op. cit., p. 26.

3) H.D. Leppan and G.H. Bosman: Field crops in South Africa: Central News Agency, Johannesburg, 1927, p. 76.

(An explanation of these terms is given in a footnote below.⁴⁾)

- e. Maize was often grown in areas where the climatic conditions and rainfall were not suitable for maize production. The yield per morgen of such marginal or sub-marginal land was very low and, furthermore, reduced the average yield of maize per morgen for the whole of South Africa.
- f. Poor labour resources have also not helped the maize farmer. Often he was aware of the fact that his method of maize production could have been considerably improved upon if only he had had better labour at his disposal.
- g. Insect pests and diseases also attacked the maize plants and helped to reduce the yield per morgen.

The fact that much unsuitable land was used in the production of maize was proved as far back as 1917/18, when yields of as much as 33 bags per morgen were, on some occasions, reported by farmers. Maize growing is well suited to large areas of the Orange Free State and the Transvaal because, especially in pre-World-War II days, land and labour were comparatively cheap. Furthermore, the maize area of South Africa has a long planting season of at least eight weeks, compared with a planting season in the United States of America of only about three to four weeks. Also the Republic has "a dry harvesting season which is largely responsible for the phenomenally fine quality of South African maize." ⁵⁾

4) Footnote: Information from Mealie Industry Control Board on maize varieties.
The "Dent" variety of maize is botanically known as Zea mays indentata and occurs both as white and yellow maize. It is easily recognised, as the seed is rather flat and has a dent on top.
The "Flint" variety is botanically known as Zea mays indurata and is a very rounded seed without a dent on the top. It also occurs as both white and yellow maize.

5) H.D. Leppan and G.J. Bosman: Op. cit., p. 77.

Although maize has been grown in almost every part of South Africa at some time or other, it has become a recognised fact that there is an area that is best suited for the cultivation of maize. This area has become known as the maize triangle, although it is a triangle of peculiar shape. Further, it must be stressed that, even in this recognised maize growing area, there are portions where the yield per morgen is very poor, while there are other areas, outside the maize triangle, where the production per morgen in some years is most satisfactory.

The maize triangle has as its vertices the three points Carolina, Mafeking and Ladybrand.⁶⁾ However, according to the Magisterial District Map, attached to the annual report of the Maize Industry Control Board for the year ended 30th April, 1964, and which is reproduced on the next page, the triangle lies between the points Vryburg, Smithfield and Nelspruit, which makes for a triangle substantially bigger in area. For this purpose it is, however, not very important where the exact vertices of the triangle are. Much more important is the fact that from a marketing point of view the Republic has been divided into three parts - area A, which includes the so-called maize triangle, area B and an area, which could be referred to as area C, but which is officially known as the exempted area. Just what part of the Republic is covered by each classification is given in detail in Appendix B, Section I.

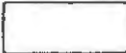



Area A, which consists of the provinces of the Transvaal and the Orange Free State, together with the magisterial districts of Mafeking, Taung, Vryburg and Warrenton is, from this point of view, by far the most important as it produces annually between 95% and 99% of all the maize in the Republic.⁷⁾

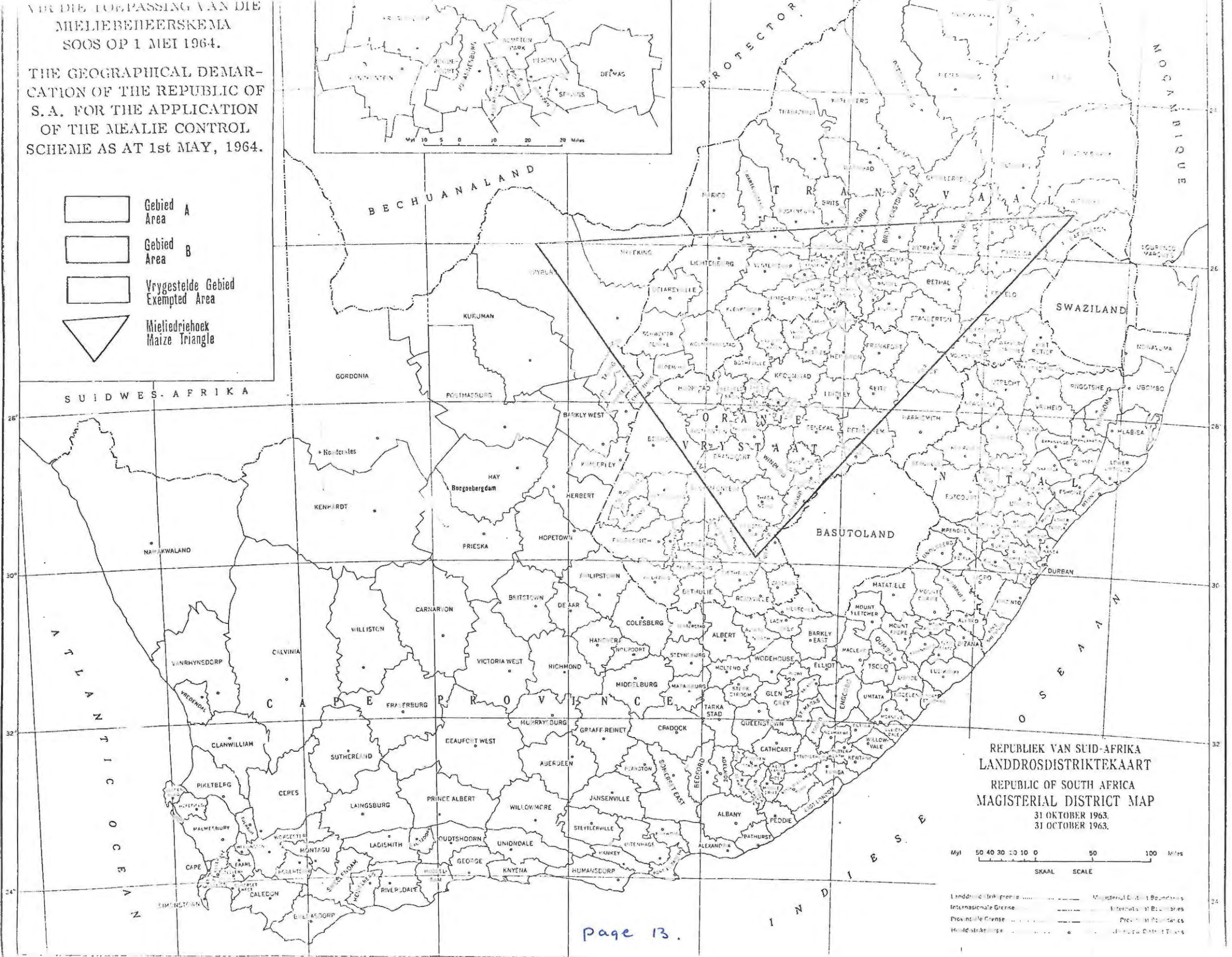
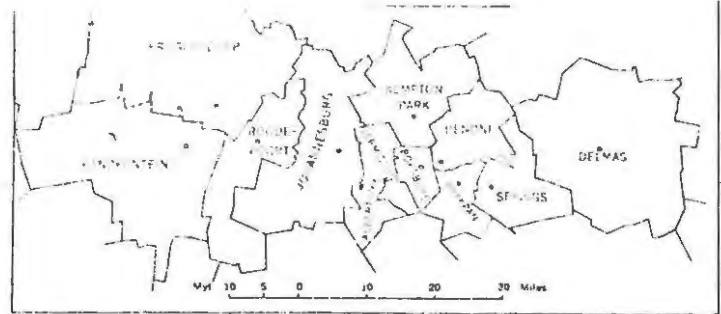
6) A.R. Saunders: Op. cit., p. 34.

7) Mealie Industry Control Board Annual Report for the year ended 30th April 1965, p. 18.

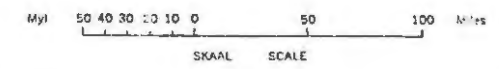
VER DIE TOEPASSING VAN DIE
MELIEBEDIERSKEMA
SOOS OP 1 MEI 1964.

THE GEOGRAPHICAL DEMAR-
CATION OF THE REPUBLIC OF
S. A. FOR THE APPLICATION
OF THE MEALIE CONTROL
SCHEME AS AT 1st MAY, 1964.

-  Gebied Area A
-  Gebied Area B
-  Vrygestelde Gebied Exempted Area
-  Meliedriehoek Maize Triangle



REPUBLIEK VAN SUID-AFRIKA
LANDDROSDISTRIKTEKAART
REPUBLIC OF SOUTH AFRICA
MAGISTERIAL DISTRICT MAP
31 OKTOBER 1963.
31 OCTOBER 1963.



Landdrost- en Distrikgrense Magisterial District Boundaries
Internasionale Grense International Boundaries
Provinsiale Grense Provincial Boundaries
Hoofdstreke Principal District Towns

The growth of the South African Maize production can be considered from various points of view but, for the purpose of this thesis, consideration will be given to the following three aspects:

- a. Total production per year.
- b. The number of morgen of land planted with maize each year.
- c. The yield per morgen per year.

The total production of maize per year for the Republic has been summarised in Table III of Appendix A, and from this table has been drawn the production graph and five year moving average that appears overleaf.

Table III of Appendix A and the graph show how the total annual production of maize has increased. The magnitude of this increase is not always apparent, when the actual production figures given in column two are examined. These actual production figures do, however, indicate very clearly that, while the overall picture has been one of expansion, there have been some very large fluctuations in the annual production from year to year, due mainly to climatic and economic conditions. In a year of extreme drought, such as shown by the marketing season of 1933/34, the total production of maize was only 8,340,000 bags of 200 lb. each, which is actually less than the total production as far back as 1911/12, which amounted to 8,632,515 bags of 200 lbs. each. Just how great the fluctuations in annual production have been, is borne out by the fact that, between these two dates mentioned above, annual production actually was as high as 24,295,561 bags in the 1925/26 marketing season and 22,386,000 bags in the 1930/31 season. It should, however, be observed that, while there have been fluctuations in the annual maize production since the 1933/34 season, these fluctuations have been much less in magnitude than those that occurred before this date, though the seasons 1964/65

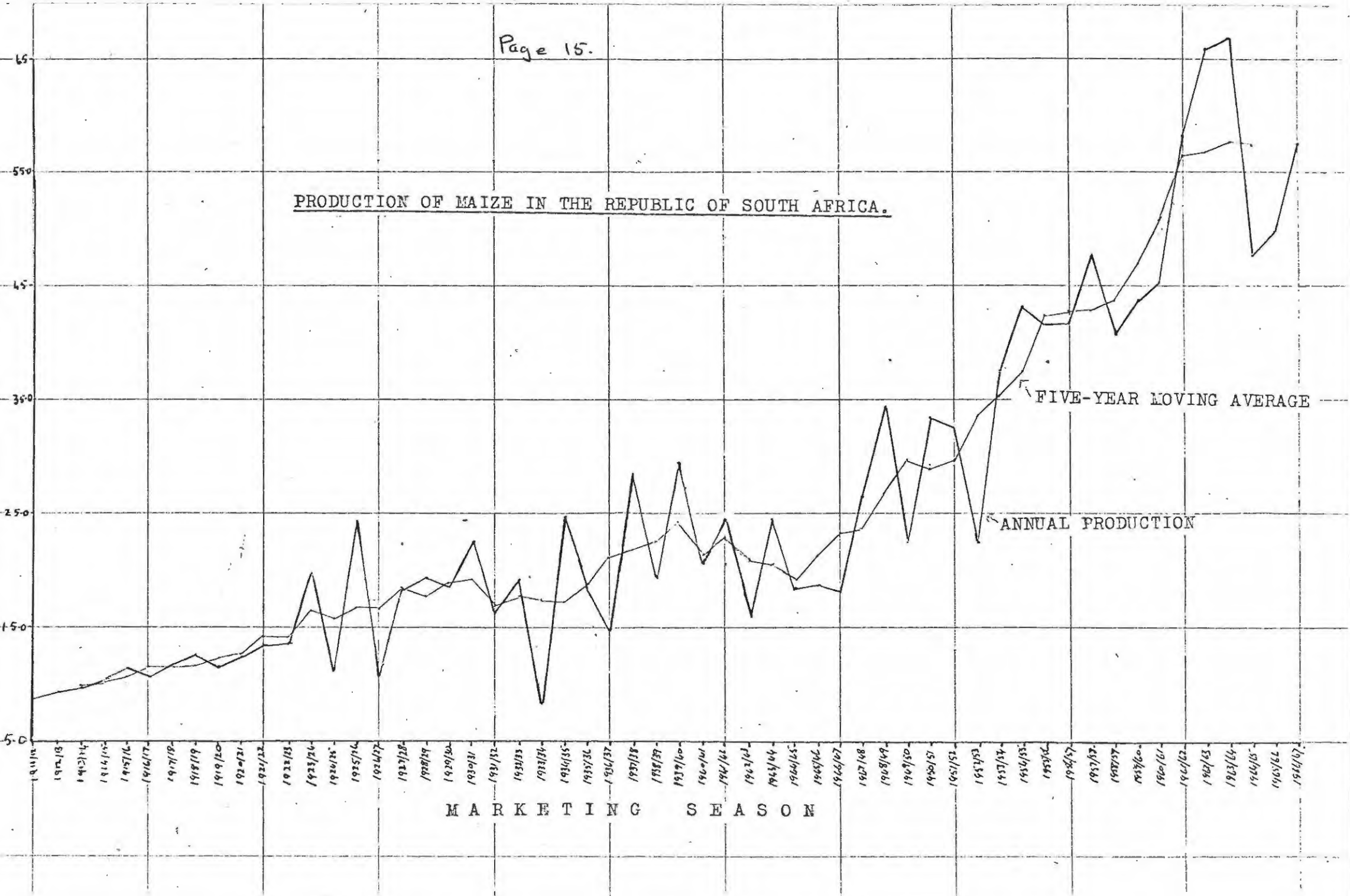
MILLIONS OF BAGS PRODUCED

PRODUCTION OF MAIZE IN THE REPUBLIC OF SOUTH AFRICA.

FIVE-YEAR MOVING AVERAGE

ANNUAL PRODUCTION

MARKETING SEASON



and 1965/66 were, comparatively speaking, poor ones. The overall picture is one of increased production.

Column three, which comprises the writer's own calculations, shows indices for all the years calculated in relation to the base index of 100 for the marketing year 1911/12. Because indices are here being examined, comparisons are much easier and immediately it can be seen that the production of maize for the years 1937/38 and 1939/40, the early years of the controlled marketing of maize, are by far the best years to that date. This is followed by lower production figures for the war years, but, with minor exceptions, the production index figures do show increases in the post war years until they reach the record index of 778.9 for the marketing season 1963/64, compared with the base index of 100 for the 1911/12 season.

Column four, which consists of the writer's own calculations, shows a five year moving average figure. The purpose of using a five year moving average figure is to iron out fluctuations that occur over the short period, but, at the same time, to take cognizance of declines in production that may persist for a longer period. This column and the graph based on it show very clearly that the long period trend of production, with minor exceptions, has been on the upward grade all the time.

It seems relevant to inquire why production has showed such an increase. For the period 1911/12 to 1922/23 the growth was slow, but, with minor exceptions, steady. During this period World War I had come and gone and, in the years immediately after the war, those countries of Europe that had been engaged in this conflict, found that their agricultural production had been considerably disorganised, with the result that they had to import large quantities of grain. This increased demand for South African maize naturally brought about a rise in price

followed by an increase in production. It may, therefore, be said that the increase in production of maize in South Africa up to the early 1920's, when the depression set in, was directly as a result of conditions brought about in Europe by World War I. The increase in production was achieved, not only by planting a greater area of maize, but by constantly trying to improve methods of production and so obtaining a better yield per morgen planted.

Statistics show that, while for the production season 1910/11 only 1,081,719 morgen were put under maize by European farmers, this figure had risen to 1,871,193 morgen in 1919/20 and 2,219,550 morgen for the year 1922/23.⁸⁾

These figures differ only slightly from those given for these years in the annual Agricultural Census, but, officials of the Mealie Industry Control Board have informed the writer that, since those early figures were published in the Agricultural Census, they were found to be slightly inaccurate and that the figures they have now supplied are the correct ones. Unfortunately there are no statistics available for the production of maize by European farmers only, for the year 1910/11, nor has the Agricultural Census calculated a yield per morgen for this period. However, for the season 1919/20 the Agricultural Census quoted a yield of 4.95 bags of 200 lb. each per morgen⁹⁾ and 6.51 bags of 200 lb. each per morgen for 1922/23.¹⁰⁾ It is, however, noteworthy that for the next season 1923/24, the yield was only 4.21 bags of 200 lb. each per morgen.¹¹⁾ This was not due to a decline in methods of production, but to adverse weather conditions for that particular season.

8) Statistics supplied by Mr. Malherbe, of the Mealie Industry Control Board, Pretoria.

9) Agricultural Census 1918/19 No. 2. U.G. 12 of 1921, pp. 7/8.

10) Agricultural Census 1922/23 No. 6. U.G. 25 of 1925, p. 102.

11) Agricultural Census 1923/24. No. 7. U.G. 4 of 1926, p. 8.

Because of the considerable influence of climatic conditions on production from year to year, it is the writer's opinion that it is almost impossible to show that there has been a steady increase in the yield per morgen, if individual years are considered, and that proof of this increase can only be established if the average yield per morgen over a number of years is considered and, this is, in fact, how the statistics are presented in Table IV of Appendix A.

Encouraged by excellent prices for maize in Europe in the immediate post War I years, production of maize in South Africa continued to grow, even after it had become apparent that the farmer in Europe was once again finding his feet and producing his country's own agricultural needs. The result was that, although the increase in production was not impressive, (perhaps with the exception of the 1925/26 season, when 24,295,561 bags were produced), there was considerable overproduction and the price of maize slumped badly, because of the creation of a buyer's market. During this time wages and transport costs did not decline with maize prices and many maize farmers went insolvent.¹²⁾

The importance of the South African maize crop at this stage can be appreciated when it is observed that in 1923 the total area cultivated for all crops was 5,051,300 morgen of which 2,223,101 morgen, or approximately 44% of the total, was under maize.¹³⁾

During the ten year period after 1923 the production of maize continued to increase slowly. The reason for this continued growth in production was (in the opinion of the Commission to inquire into Co-operation and Agricultural Credit) that there was an increased desire on the part of farmers to produce maize as a cash crop rather than as a

12) M.D. Marais: Op. cit., p. 9.

13) Ibid.

basic feed-stuff for the raising of animal products. Prominent leaders of the farming community as well as Government officials were continually suggesting to farmers that South Africa should develop into a large maize exporting country. Maize producers were further encouraged by the high prices for maize on the overseas markets. By July 1929, after maize prices had declined, the price for grade 2 maize ex elevator, was still R1-16 per bag.¹⁴⁾

From the point of view of local demand and supply of maize, it is worth stating at this stage that, while in the period before 1923 local demand more or less absorbed local production, with only a comparatively small surplus available for export, after 1923, (with the exception of crop years such as 1932-33 that yielded a very poor harvest), the position was very different.

During this period, the increase in consumption did not keep pace with the increase in production, with the result that about one-third of the total crop had to be exported. Consequently, for example, in crop year 1924/25 the harvest brought in 24,295,581 bags of which 11,457,192 bags, or 47% of the crop, had to be exported, while in crop year 1929/30 the harvest was 22,385,621 bags of which 6,674,146 bags, or 29%, was exported.¹⁵⁾

During the depression period, 1931-33, overseas prices for maize slumped badly due to the production of surpluses of most agricultural products. How badly off the South African maize farmer was at this time can be seen from the fact that maize was being sold in Europe at between 60.5 cents and 68 cents per bag and that export

14) Report of the Commission to inquire into Co-operation and Agricultural Credit (U.G. 16 - 34), p. 28, paragraph 161.

15) Taken from a table on page 28 of the Report of the Commission to inquire into Co-operation and Agricultural credit, (U.G. 16 - 34).

and other charges amounted to approximately 32.5 cents per bag, which, of course, had to be deducted from the selling price.¹⁶⁾ However, in spite of these very poor prices on both the foreign and local markets, production of maize continued to increase. In fact, it appears that throughout the period 1910 to 1966 the price factor never caused a decline in production, this in spite of the fact that there apparently was very definite evidence that production was at times taking place at a loss.¹⁷⁾

One would not expect, at first sight, that production should increase with a decline in price. One can only conclude that each producer hopes that, although he is producing more, the total production will be less and that therefore there will be an improvement in price. Alternatively, it is, of course, possible for the price level to improve considerably, even if South Africa were to produce more and more maize, but this could only come about if there were a crop failure in other parts of the world, (which is not likely to be a regular feature), or if the increase in consumption of maize was much faster than the increase in its production. During the course of his research on this subject the writer visited several farms producing maize in the northern O.F.S. and he taxed the farmers with the question of why they produced more and more maize when it was apparent that the total annual production of maize exceeded local consumption and that the surplus would have to be exported, in all likelihood at a net price less than the local price. The answers received can be summarised as follows.

16) W.J. Lamont: A Review of the Maize situation in the Union of South Africa. Bulletin 101 - Department of Agriculture.

17) Report of the Commission to inquire into Co-operation and Agricultural Credit. (U.G. 16 - 34), p. 29, par. 169.

- a. Under the control system of marketing the price would never be permitted to fall to a ridiculously low level, even if more than 50% of the crop had to be exported at a net loss.
- b. At a lower price per bag the farmer's profit per bag was also less. Therefore, if he wanted the same net income as he had had for the previous year, he would have to produce more bags of maize to achieve this income.

It therefore appears that, in the production of a commodity such as maize, where there are at present in South Africa approximately 36,000 European producers,¹⁸⁾ it is virtually impossible to control the total annual production. As it is not price that is the overall dominating factor in regard to annual production, but climatic conditions (which fluctuate from season to season), it is almost impossible to predict, except on a very broad front, what the immediate future production trends will be. It may, however, be said that, given favourable weather conditions, the general trend is for an increase in production, as is clearly illustrated by the five year moving average column for production in Table III, Appendix A.

When examining Table IV, Appendix A, it can be seen by how much the average production for the ten years 1924/34 was greater than that for the previous ten years. The table does not cover the whole of the ten years before 1924, but only the latter half of this period. One may observe, however, that during this second half the annual production was at a higher level than during the first half. This fact can be obtained from the annual production figures given in Table III. Table IV shows that

18) Brief Review of the Maize Industry in South Africa.
(Publication of Mealie Industry Control Board,
Pretoria, Dec. 1964.)

average annual production for the period 1918/19 - 23/24 was 10,895,467 bags, while for the period 1929/30 - 33/34, it amounted to 13,018,239 bags, an improvement of 2,112,772 bags or 19.4%. How this increased production was achieved is also found in Table IV, which shows that the average annual number of morgen planted with maize increased from 2,040,989 for the 1918/19 - 23/24 period to 2,939,456 for the 1929/30 - 33/34 period. This represents an increase of 898,467 morgen or 44%, which is considerably greater than the increase of 19.4% in the annual production of maize. Consequently therefore, as was to be expected, the yield of bags per morgen decreased from 5.34 for the 1918/19 - 23/24 period to 4.43 bags per morgen for the 1924/30 - 33/34 period. As a result of this decrease in the yield per morgen it is not altogether surprising to find, as the Commission inquiring into Co-operation and Agricultural Credit found in 1934, that some maize farmers had been producing at a loss during the last few years.¹⁹⁾ It should, however, once again, be pointed out that this latter period did include the crop year 1932/33, which, due to the extensive drought in the country at the time, had the lowest total annual production for the whole of the period under consideration - namely 1910 to 1966. To some extent, therefore, the low yield per morgen for the period 1929/30 - 33/34 must have been influenced by these exceptional drought conditions.

Because the farmer looked upon his maize crop as a commodity that had to be sold as grain to bring in the necessary income, he tended to specialise as a cash crop producer, giving very little thought to the possibility of feeding his maize to his livestock, for which he would

19) Report of the Commission to inquire into Co-operation and Agricultural Credit. U.G. 16 - 34, p. 29, par. 169.

then have obtained a much better price in their improved condition. This specialisation and dependence on an income mainly from one source, made him much more vulnerable to the fluctuating conditions brought about by the great variations in the climatic conditions. He would in fact have been much better off if he had spread his risks and developed a more balanced farming system.

The South African Government was fully aware of the fact that the methods of production employed by the maize farmer were not only primitive but also unproductive. As a result it continually requested him to improve and modernise his methods of production by:

- a. avoiding unproductive debts,
- b. using the labour at his disposal in a more economic manner and
- c. fertilising his land before planting.

The Department of Agriculture realised that it was of the utmost importance that the yield per morgen be increased, as this was the surest way in which the profitability of the industry could be raised.²⁰⁾

During the period 1934 to 1944 there was again a marked increase in the average annual production as indicated by Table IV, Appendix A. Average annual production increased from 13,018,239 to 18,472,000 bags, an average annual increase of 5,453,761 bags or 32.7% as compared with an increase of 19.4% for the period 1924 to 1934. This increase was brought about by a comparatively small increase in the number of morgen planted annually with maize. Table IV shows that the increase was from 2,939,456 morgen annually in 1934 to 3,033,895 morgen annually in 1944, an increase of only 94,439

20) Annual Report of the Secretary for Agriculture for year ended 30th June 1926.

morgen or 3.2% as compared with an increase of 44% in the area planted during the period 1924 to 1934. If the large increase in the annual production did not come about as a result of an increase in morgen planted, it must have been due to an increase in the number of bags produced per morgen. This fact is borne out by Table IV, Appendix A, which shows that the yield per morgen rose from 4.43 bags in 1934 to 6.10 bags in 1944, an improvement of 1.67 bags per morgen, which is an increase of 37.7% on 4.43 bags per morgen. Even this improved figure of 6.10 bags per morgen is very low when compared with the U.S.A. yield (in 1944) of 32.8 bushels per acre, which is equivalent to 20.8 bags per morgen.²¹⁾

During the period 1934 to 1939, the five year moving average rose from 17,007,400 to 24,293,800 bags (Table III, Appendix A). Consumption also increased, but could not keep pace with the production increase. Consequently, during the marketing year 1937/38, a new pre war record export of 10,940 000 bags of maize was established, and this record was not surpassed until the marketing year 1955/56, when 11,336,000 bags of maize were exported.²²⁾ Up to 1939, although foreign prices were not always satisfactory, there were no physical difficulties encountered in exporting. However, with the outbreak of war in 1939, shipping space was immediately at a premium, and as maize was not considered an essential food, and as there was a local shortage the exports for the marketing years 1942/43 to the end of the war in 1945 were insignificant.²³⁾

It was at this stage in the history of the maize

21) H.A. Wallace and E.N. Bressman: Corn and Corn Growing. John Wiley & Son, New York, p. 384.

22) Mealie Industry Control Board Annual Report for the year ended 30/4/64.

23) Ibid.

industry in South Africa that it became clearer than ever before that something should be done to increase local consumption of maize. It was already evident that a rise in the standard of living of individuals was taking place and that a more balanced diet would, if anything, tend to reduce the quantity of maize consumed by humans. It was therefore important that something should be done about increasing the consumption of maize by livestock. The Maize Board, therefore, decided that, to encourage the feeding of maize to livestock, it would, as from the beginning of the 1939-40 season, give a levy rebate of 2 s. (20 cents) per bag on maize used as stock-feed. The response to this levy rebate was not very encouraging and only 577,765 bags of maize were purchased under the rebate during that year. It was, therefore, apparent that, if better results were desired under the rebate system, stock-farmers would have to be educated to feed more maize to their livestock. ²⁴⁾

During the immediate pre-war years, there was again evidence that price played very little part in influencing the total production. During this time production increased steadily, as shown in Table III, Appendix A, in spite of the fact that prices were very poor. In fact, the majority of maize farmers, especially the smaller ones, must once again have been producing at a loss, for they were paid 5s. 9d. (57.5 cents) per bag for the best grades delivered at the producer's station for export purposes. A levy of 2s. 6d. (25 cents) a bag, was imposed (with a stock-feed rebate of 1s. 6d. (15 cents) per bag) on maize sold for consumption on the local market, to help subsidise the poor export price. The net result was that the producer

24) Annual report of the National Marketing Council
1939-40, U.G. 25 - 1941, p. 24, par. 76.

received approximately 80 cents per bag for Grade 2 maize ex elevator, with a further small subsidy of 15 cents per bag on the first 500 bags.²⁵⁾ At first it would appear that this extra subsidy of 15 cents per bag on the first 500 bags per producer was unimportant, but the same annual report points out that, of the 48,339 maize producers in operation at that time, 79.094 % of them produced, at that date, less than 500 bags of maize each as their total crop for the season. ²⁶⁾

It was during the period 1934 to 1944 that the 1937 Marketing Act brought about the establishment of the Mealie Industry Control Board. At a later stage this Board and its functions will be discussed in detail, but at present, purely from a production point of view, let it be said that it must have been a great comfort to the farmer producing maize to know that the price of his product was fixed for a year and that he would be paid that price irrespective of the fact that he had an early or late harvest. Within the period under consideration it must have been by far the greatest factor in encouraging the farmer to produce yet more maize. In fact, it appears that, during the war years, the farmer was informed what price he would get for his maize during the coming season even before he had started planting operations. ²⁷⁾ Table III shows that production had declined during the war years. The five year moving average going down from 24,293,000 bags in 1939/40 to 19,117,600 bags in 1944/45. This decline was due mainly to unfavourable climatic conditions and a shortage of labour. At the same time demand had increased

25) The Annual Report of the National Marketing Council 1939-40, U.G. 25 - 1941, p. 24, par. 76.

26) Ibid, p. 23, par. 71.

27) The Report of the National Marketing Council on the Marketing Boards 1938 to 1946, U.G. 27 - 1947, p. 4. par. 20.

steadily and, as will be seen later on, actually exceeded supply during some of the war years.

The Marketing Act of 1937 was, however, passed not only for the purpose of stabilizing the prices of agricultural products, but also in an attempt to improve the efficiency of agricultural production. It was stressed at the time that for efficient production to take place, it was essential that producers must develop and concentrate on farming systems suited to their area, while at the same time not losing sight of the consumers' wants. This, it was maintained, could only be done if there was some degree of price stability for all the major farm crops. It was pointed out in support of stable crop prices that, while prices of agricultural products fluctuated as they had done without organised marketing, farmers would be continually changing from one line of farming to another. However, by maintaining a fair price balance between the major agricultural products, the Marketing Board system had achieved greater production efficiency. ²⁸⁾ It may be observed, however, that the actual research for improved methods of production has always been undertaken by the Department of Agriculture and that the Control Boards, established under the Marketing Act, had to be very careful that they did not duplicate this valuable work. In fact, the Control Boards only really assisted the Department of Agriculture by supplying some of the funds required for the research.

As the War continued, maize surpluses disappeared and at one stage the position became critical. For the marketing season 1942/43 local consumption was estimated at 22,000,000 bags, while the production was only 16,341,000 bags, thus, "Within a few years, the supply-demand

28) The Report of the National Marketing Council on the Marketing Boards 1938 to 1946, U.G. 27 - 1947, p. 7, par. 35.

relationship had been completely reversed. Large surpluses, involving exports at a loss, had been replaced by shortages, necessitating strict rationing of supplies." 29) So strict was this rationing of supplies, that maize and maize products were sold only by permit issued by the Board, and maize could only be used as stock-feed for the purpose of producing protective foods. Maize could not be used to feed animals that were being fattened for slaughter purposes.

According to Table IV, Appendix A, the average annual production for the period 1944/45 to 1948/49 actually declined slightly from 18,472,000 bags to 18,284,346 bags, an average annual decline of 187,654 bags or 1.02%. This decline came about in spite of a fairly large increase in the annual average area planted with maize, from 3,033,895 morgen to 3,319,562, which is an average annual increase of 275,667 morgen or 9.1%. The reason for this decline in total production, in spite of an increase in area planted, is given in the 4th column of Table IV where statistics show that, while the yield per morgen was 6.10 bags for the period 1939/40 - 43/44, it was only 5.51 bags per morgen for the following period 1944/45 to 1948/49. Had the producers been able to continue at the rate of 6.10 bags per morgen, the annual average production for the period starting 1944/45 would have been 20,249,328 which would have been an annual average increase of almost 2 million bags and would have made all the difference in this period of acute shortage. This fact once again stresses how vital it is for the production per morgen to be kept as high as possible.

It should, however, be pointed out that this yield of

29) The Report of the National Marketing Council on the Marketing Boards 1938 to 1946, U.G. 27 - 1947,
p. 55, par. 300.

5.51 bags of maize per morgen for the 1944/45 - 48/49 period is a figure for all European maize producers throughout South Africa and, that for individual areas, the yield per morgen was often much higher. Thus, for example, a committee set up in 1944 to investigate the average cost of production of maize, concluded that, over a six year period 1938/39 to 1943/44, the average yield of bags per morgen was 8.28 for the Transvaal Highveld and 6.47 bags per morgen for the Western Orange Free State.³⁰⁾ Obviously then, if the averages for these two areas were considerably above the average for the whole country, there must have been other areas where the yield per morgen was very poor indeed.

Throughout the period 1944/45 to 1946/47 there was very little difference between production and consumption and everything possible was being done to encourage the farmer to increase not only his yield per morgen, but also his total production. There was, in fact, a world shortage of all cereals which resulted in high prices and which would have made it very undesirable if large quantities had had to be imported. In some years it was impossible altogether to avoid the importation of maize, but fortunately this was never on a very large scale, as, even in the seasons of very severe drought, the local maize crop was more or less sufficient to meet the local demand. World prices for maize were at this stage substantially above local prices and just how expensive it was to import maize will be appreciated when it is realised that, to subsidize the imported maize down to the local price for the consumers, cost the Treasury more than R2-00 per bag

30) The Report of the National Marketing Council on the Marketing Boards 1938-46. U.G. 27 - 1947, p. 57, par. 320.

of 200 lbs. during the 1946-47 marketing season.³¹⁾

That the authorities were seriously worried during the war years and those that immediately followed, can be seen from any periodical on South African agriculture published at the time. Thus for example, Dr. A.R. Saunders, (the Senior Professional Officer (Field Husbandry) College of Agriculture, Potchefstroom, at the time) stated that the unfavourable climatic conditions of the past few years had decreased the total maize produced. This fact, coupled with the increased local consumption of maize and the decreased yield per morgen, resulting from the shortages of fertilizer, had created a set of circumstances that called for an immediate campaign to increase maize production. He further pointed out that maize was occupying a very important position because of its enhanced role as an animal feed.³²⁾ How important maize has become in stock feeding can be realised when noting that the manufacture of balanced rations, in which maize forms the principal ingredient, for stock feeding purposes, increased from 12,000 tons in 1939 to over 300,000 tons in 1945. While this increase is encouraging, it must be realised that 300,000 tons is still only, at the most, equivalent to 3,000,000 bags of maize and therefore not a very large portion of the total annual crop.

In the immediate post war years farmers were continually being guided on what to do to improve their yield of maize per morgen.³³⁾ As the advice they received is relevant to the production of maize, but of rather a technical nature, it was decided that the facts should be

31) The Report of the National Marketing Council on the Marketing Boards, 1938-46, U.G. 27-1947, p. 58, par. 326.

32) A.R. Saunders: "Weed control and espacement of Maize." Farming in South Africa, October 1945, p. 593.

33) The Report of the National Marketing Council on the Marketing Boards, 1938-46, U.G. 27-1947, p. 59, par. 332.

assembled and presented in an Appendix to this thesis. These findings, together with a discussion on scientific development and selection of seed varieties, will be found in Section II of Appendix B.

Referring again to Table IV, Appendix A, it should be observed that during the period 1949/50 to 1953/54, the average annual production for European farmers increased very considerably to 24,794,844 bags compared with 18,284,346 bags for the 1944/45 to 1948/49 period. This was an annual average increase of 6,510,498 bags or 35.6%. This increase, as column 3 of Table IV shows, was due to some extent to the increase in morgen planted with maize, but, the increase in morgen planted from 3,319,562 to 3,469,126 was an addition of only 149,564 morgen or 4.5% which was really small compared with the increase in production of 35.6%. The main factor responsible for this increase was, therefore, the one which is apparent in column 4 of this table, where it can be observed that the yield per morgen increased from 5.51 bags in the 1944/45 to 1948/49 period to 7.15 bags for the 1948/50 to 1953/54 period.

Table III, Appendix A, shows that this latter period was not only a much improved period for the European maize producers, but for all maize farmers. It can be observed from this table that, while the five year moving average figure for all producers of maize stood at 26,930,600 bags at the end of the 1948/49 season, it had increased to 35,379,000 bags at the end of the 1953/54 season. This increase of 8,448,400 bags or 31.4%, while not quite as good as the 35.6% increase for European farmers only, does compare very favourably with it and shows that there had been an all-round improvement in the production of maize within the Republic of South Africa.

To plant more morgen of ground with maize and at the same time to attempt to produce more maize per morgen, immediately suggests that there was an incentive to the maize producer that encouraged him to produce more and more. The incentive was once again the maize price. During the whole of this period, 1949/50 to 1953/54, there was a constant and steady increase in the producer's price for maize. There was no one steep increase, but a steady annual increase which was sufficient to encourage the maize producers to greater and greater efforts.

Before going further to give the reasons for this increase in the yield per morgen to 7.15 bags, it should be appreciated that even this higher yield was poor by world standards and was approximately only one third of the yield per morgen obtained in the U.S.A.

A great deal of research has also been done by the writer on the theory of maize production, the principal varieties of maize seed available, the planting of maize seed, methods of cultivation, alternative crops for rotation purposes, maize diseases and insect pests, the establishment of a seed inspection service and the performance of hybrid maize seed as compared with the standard varieties. While all this is relevant to the study of means of increasing maize production, it is of a technical nature and is therefore placed in an appendix (Section III, Appendix B).

In summing up the period 1949/50 to 1953/54, it appears that, from a climatic point of view, this was generally a favourable period for the maize industry of South Africa, although there were occasional periods of drought for certain areas. The reasons why there were, in this period, greater production and better yields per morgen may briefly be summarised as follows.

- a. More care was exercised by seed merchants and co-operative associations in seeing that the right seed was planted in the right area. It was now firmly established that certain seeds only flourished in certain areas and that seed varieties that were a success in one area could be a complete failure in another.
- b. More and more use was being made of the high yielding hybrid maize seed as this became available.
- c. Weeds were better kept under control by planting the maize seed in rows 7 feet apart rather than 3 feet apart.
- d. Greater use was being made of fertilisers which remained expensive but gradually became less scarce.
- e. More agricultural lime was being used to reduce the acidity of some soils, where it was evident that the acidic content was too great for the successful production of maize.
- f. A greater effort was made to control insect pests, (that often destroyed as much as 20% of the crop), by winter ploughing and the use of insecticides such as D.D.T.
- g. Greater use of mechanisation rather than native labour.

Throughout this period, however, owing to rising costs and scarcity of labour, it was very apparent to the maize farmer that production costs were continually rising, and, while these increasing costs were to some extent taken care of by the higher prices that the farmer was getting for his maize, it was clear to him that his selling price could not go on rising indefinitely and that he would have to cut his cost of production per bag if he wanted to continue to balance his budget annually and, that the only way he could possibly cut costs was to

increase his yield per morgen. It therefore appeared that, although his yield per morgen was better than it had ever been before in South Africa, he was under considerable pressure to raise this yield still further.

Once again, referring to Table IV, Appendix A, it should be observed that for the period 1954/55 to 1958/59 the average annual production for European farmers in the Republic increased from 24,794,844 bags of maize for the previous five years to an annual average of 37,013,828 bags for the five years between the dates mentioned above. This is an annual increase of 12,218,984 bags or 49.3%. Column three of Table IV shows that this increase in production was achieved partly because more morgen were planted with maize during the period under review. The statistical facts are that the annual average area planted increased from 3,469,126 morgen to 3,996,505 morgen, or an increase of 527,379 morgen or 15.2% which is small compared to the 49.3% increase in total production. Column IV shows a satisfactory increase in the yield per morgen from 7.15 bags to 9.26 bags - an increase of 2.11 bags per morgen or 29.5%.

Table III, Appendix A, confirms that this period 1954/55 to 1958/59 was not only a good one for European farmers, but for all producers of maize in the Republic, for while the five year moving average stood at 35,379,200 bags in 1953/54, it had increased to 43,712,200 bags by 1958/59 - an average annual increase of 8,333,000 bags or 21%, which is good but not nearly as large as the 49.3% increase in production for European farmers only.

In spite of this considerable increase in the production of maize, together with increases in the production of other foods, Dr. M.S. du Toit, Director of Technical Services, warned that the position had changed and that,

while in pre war days South Africa had surpluses of food that could be exported, it was now faced with periodic shortages of food and that local consumption would in future continuously exceed production unless use was made of more scientific methods of farming. He stated further that, although the maize crop had recently achieved new records, due to mechanisation and favourable climatic conditions, this might not continue as soil fertility might decline in the future. There was consequently only one course left and that was to increase the yield per unit of land still further.³⁴⁾

Throughout the period 1954/55 to 1958/59 there is more and more evidence that the hybrid seed was replacing the standard varieties. It was now an established fact that the various hybrid seed varieties gave better yields than the standard varieties, especially under unfavourable conditions. Not only was the hybrid seed more drought resistant, but it could also be planted more densely, which further helped it to give a better yield per morgen. Experiments undertaken during this time in the Northern and Eastern Free State and the Eastern and Western Transvaal indicated that on an average the yield from the hybrid maize seed was 6 bags per morgen more than the yield from the standard varieties. This result was most encouraging, especially if account is taken of the fact that most of the hybrids used extensively are very susceptible to leaf blight (*Helminthosporium turcicum*), a disease that is very common in damp conditions. Another encouraging factor is that both the authorities and maize producers were fully aware that certain hybrids were only suitable for certain areas. The following recommendations

34) Dr. M.S. du Toit: "Why a new Farming in South Africa?" Farming in South Africa, April 1956 issue, p. 9.

with regard to hybrids were made to farmers during this period:

P.P. x K.64, a white dent top cross, is particularly suitable for the Western and Eastern Transvaal, but, because of its lateness, is not recommended for the Eastern Free State.

E.K. x K.64, also a white dent top cross, is suggested for Sannieshof, Klerksdorp, Coligny, Lichtenburg and De la Rey districts.

S.A. 9.N., a further white dent top cross that has a lengthy growing period, and should therefore be planted early, is likely to do best in the Western and Eastern Transvaal. A white dent top cross, known as S.A.9., which ripens sooner than S.A.9.N., should do well in the Eastern and Western Transvaal, while S.A.5., which is a white dent double hybrid, is also recommended for the Western and Eastern Transvaal, particularly in the Delmar area.

With regard to yellow maize, S.A.200., a yellow flint double hybrid, is suggested for the Eastern Free State, but it is also pointed out that it can be grown successfully in the Western Transvaal, especially when planting has for some reason or other had to be delayed. Another recommended variety is the S.A.4., which is a yellow flint dent double hybrid, that is suitable for planting in the Western and Eastern Transvaal, as well as the Eastern Free State. This particular hybrid is most suitable for planting when conditions are unsuitable for standard varieties, when its yield is likely to be high per morgen and its grain of good quality.

In addition to the above guide to the farmer as to what maize he should plant, according to where his farm was situated, he was also given the names of a number of

co-operative associations and seed merchants, each of whom stocked one or more of the above hybrids. If, therefore, the farmer followed the advice given to him, he could be fairly certain, not only that he would plant the right seed, according to his situation, but that he would also get good quality of the particular seed that he purchased.³⁵⁾

During this period more and more attention was also being paid to fertilising. Every maize farmer knows that he will increase his yield per morgen if he increases the amount of fertiliser he uses per morgen. While in the immediate post war years it was very scarce, fertiliser was now in plentiful supply. That did not, however, mean the farmer could lavish unlimited amounts of fertiliser on his lands. Fertiliser was, and still is, expensive and therefore a very important item in the maize producer's budget. To continue cultivating maize it is essential, however, that more and more nitrogen fertiliser should be used. This is particularly true with regard to sandy soils in high rainfall areas, but it is also true in the case of any soils that have, for one of many possible reasons, become exhausted. Nitrogen is an important nutrient in the soil; a deficiency of it is due to the exhaustion of the soil over a long period. As the organic matter in the soil decreases, there is less and less nitrogen in the soil, hence the plant (maize) cannot be satisfied. This deficiency of nitrogen can to some extent be supplemented by adding nitrogen fertiliser, but, as the organic matter in the soil becomes less and less, more and more nitrogen fertiliser must be added if the farmer wants a good yield per morgen, until eventually the cost of the fertiliser is so much that it is not an economic proposition to grow

35) C. Kuhn: "Seed for the Coming Season".
Farming in South Africa, Sept. 1958, pp. 16/17.

maize on that particular land.

For the reasons mentioned above the Department of Agriculture advised farmers that, if they wished to keep up their yield per morgen to a satisfactory figure on poor soils, it was essential that they keep their soils in the best possible condition chemically, physically and biologically. To do this, they must adopt a balanced farming system, which included the animal factor, and which best suited the area in which they were farming. Furthermore the plant nutrient reserves that were in the soil should be supplemented from time to time by the planting of legumes and grass leys.³⁶⁾

To conclude the review of this particular period of five years ending with the 1958/59 season, it may be said that the increased production of maize in the Republic was brought about because the producer had been rewarded for his much more scientific approach to farming. It is not true that this scientific approach is something which he had suddenly adopted. He has been aware of the fact for a very long time, that the only possible way he could set about reducing his cost of production was to increase his yield per morgen. Hence in the period between the two world wars, it was continuously suggested to him that he should abandon extensive methods of cultivation and go in for more intensive methods. While some farmers did heed this advice and farmed more intensively, the majority, because land was relatively cheap, and because their farms were large, continued farming as they had done for many years previously. It was only in the post war years, when the cost of land increased out of all expectation, and when labour became very scarce that most farmers

36) H. Klintworth and J.C. Brevis: "Fertilising Maize on the Highveld". Farming in South Africa, Nov. 1959, pp. 25/27

realised that, if they wanted to survive as agricultural producers, they would have to adopt a much more scientific approach. The farmer is by nature a conservative individual and tends to view anything new with a certain amount of suspicion, until he is virtually compelled to adopt a different approach, if he wishes to continue as a farmer.

Moving on to the next period, it is once again necessary to refer to Table IV, Appendix A, where the figures show that the average annual production for European farmers for the 1959/60 to 1963/64 period was 50,024,485 bags of maize as compared with 37,013,828 for the 1954/55 - 58/59 period. This average annual increase of 13,010,657 bags is even better than the average annual increase of 12,218,984 bags, which was the increase of the 1954/55 - 58/59 period over the 1949/50 - 53/54 period. As a percentage this latter increase of 13,010,657 bags represents an improvement of 35.1% as compared with the previous increase of 49.3%. It is, nevertheless, a very big improvement.

How this increase was brought about can be deduced from columns three and four of Table III, Appendix A. Column three indicates that the annual average area put under maize during the 1959/60 to 1963/64 period was 4,500,943 morgen as compared with 3,996,505 morgen for the 1954/55 - 58/59 period - an average annual increase of 504,438 morgen or 12.8%. It will, therefore, be observed that, during this period under review, the area planted with maize in the Republic was greater than it had ever been before, and, as was to be expected, this area yielded the biggest maize crop that had ever been obtained. But once again the increase in area planted is not the only reason for the increase in total production. Column four of this table shows that the yield for this latter period had increased to 11.11 bags per morgen compared with

9.26 bags per morgen for the 1954/55 to 1958/59 period. This increase of 1.85 bags per morgen or 20% is satisfactory, but is not as good as the 6 bags per morgen, by which it was alleged that the hybrid seed could exceed in yield the standard varieties.

Table III also confirms that this latter period had been an excellent one for the maize industry as a whole. For, while the five year moving average for the total production by both European and other farmers was only 43,712,200 bags in 1958/59 it had increased to 56,126,000 bags by 1961/62.

During this period 1959/60 to 1963/64, although, as will be seen later, it was a period when the production of maize very much exceeded the local demand, more and more stress was laid on the fact that the farmer should increase his yield per morgen, if he wanted to reduce his cost of production per bag of maize. Furthermore, it was pointed out to him that the price the local consumer was paying for his maize was higher than the net foreign price the Maize Board was receiving for maize exported. Therefore, if the exportable surplus was going to get bigger and bigger, the local price would have to be adjusted to bear some relation to the foreign price.

To increase the yield per morgen much advice was given to the farmer, but three factors in particular were once again stressed.

1. The better use of fertiliser and the greater control of weeds.
2. Mechanisation of maize farming operations.
3. The use of good seed - by this is meant the use of good quality seed of the correct type, of either standard variety or hybrid, for a particular area.

Here now follows a brief examination of what was being done under each of these headings during this period (1959/60 to 1963/64).

1. The use of fertiliser and the control of weeds.

a. The use of fertiliser.

The enlightened maize farmer is fully aware of the fact that no land should be planted year after year with maize, but that, possibly after one year, and most certainly after two consecutive plantings of maize, a grass ley should be introduced to revitalise the soil. The farmer who did not adhere to this rule, would soon become an uneconomic producer, as the yield of his land per morgen declined. However, in addition to the using of a grass ley, the farmer was also urged to fertilise his land during the season that he used it for the production of maize. There are, however, many different types of fertiliser on the market, some very much more expensive than others, and quite often not much better than the cheaper variety. It therefore appeared that in this direction the farmer needed further guidance.

Before the farmer thinks of what fertiliser he must buy, he must have a sample of his soil analysed to discover the shortcomings of the soil. After a grass ley, however, and before the maize is planted, it is important that as much decomposition of organic matter should take place as possible, as this sets free plant nutrients. To assist this decomposition of organic matter the farmer would be wise to add limestone ammonium nitrate to his soil.

To give the farmer further guidance, numerous experiments involving the various fertilisers were conducted by Agricultural Research stations. The results and conclusions of some such experiments will be found in Section IV, Appendix B of this thesis.

b. The Control of Weeds.

"Weed infested lands cost farmers approximately £20,000,000 (R40,000,000) every year. Since water is South Africa's most serious limiting factor and weeds use large quantities of water, they are indeed one of the farmer's most formidable enemies. Not only do weeds reduce yields, but in certain instances, severe weed infestation has even compelled farmers to abandon their farms." 37)

To find published, in 1960, a paragraph such as the above, is indeed a poor reflection upon the South African Maize farmer. For many years he had been advised to undertake winter ploughing and, in addition, to plant his maize in rows 7 feet apart instead of 3 feet apart in order to be able to run the disc harrow between the rows and keep the weeds under control. It should, however, be observed that in some areas winter ploughing is not desirable, while in other areas it is much more profitable to plant the maize in rows only 3 feet apart when the disc harrow cannot be used as effectively to control weeds as is the case when the maize rows are 7 feet apart.

Possibly many maize farmers had not realised how great their losses in yield per morgen were, if they made no effort to control the weeds in their lands; possibly they did not have sufficient labour at their disposal effectively to control weeds; possibly they did not have the finance to employ the labour or to buy the weedkiller that could help them in their struggle against this infestation, that was gradually but surely reducing their income and might eventually

37) Editorial, "Weeds must be controlled."
Farming in South Africa. Sept. 1960, p. 5.

force them to give up farming altogether. Whatever the reasons were, the question of weeds and their eradication was discussed in great detail at the Annual Agricultural Congress in August 1960 and it was decided to make every effort to make a success of the Transvaal Agricultural Union's Weed Control Year.

It was pointed out to farmers at this congress that, in an experiment carried out by the Potchefstroom College of Agriculture in connection with weed control, it was found that in part of a maize field kept free of weeds the yield was 17 bags per morgen, while in another part of the same field, where the weeds were permitted to grow for 15 days uncontrolled, the yield was only 10 bags of maize per morgen. In yet another section of this field the yield was only 4 bags per morgen, where the weeds were not controlled for 30 days, and in a final section of the field, where there was no weed control at all, the yield was only half a bag of maize per morgen. This experiment showed very clearly how essential it was that weeds should be kept under very strict control if cost of production was to be kept to a reasonable level.

At the same college it was also found that 100 lbs. of cocklebur, weed takes from the soil, plant nutrients equivalent to 3 lbs. of superphosphate, approximately 5 lbs. of potassium chloride and 9 lbs. of ammonium sulphate, illustrating what a harmful effect a large growth of weeds can have on the soil.³⁸⁾

The battle against weeds is, however, one that only the farmer can fight. The State can assist him and, in fact, the State does help by doing research on methods of eradication of weeds, and by appointing weed inspectors, in terms of the Weed Act. These inspectors go round from

38) Editorial: "Weeds must be controlled."
Farming in South Africa, Sept. 1960, p. 5.

farm to farm looking out for noxious weeds and instructing the farmer to get rid of the weeds, and advising him how to set about reducing weed infestation. The complete elimination of weeds from a particular district can, however, only be done by joint action of all the farmers of that district. If only one farmer fails to keep his land free from weeds, or does the clearing of the weeds too late, that is after they have been allowed to seed, the whole district can again be infested as a result of his negligence.

It was necessary that a weed control programme should be fitted into the overall farming system. To achieve this the following suggestions should be implemented.

- I. The area planted with maize should not be so large that it cannot be efficiently managed. By this is meant that the area planted must be properly cultivated and fertilised and any weeds and insect pests that appear must be eradicated before any damage is done. If this advice is followed, it will be found that the total profit from 100 morgen of weed free and pest free maize will be much greater than the total profit from 200 morgen of maize that could not be attended to once it had been planted and fertilised.
- II. The fertility of the soil must be maintained at such a high level that the crops can oust the weeds. This high fertility cannot, however, be maintained by fertiliser only. Consequently any surplus maize lands should be planted with soil improving crops such as legumes and grass leys.
- III. Good seed must be used, a point that will later be discussed in detail. The maize farmer should aim at planting 20,000 maize seeds per morgen so that eventually he may have approximately 15,000 plants per morgen.

In addition to the above, it must be remembered that winter ploughing, and the ploughing in of phosphates and some nitrogenous fertiliser, to rot the plant remains of the previous crop, must be undertaken. The first weeds, that usually appear about 8 days after the spring rains, can be cut into the soil with the disc-harrow, and the second growth of weeds may be treated likewise. After planting, and within the first 8 weeks, hoeing can be done

superficially. At this stage the hoeing can be done across the rows of maize, but this operation must stop before the plants are 12 inches high as, after that stage they will be damaged. 39)

Given favourable climatic conditions, weeds that grow between the rows of maize can thus be controlled by means of cultivation. There remain, however, those that grow in the rows of maize. Once the maize plant has reached the stage where the mechanical hoe would do too much damage to the plants, the hand hoe can be used, but, not only is this method slow and relatively expensive, but, inexpertly used, also damages the plant roots. It is for this reason that much research has been done with regard to chemical control. Two effective sprays have been developed. They are 2,4-D and MCPA. Maize itself is resistant to normal applications and doses of both of these. These agents are, however, ineffective against nutgrass. The main advantage of using weedkillers is that the weeds are controlled for anything from 6 to 12 weeks and this gives the maize crop time to get itself established. 40)

2. Mechanisation of Maize Farming Operations.

With mechanisation maize lands can be cultivated so easily and quickly that really large scale maize farming can be undertaken by those with the necessary capital, even if they have, comparatively speaking, only a very limited amount of labour at their disposal.

In the earlier years of mechanisation the maize farmer was inclined to concentrate mainly on mechanised

39) R. van R. Steytler: "Public enemy No. 1 must be stamped out now." Farming in South Africa, Sept. 1960, pp. 18/21.

40) I.D. Hattingh and S. P. van Wyk: "Save my Maize." Farming in South Africa, Sept. 1960, p. 35.

cultivation and to some extent the harvesting processes were neglected. However, as he put more and more land under maize, it soon became apparent to him that he would have to do something about expediting the removal of his crop once the time for harvesting had arrived. This was not the only reason why mechanisation had to be extended to the harvesting process. It was realised that, as the yield per morgen had increased, more labour would have to be employed per morgen to do the harvesting. However, as both full-time and casual African labour was getting scarcer, the farmer had little option but to consider seriously mechanical means of bringing his crop to a saleable condition.

Any farmer, considering the possibility of using mechanical harvesting as opposed to hand harvesting, would first of all want to know how the costs of the two methods compared. Obviously hand harvesting involved the farmer in no capital outlay, but only in the daily wages of his harvesters. Mechanical harvesters on the other hand, required not only a substantial capital outlay of R2/3000, but running costs could be considerable if the combine was continually going wrong and requiring repairs. Before considering the harvesting mechanisation problem, it must be pointed out that in South Africa in the year 1964 as much labour was used to produce one bag of maize as was required to produce 15 bags of maize in the U.S.A. This fact in itself shows that, while our maize farmer is fast mechanising his agricultural processes, South Africa is still a very long way behind the degree of mechanisation achieved by a leading maize producing country such as the U.S.A.

It has been proved that during the harvesting season the modern maize combines could save the farmer approximately 75% of the total labour that he would require for

the usual harvesting processes. It therefore appears that if such a combine is utilised the farmer will require very little if any extra labour for harvesting beyond that which he usually requires throughout the year.⁴¹⁾

Since 1960 the Mealie Industry Control Board, in conjunction with the Division of Agricultural Economic Research and also the Division of Agricultural Mechanisation and Engineering, has conducted a series of tests with various kinds of maize harvesting combines in order to be in a position to advise the farmer on the advantages and disadvantages of particular makes of combines after considering the conditions that exist on a particular farm.

These tests have proved that maize combines can do the harvesting of maize not only effectively, but also economically. It therefore means that mechanical harvesting can cost the same as or even less per bag than hand harvesting. It is, however, important to appreciate that the results achieved are very much influenced by the conditions under which the combines are used. The published results will enable a farmer contemplating purchasing a harvesting combine, to decide whether a combine, under his specific conditions, will meet his requirements.

Naturally he will consider the machine from various aspects.

a. Profitability

He will consider whether the machine will be a profitable investment. To find the answer it must be known how much it costs to harvest a bag of maize by hand. To compare with this figure the capital outlay for the combine will be required, together with what it costs to operate per bag harvested.

With regard to running costs, experiments showed

41) J.J. van Wyk: Mechanise our Maize Harvesting Processes." Farming in South Africa, June 1964, p. 9.

that the machine would be uneconomic if the harvesting to be done covered only a very small area. In fact, statistics available indicate that if the maize is planted in rows three feet apart and the yield is ten bags per morgen, then at least 200 morgen of maize has to be harvested before the costs incurred in buying and running a single row combine will be as low as the costs of hand harvesting. On the other hand, if the yield is 30 bags per morgen, the combine harvester becomes an economic proposition if at least 50 morgen is available per season for harvesting.

If, however, the maize is planted in seven foot rows and the yield is 20 bags per morgen then at least 90 morgen per season must be available but, if the yield is 40 bags per morgen, then only 40 morgen need be harvested before the cost of mechanisation falls to the level of that of hand harvesting.

The above figures could not have been determined unless the life of the machine were estimated. From further statistics available it appears that if the combine is operating in rows three feet apart and the yield is 10 bags per morgen, its life expectancy is estimated at 1827 morgen or approximately seven years. If the rows are seven feet apart, its life expectancy is only 1500 morgen or approximately four years.⁴²⁾

b. Standard of Performance.

With regard to efficiency, the combine must be able to do those operations that can be done by hand just as well as they can be carried out by labour. Furthermore, in addition to being an efficient gatherer of the maize ears, it must also be efficient in threshing and sifting, as well as in cleaning and grading the grain.

42) B. v.D. Boshoff: "The farmer and his Maize Combine." Farming in South Africa, June 1964, pp. 11/15.

When the ears are gathered by hand the standard of efficiency is usually about 95%. It may, therefore, be assumed that if any machine can gather 95% of the ears within its reach, it is satisfactory. This standard is in fact achieved by most of the combines.

It is also important for the farmer to know at what speed the combine can operate. The speed of working varies considerably with the conditions under which the machine is operating. This speed factor is not determined by the speed at which the operator is driving the machine, but by its handling capacity. Thus, if the sieves or the drum of the machine cannot handle all the maize available at a certain speed, the operator must naturally reduce his speed. However, unless the yield of maize per morgen is excessively high, that is over 50 bags per morgen, a satisfactory performance would be one morgen per hour. If, however, the combine is working on a field in which the maize is planted in rows only 3 feet apart, it is not likely that a half, or at best perhaps three quarters of a morgen, will be completed in an hour.

On this basis a single-row combine should, therefore, be capable of threshing about 400 morgen per season in the case of rows seven feet apart and between 200 and 300 morgen per season if the rows are three feet apart, if in each case a working day is 10 hours and the threshing period is about 40 working days.

c. Repairs, Maintenance and Driving Power

The buyer of a combine should also be aware of factors such as the behaviour of the machine during its useful life. Thus he must know if certain parts of the machine are subjected to excessive wear and if the machine has certain mechanical weaknesses, which are going to cause difficulties while operating the harvester.⁴³⁾

43) B.v.D. Boshoff: "The farmer and his maize combine."
Farming in South Africa, June 1964, pp. 11/15.

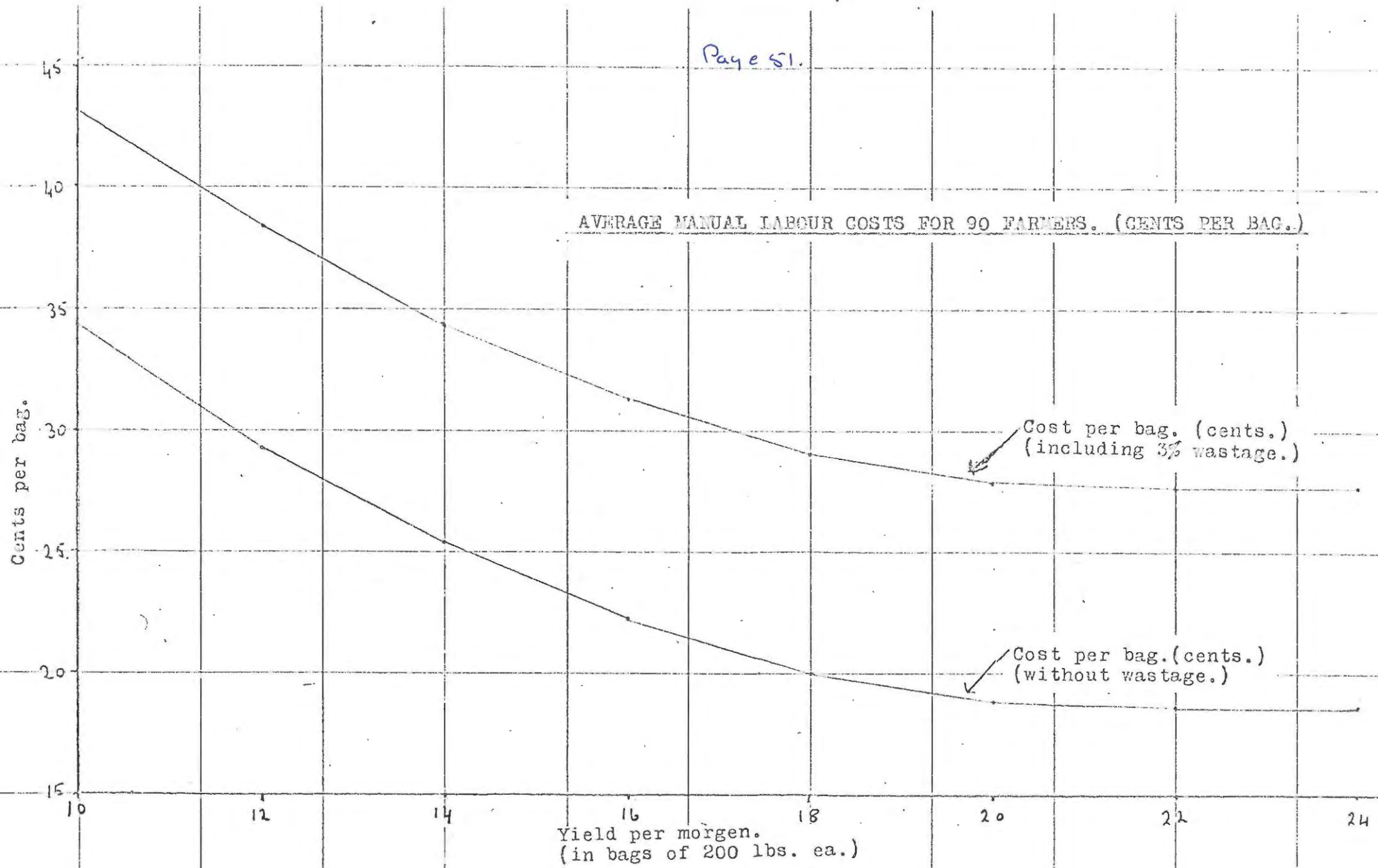
With regard to actual costs of harvesting per bag, for the two methods, it is fortunate that some very useful statistics are available, which give an insight into the costs of hand harvesting compared with the costs of mechanical harvesting.

During 1963 the Division of Agricultural Economic Research calculated the cost of harvesting for 90 farmers in the North-Western Orange Free State. These costs were made up of permanent and seasonal labour costs together with the costs of operating the farmer's own threshing machine in some cases, while in other cases the cost of a hired threshing machine was taken into account. Also included in the cost structure, were the costs of such items as trailer and tractor expenses for transporting from the lands and the running expenses of the tractor while pulling the farmer's threshing machine.

The average annual labour costs for the 90 farmers will be found in Table V, Appendix A, while a graphical presentation of these figures appears on the next page.

The third column in the table requires a little explanation. Many hundreds of farmers were asked what they estimated the wastage was, owing to the fact that the hand harvesters left some ears of maize on the lands. Most of them estimated the wastage to be about 5%, but in an experiment conducted by the Division of Agricultural Economic Research the wastage appeared on an average as only 3%, hence this figure has been assumed. At this percentage and at a price of R3-00 per 200 lb. of maize the wastage amounts to 9 cents per bag. Hence throughout column 3 the figure for any yield is 9 cents per bag greater than the corresponding figure in column 2.

In the case of mechanical harvesting, costs consist of the cost of the combine itself, tractor costs, labour



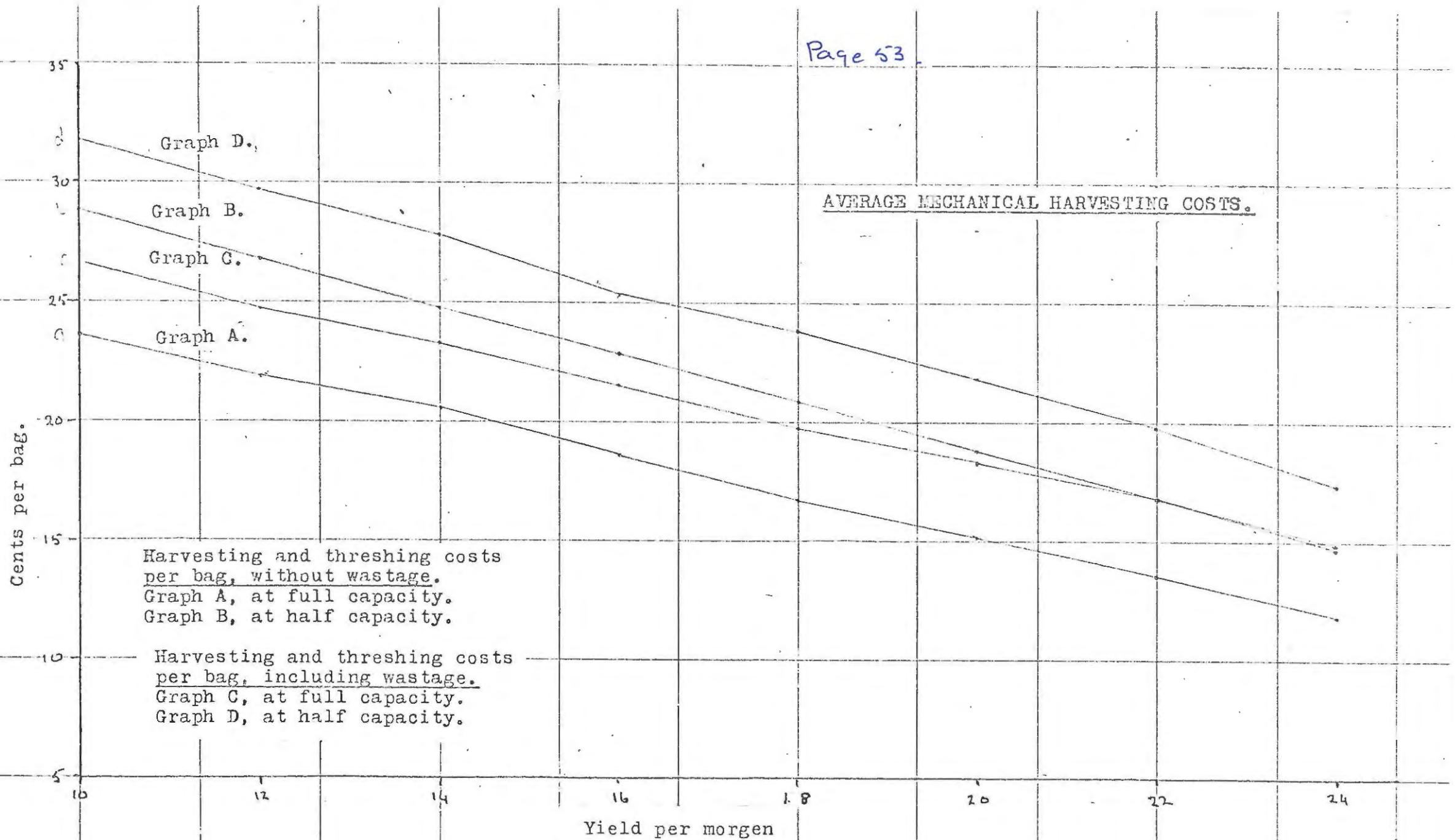
costs and wastage. These costs were also calculated during the 1963 season when five different types of combines belonging to 50 combine owners in the Western Transvaal and North Western Orange Free State were taken into account. The five combines were standardised to the extent that each one could deal with only one row of maize at a time. Some of the combine owners were farmers, but the majority of them were contractors who went from farm to farm doing the harvesting for the farmers.

The harvesting and threshing costs of the five makes of combines were calculated on a basis of 55 working days per season as a fair number of them worked 55 days and some of them actually more than 55 days for the season. On this basis it was found that a single combine could harvest on an average 471 morgen per season. Full capacity was therefore considered to be 471 morgen and half capacity was taken at 235 morgen for the season. The maize lands on which these combines were used all had the maize planted in rows 7 feet apart. Table VI, Appendix A, shows the average cost of mechanical harvesting of the five combines at various levels of production per morgen. The relevant graph constructed from this table appears on the next page. Columns two and three give the results of harvesting 471 morgen and 235 morgen per season respectively, but do not make any allowance for any possible wastage that may have occurred. Columns four and five add to the figures given in the previous two columns a wastage of 1%, which is normal, and therefore add a further three cents to each of the costs given in columns two and three. 44)

44) J.J. van Wyk: "Which is cheaper - Mechanical or Hand Harvesting?" Farming in South Africa, June 1964, pp. 33/35.

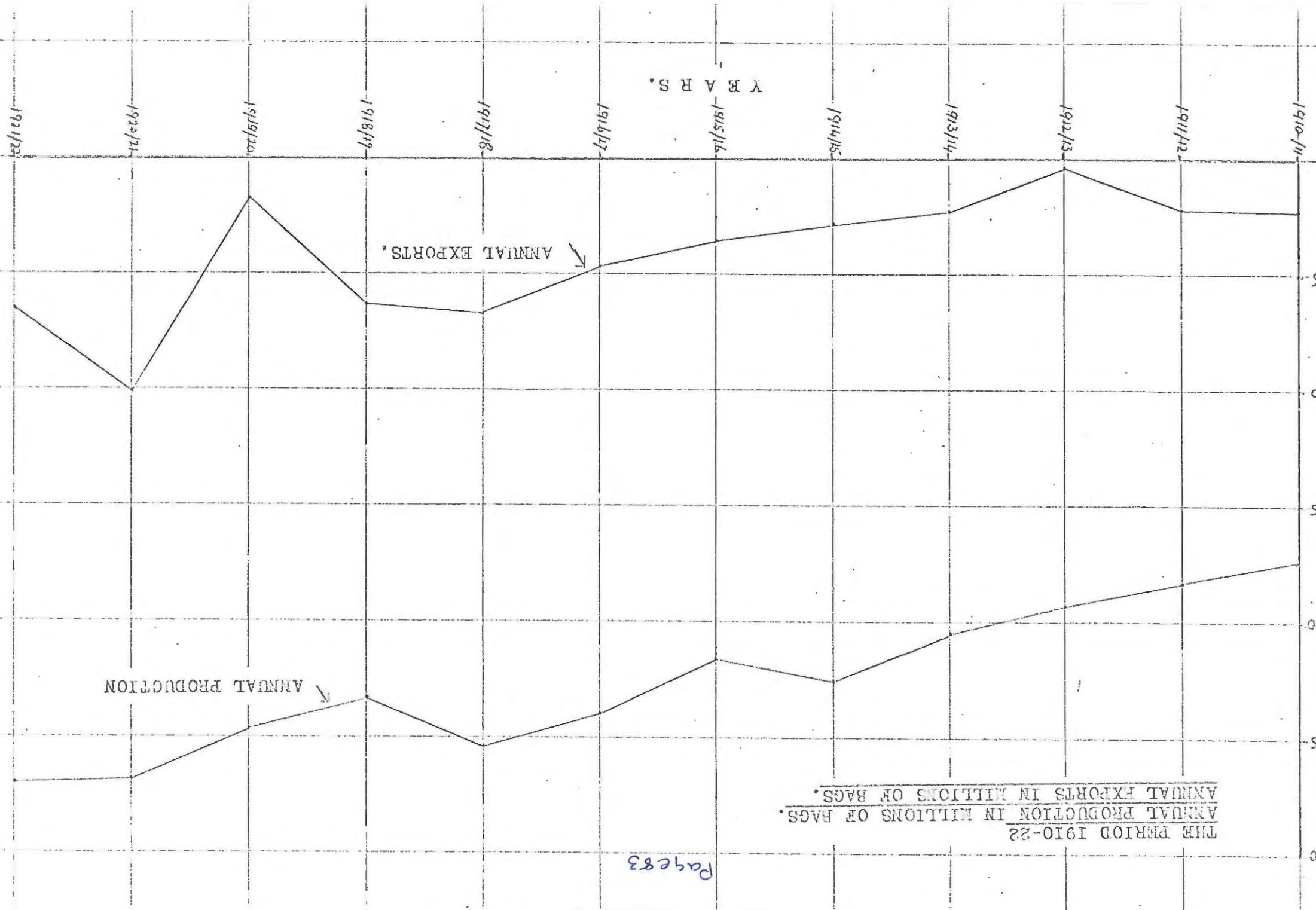


AVERAGE MECHANICAL HARVESTING COSTS.



Harvesting and threshing costs per bag, without wastage.
Graph A, at full capacity.
Graph B, at half capacity.

Harvesting and threshing costs per bag, including wastage.
Graph C, at full capacity.
Graph D, at half capacity.



THE PERIOD 1910-22
 ANNUAL PRODUCTION IN MILLIONS OF BAGS.
 ANNUAL EXPORTS IN MILLIONS OF BAGS.

Page 83

When comparing the cost figures in Table VI, Appendix A, with those in the previous table it immediately becomes apparent that, provided the producer has at least 235 morgen per season available, mechanical harvesting is an economical proposition. Even if the farmer has not the necessary capital to enable him to own a combine himself, he should be able to hire the services of a combine contractor to do his harvesting at a cost that compares favourably with the cost per bag of hand harvesting. The ideal, however, is that the farmer should own the combine himself as this eliminates the paying out of profits to an outsider.

Once the South African maize farmer has mechanised his harvesting, as he already has done for his cultivation, many of his labour problems will diminish considerably. In fact, the hoeing of his lands will then require more labour than the planting or harvesting of his maize crop.

3. The use of good seed.

Much has already been said about the use of the right type of seed and the impact that hybrid seed has made on the production of maize in South Africa. It is, however, true that research is going on all the time and the latest information is continually being handed on to the maize producer by these research stations in order that the farmer may be in an ever improving position to overcome the problems that he encounters. He has been told that his seed must be good and be of the right type for his particular area. Which types flourish in certain areas has already been discussed, but before looking at further developments in the production of hybrid seed, let there be just a brief explanation of what is meant by the term "good seed". There is no doubt that many farmers have made great efforts in the preparation of their lands only to plant poor seed and consequently

produce a disappointing crop.

According to Mr. J.F. van Wyk, an officer of the Seed Inspection Service of the Division of Horticulture, good seed must comply with the following standards.

- a. The seed must be pure and must therefore not contain any waste matter such as small stones, broken seeds, plant remains or any other worthless foreign bodies.
- b. The seed must have been graded so that it is all of uniform size. This factor is particularly important if the seeds are going to be planted mechanically, which is, with very few exceptions, the case with maize.
- c. The maize seed must be free from any foreign seeds. Particular care should be taken to ensure that no seeds of troublesome and noxious weeds are mixed up with the maize seed. Farmers will know only too well what trouble can be caused if, for example, nutgrass and dodder are planted with the maize seeds.
- d. Particular care should be taken to confirm that the maize seed is free of any organisms which may cause dangerous plant diseases.
- e. If the seed is good it should come up uniformly and give a satisfactory stand. Quite often in the past farmers have had to replant parts of lands or sometimes even entire lands because of lack of uniformity and an unsatisfactory stand.
- f. It is of the uttermost importance that the seed must be true to type. Today more and more varieties are bred for specific purposes and areas. It is therefore obvious that, should a farmer buy one variety of seed and then be given another variety in error or ignorance, the results can be disastrous. The farmer should at all times consult his nearest research station or extension officer, who will confirm that he is, in fact, using the true seed of that variety.

If the farmer, for any reason whatever, has not complete confidence in the seed available from his seed dealer, he can always buy his seed direct from a supplier working under the South African Seed Certification Scheme. This seed is slightly more expensive, but the farmer can then be quite sure that he is getting exactly what he asked for. He must, however, make sure when buying seed that the bag has been properly labelled and sealed and that all the information he requires, such as the name of the variety and the date of

harvesting, is printed on the label.

This certification seal and label is the farmer's guarantee that he is getting the seed he asked for. It is quite impossible to determine accurately the quality of the seed merely by inspection.⁴⁵⁾ It is to be regretted that use is still being made of seed of unknown origin and quality. Especially if one considers that there are enough potential growers of seed in South Africa to cultivate sufficient quantities of seed of the desired quality. Furthermore, the channels of distribution for such seed are also available in the form of recognised and dependable co-operative associations and seed dealers.

The Seed Act of 1961 (which replaces the Seed Act No. 36 of 1947) compels the seller of seed to state the purity and germination capacity of the seed he is selling. Furthermore, the exporter of seed usually demands a certificate showing the quality of the seed that he is exporting. The quality of the seed grown must be determined in terms of the Seed Certification Scheme or must be inspected in terms of the Seed Act.

At present there is a Government Seed Testing Station in Pretoria. The station comes under the Seed Inspection Service and its function is the examination, analysis and testing of seed samples received from seed dealers, farmers and Government departments, and the subsequent issuing of international seed analysis certificates on behalf of seed exporters.⁴⁶⁾

In the writer's efforts to investigate all the possible ways and means that could lead to an increase in the maize yield, considerable research was done into

45) J.F. van Wyk: "What is meant by good-quality seed?" Farming in South Africa, July 1961, p. 7.

46) J.F. van Wyk: "The examination, testing and analysis of seed." Farming in South Africa, July 1961.

dry land farming and moisture conservation, and further attention was given to the development of suitable hybrid maize seed. Once again, while this is all relevant to the production of maize, it was decided that, because of the technical nature of these subjects, these findings would best be placed in an appendix. This part will, therefore, be found in Section V of Appendix B of the thesis.

To conclude the review of the 1959/60 to 1963/64 period, it may be said that the remarkable increase in the quantity of maize produced during this period compared with the production statistics for the previous periods, is not attributable to any new discovery, but the better use of fertilisers, the more efficient control of weeds, the greater mechanisation of maize farming operations and the greater use of correct seed, especially hybrid seed. All of these measures have been practised by some maize producers since the immediate post war years, but they have now become known and appreciated by a far larger section of the maize farming population.

This ends the discussion of all the figures given in Table IV. Finally, let Table III, Appendix A, be briefly examined again. In this table production figures are available for the years 1964/65, 1965/66 and 1966/67. It is surprising to observe that the annual production shows a sudden decline. There is nothing inexplicable about this collapse in production. The reason is that the country was experiencing one of the worst droughts the South African farmer has ever known.

No amount of planning or scientific farming can help the maize farmer if he does not get sufficient rain. There is no doubt that without fertiliser, weed control, mechanisation and good seed the maize crop would have been even smaller during these drought years. While

much information and advice has been given to the dryland maize farmer on methods which will show him how best to manage with his very limited rainfall, the fact remains that there is no substitute for rain, and for maize farming to be an economic proposition there must be a basic minimum amount of rain.

The rains for the 1966/67 season have been good and the final estimate for the season's crop is just over 109 million bags. South Africa has had these good rains before, but the crop has been millions of bags short of the one now coming off the lands. It appears that the South African maize farmer is now sufficiently enlightened to make use of favourable climatic conditions when they come.

Furthermore, it is clear that the maize farmer has been given plenty of incentive to increase his production. This particular aspect will be discussed in connection with the marketing of maize. The formation of co-operative associations in the 1920's and the establishment of the Mealie Control Board led to the stabilisation of the maize price from season to season, and this was an incentive to increase production. Also in the early post war years when shortages of maize led to a threat of the possible importation of maize on a large scale an improvement in the price per bag of maize was apparent. Thus, for example, the producer's price of maize was R2-12½ per bag for the 1949/50 season, but had increased to R3-00 a bag for the 1952/53 season. This was an increase in price of 87½ cents per bag, while the average cost of production, according to official estimates, only increased by 46 cents per bag. The average net profit per bag was therefore R1-01 per bag compared with the previous net profit of 59 cents per bag in 1949/50. "This was an

exceptionally sharp increase for such a short period, and it positively served as a strong incentive to increase production." 47)

It will be recalled that it was stated earlier that one of the main incentives to increase the yield per morgen, was to overcome the ever rising costs of production. The yield per morgen did in fact increase from 5.51 bags for the 1944/45 - 48/49 period (see Table IV) to 11.11 bags for the 1959/61 - 63/64 period, but this doubling of the yield per morgen was apparently not sufficient to reduce or even keep constant the cost of production per bag, for, according to the Division of Economics and Markets the cost of production increased from R1-54 per bag in 1949/51 to R2-11 per bag in 1960/61. 48)

With regard to costs, it is essential that every farmer should realise that it is of the uttermost importance that he should increase the productivity of his farming unit. To do this, all South African farmers must become familiar with sound "farm-enterprise planning" and with this must go good farm management.

Farm-enterprise planning.

As already explained, farming has changed and improved considerably in the post World War II years. Thus technological advantages have been incorporated, the farm production and turnover has increased, but so has the cost structure, consequently problems of finance and agricultural credit have arisen that have required qualities of a farmer that many of the older generation did not possess. As in industry, so also in modern

47) A.P. Scholtz: "The Maize Industry in South Africa - danger signals for the future.", Agrekon, January 1962, p. 43.

48) A.P. Scholtz: "The Maize Industry in South Africa - danger signals for the future.", Agrekon, January 1962, p. 47.

farming, high qualities of management are now essential if farming is to be economically successful.

As a manager the farmer must plan his operations in such a way that he will get the maximum returns possible for the efforts he makes. To do this he must appreciate, develop and conserve his resources, but at the same time recognise economic principles and price relationships.

Farm enterprise planning must not be limited to the field of agriculture only, for it also includes the reconciliation of the biological aspect with the economic factors if maximum efficiency is to be achieved. The success achieved by farm-enterprise planning will depend mainly on the farmer's personal qualities, his interest and his capital resources, but it will depend also upon the aid he is given. This aid will entail an appreciation of the standards he should expect to attain, methodology of production and personal assistance, which can be given. With regard to the last point, more and more effort is being made by government departments each year to supply to the farmer an ever increasing volume of technical data, so that if he reads these government publications regularly he should, technically at any rate, not fail in the management of his farm.

It is probably in the economic function of farm-enterprise planning that the farmer has failed most in the past. The majority of South African farmers are notoriously short of capital and are invariably attempting to do far more than they should with the capital at their disposal. It is, however, essential that the modern farmer must possess a certain amount of business aptitude so that he can know how to employ his limited capital most efficiently. Thus, he must be able to decide whether certain crops or livestock will flourish best in

his area, or whether he should engage in mixed farming. Also he must know something about credit conditions, marketing and financing. Furthermore, he should be able to keep records and be able to determine what it will cost him per head to feed livestock or to fertilise a number of morgen put under maize.

To sum up, farm-enterprise planning has two aspects:

- a. the technical aspect which indicates what can be produced and how it can be produced, and
- b. the economic aspect which shows how much time should be devoted to each enterprise, and the proportion in which the various products and production elements should be incorporated.⁴⁹⁾

In an attempt to compare the progress that has been made by South African maize farmers with the progress of other maize farmers in the world's leading maize producing countries, Table VII, Appendix A, has been compiled. The statistics in this table show that, while the South African maize farmer is today a more efficient maize producer than his predecessor, this is also the case with maize producers in other parts of the world. It is also clear from this table that the United States of America is the world's leading maize producer, irrespective of whether this is being judged from the point of view of total production, or total area cultivated, or yield per morgen. In the case of the figures for the Republic of South Africa it should be mentioned that the total area under cultivation and the yield per morgen is applicable to European farmers only and not to all farmers. It is, of course, encouraging that according to the figures South Africa is one of the world's leading maize producing countries. In fact, on total production South

49) S.P. van Wyk: "Farm-enterprise planning", Agrekon, January 1962, p. 59.

Africa occupied 5th place, on area cultivated 6th place, but on the yield per morgen basis she occupied only 8th place for the production year 1962/63. This shows once again that while there has been considerable improvement in this yield per morgen figure, much still remains to be achieved.

Later figures than those used in Table VII, Appendix A, are actually available, but as these show South African maize production in two very bad drought years they were not used for comparative purposes.

To get a better idea of the progress that has been made in total maize production by South Africa compared with the other leading maize producing countries, Table VIII, Appendix A, has been constructed for those countries for which comparative figures were available.

A fact that stands out is the improvement in the total maize production of Russia, but it may be observed that this Russian improvement is in fact the only one better than the South African one of 541.4%. Judging from these figures the local maize farmer can indeed be satisfied with the progress that has been made. It is also interesting that while in the period 1903/13 the Argentine was second only to the U.S.A. as a maize producer, she is today only one of a number of leading maize producers.

Conclusion.

Throughout the period under consideration (since 1910) the maize farmer has constantly been told that he must increase his yield per morgen if he wants to make maize farming an economic proposition. As a result of the continued stress laid on this factor, the maize farmer has increased the amount of maize produced per morgen.

To achieve this increased yield the maize producer has had to bring about some very important changes in his technique of production. His approach to farming has had to become very much more scientific. Being conservative by nature he was at first very reluctant to change his methods and was quite prepared to go on as those before him had done. However, reluctantly at first, but with more enthusiasm later on, he adopted new methods of production.

The total production of maize in South Africa increased for two reasons. Firstly, the area planted with maize increased from less than 2 million morgen in 1910 to over 6 million morgen for the 1966/67 production season. Secondly, the yield per morgen was more than doubled during this period. This increased yield per morgen was achieved because of better weed control, the greater use of fertiliser, the control of pests, more efficient planting and harvesting through mechanisation and lastly, the development and subsequent use of superior types of seed.

The yield per morgen, of good maize land, has increased much more than the average shows, but, unfortunately, as more and more land is being employed to produce maize, use is being made of marginal and sub-marginal land that is not really suitable for the production of maize, and which could be more profitably employed in the production of some other crop such as kaffir corn.

It is the writer's opinion that of all the factors mentioned above, the development of the drought resistant maize seed together with other hybrid maize seed, has done more to increase the yield per morgen than

anything else. South Africa has never before produced 55 million bags of maize, as it did during the 1965/66 production season, in a drought year. A total production of this magnitude would have been out of the question, in a dry season, had extensive use not been made of many different types of hybrid maize seed.

CHAPTER III

The Marketing of Maize

The period 1910 to 1922

"The unfortunate lack of statistical data precludes an exact statement of facts, but, nevertheless, in the course of a decade from 1897 to 1907, the Union changed from an importing to an exporting country in regard to maize." 1)

The above statement is sufficient to show that, at the time of Union in 1910, the South African maize producer had already reached the state where he was producing more than the immediate needs of home consumers. He had therefore tried foreign markets and found them satisfactory. He was satisfied with the price they were prepared to pay for his maize and they, of course, were satisfied with the quality of maize that he offered for sale, otherwise they would not have tendered a reasonable price in return.

Because of the potential of the foreign market, which was, in fact, with few exceptions, the European market, the South African maize producer saw a virtually unlimited demand for his product, provided he maintained a high standard. The Government of the time was also interested in encouraging the export of maize, as South Africa needed almost unlimited supplies of foreign goods, but, with the exception of gold and wool, did not have very many other goods that it could offer in return to pay for these imports. It was, therefore, essential that every possible way of earning foreign exchange should be fostered.

Thus in 1910 the first South African Maize and Citrus

1) A.R. Saunders: Maize in South Africa; Central News Agency, Johannesburg, 1930, p. 27.

Conference and Show was held in Johannesburg by the Witwatersrand Agricultural Society. Farmers were invited to exhibit their best maize at the show and various prizes, amounting to £400 (R800), were offered as an inducement to maize farmers to participate.

At the show various agricultural machines were displayed in order that farmers might examine them and ask questions about such machines as they needed on their farms. Further the show provided an opportunity for growers of seed-maize to exhibit and make known the good qualities of their seed. At the conference it was arranged to have a number of papers, lectures and discussions on all aspects of maize growing.²⁾

The maize farmer at this time (1910) was therefore being given special attention and the emphasis was on increased and more efficient production.

There were three possible courses open to him in disposing of his crop. He could:

- a. keep the maize on his farm and feed it to his livestock, or
- b. sell it to his local trader from whom he made all his purchases throughout the year, or to an independent buyer, or
- c. sell his maize through a co-operative association.

Each of these methods deserves some attention.

a. The Feeding of Maize to Livestock

As previously stated, the main maize producing areas of South Africa are the provinces of the Transvaal and the Orange Free State. Some maize is, however, also grown in Natal and the Cape Province. In fact, the highest yield per morgen for maize is

2) J. Burttt-Davy: "The first South African Maize and Citrus Conference and Show"; The Transvaal Agricultural Journal for the year 1910, p. 593.

found in Natal. However, while in Natal a large number of farmers may be classified as mixed farmers (by which statement is meant that they produce both crops and livestock), this is not the case in the Transvaal and the Orange Free State, where a farmer, if he grows maize, is essentially a single purpose farmer depending for his income on his maize crop alone. He does have a few pigs, sheep and cattle on his farm, but these are for his own use, and he does not rear and fatten them for the market.

Natal was the province which exported the most maize in 1908, 289,535 bags out of a total of 545,991 bags for the whole of South Africa. By 1912 the Natal farmer had realised that it was more profitable to feed his maize to his stock than sell it as grain, consequently Natal exported only 63,954 bags out of a total of 832,742 bags for the whole of South Africa.³⁾

South Africa's main maize producers, in the Transvaal and Orange Free State, persisted in treating their maize as a cash crop and selling it as grain. The maize that they kept back on their farms was usually sufficient to meet their needs for human consumption only. This was in spite of the fact that it had been pointed out to them that, with the fluctuations in the price of maize, a price might be reached at which it would be more profitable to feed it to their stock than sell it as maize. Burt-Davy, an official of the Department of Agriculture, was particularly anxious that part of the crop should remain on the farm and be fed to livestock. He stated that the average South African had little idea of the importance of maize either as a farm crop or as an "article of commerce". To substantiate his statement he gave statistics which showed that, during the year ended 31st December 1910,

3) J. Burt-Davy: Op cit., p. 558.

the United States of America produced more than 430 million bags of maize of 200 lbs. each. For this crop the American farmer received R280m., which was more than four times the total value of gold produced in South Africa during that year. However, less than R10m. of the R280m. was received in cash, as only 1½% of the total maize crop was exported. The rest of the crop was turned into beef and pork long before it reached the market. The U.S.A. maize producer estimated that it was five times more profitable to sell maize in this way than it was to sell maize as grain.⁴⁾

But, in spite of all this advice given to the maize farmers, it was found that, although there was an increase in the feeding of maize to livestock, the amount of maize consumed by animals remained insignificant compared with the total production. At the end of the period under review (1910 - 1922) there was an article by E. Parish, Vice Principal of the School of Agriculture at Glen in the Orange Free State, in which he complained about the small percentage of the total maize crop that was being fed to animals on farms, and he also pointed out that in the United States, of the total annual maize crop, 40% was fed to pigs, 20% to horses, 15% to cattle, 4% to poultry, 1% to sheep and 5.5% to animals not on farms, thus leaving little of the crop over for human consumption and for the export market. He did, however, state that in the Province of Natal more and more maize was being fed to animals, the export of maize from that province therefore being negligible. He pointed out that the feeding of pigs on maize was increasing and that it should be extended further. Bacon pigs could be sold at 4.17c per lb. live weight, which was more profitable than

4) J. Burt-Davy: "Importance of Maize. Its production for Home and Export Trade." The Farmers' Annual 1913, p. 150.

selling maize at R1-00 per bag. He also stated that at that time, the cattle trade was not sufficiently well organised to render the marketing of maize through beef a profitable business. A further observation he made was that farmers complained that the price they had received for butter fat was so poor that it was not economical to feed maize to dairy cows. He finally indicated that he had encountered farmers who found that it was a paying proposition to feed maize to their sheep during the winter months.⁵⁾

There was at the time, however, a considerable local market for maize bought on the Witwatersrand and in Kimberley for stock feed, the main buyers being De Beers Consolidated Mines Ltd., the Municipality of Johannesburg and firms of cartage contractors. The complaint is not against these buyers, but against the maize farmer himself who used so little of his crop to feed the animals on his farm.

b. Sales through the local trader or independent buyer

Before examining this method of marketing maize, it is important that the farmer himself, his financial resources and his general background be investigated.

The average South African maize farmer of this period (1910 - 1922) was a man with not very much education. Because of the long distances between many farms and the nearest High Schools and the fact that there was a constant shortage of European labour on the farms, the sons of farmers could not spend a long time being educated in academic subjects that would in most cases in later life not be of very great benefit to them as farmers. Only a generation before not much education

5) E. Parish: "Economics of Maize growing in South Africa." Journal of the Department of Agriculture 1924, p. 312.

was required as the average farmer then was virtually self sufficient and did very little selling of anything he produced, and the very limited amount of trade done was by bartering of surpluses.

During this period, however, methods of maize production and ways of living changed, and as a result the farmer came more and more into contact with the outside world. He was, essentially, a simple individual with few needs. His financial resources were very limited, since he had, in many cases, lost most of his possessions during the South African war. To some extent he had recovered in the years immediately after the war, only to face a very severe depression in 1908.

Because of his lack of education and complete ignorance of modern business methods and practices, he was at a great disadvantage every time he came into contact with the various middlemen with whom he dealt. Most farmers, however, did not meet many middlemen, as they did nearly all their buying and selling through a local trader. This merchant was usually a general dealer from whom the farmer could buy all that he required for his household and the running of his farm. Owing to his limited means the farmer could not pay cash immediately he made his purchases. He had to obtain credit from the merchant. The trader had to charge a price that would not only give him a profit on the goods that he sold, but that would also reward him for the time he had to wait for his money. Furthermore the farmer sold his crop only once a year and therefore he could settle his account for his purchases from the trader only when he received payment for his year's crop. The farmer could obviously have obtained a better price on the open market had he not been committed to dealing through the trader.

A year is a long time to wait for payment and, under the circumstances, it was not unreasonable for the merchant to suggest that, when the farmer eventually harvested his maize, the crop should be sold through him in order that he would then be sure that he would be paid for the purchases that the farmer had made during the past year. Unfortunately at this stage the farmer invariably fared badly. Being short of working capital he could not wait for a more favourable opportunity to sell his crop, but had to dispose of it as soon as it had been harvested. There was, therefore, a glut of maize during the months of June, July and August. The trader was quick to point out that there was a surplus of maize and that he could therefore only offer the farmer a price for his maize, which both he and the producer knew was well below the selling price obtainable in the near future. The uncommitted farmer could have refused to accept the trader's price and have found an alternative buyer. Usually, however, all the local buyers were offering the same price and the farmer's complete lack of knowledge of other maize markets prevented him from going far afield to find a buyer who would offer a better price. Also there was the possibility, should the farmer not sell his maize through the trader from whom he made his purchases, that he would not be given credit by the trader for the following year's purchases.

The farmer, therefore, due to his inability to pay for his purchases as he made them, found that he was very much at the mercy of the trader, who, being a man of much greater business ability than the farmer, invariably profited much more by their relationship than did the farmer.

In addition to this predicament in which the farmer often found himself, his position invariably deteriorated

during bad years, when a partial or total crop failure made it impossible to pay his debts for the previous year. Sometimes the farmer managed to survive these disasters, but often he eventually had to leave his farm and it became the property of the trader.

It is, therefore, not surprising that there developed among the remaining maize producers a feeling of great animosity towards the traders whom they felt were exploiting them by unjust and dishonest methods of trading. There is little doubt that in a large number of cases the trader did exploit the farmer and therefore the outcry for his elimination was justified. In many other cases it is equally true to say that the farmer brought about his own downfall because of his lack of education and general ignorance of business methods and practices.

c. Selling through a Co-operative Association.

The above section on selling to a trader has made it quite clear that this method was most unsatisfactory to the farmer. The farmer always had a strong influence on government policy. It was not surprising that, because of his dissatisfaction with the trader, the Government decided to introduce an alternative marketing system whereby the farmer could sell his maize through a co-operative association. However, before examining the actual development of the co-operative movement among maize farmers in the period up to 1922, a brief examination of the basic principles of the agricultural co-operative movement appears to be desirable.

Basic Principles of Agricultural Co-operation

An agricultural co-operative association is a voluntary form of organisation among a group of farmers for the purpose of promoting the economic interests of every member of the group. It is a corporate body established under specific legislation and is based on the principle of

democratic control by all its members. Thus any benefit or saving resulting from such co-operation will be to the benefit of all the members concerned. Consequently the co-operative association is not established to make a profit for itself. Any profit that it may make is distributed to its members, usually in the ratio of the amount of business that they do through the co-operative association. It is strictly an association of farmers, run by the farmers for the purpose of effecting economies.⁶⁾

Agricultural co-operative associations could come into existence for a number of reasons, but in South Africa the reason for their introduction was usually the previous exploitation of their members by traders, which had resulted in considerable loss to the farmers. To prevent the exploitation of farmers and to bring about a more organised system of marketing of agricultural products the co-operative associations were formed by the farmers, after encouragement by the Government.

It is extremely important to stress that an agricultural co-operative association should be formed only when a number of farmers living in a particular area feel that the establishment of such an organisation will be to their mutual benefit. Under no circumstances must the co-operative form of trading be forced upon them before they are quite certain that it will be to their mutual benefit to become members. An unwilling co-operative association member, who uses its services only when it suits him and discards it when it does not, is the surest means of causing the breakdown of the whole association, long before it has become firmly established and had an

6) M.A. Abrahamsen and C.L. Scroggs; Agricultural Co-operation; University of Minnesota Press, Minneapolis, 1957, p. 61.

opportunity to prove its worth to its members.

The Co-operative Movement in the Maize Industry of South Africa during the period 1910 to 1922.

The selling of maize through one central agency had long been an ideal upheld by maize growers.⁷⁾

In 1907 the Transvaal Government, which had always been a strong supporter of the co-operative movement, had imported Mr. J. Stilling-Andersen from Denmark to organise the establishment of the co-operative movement.

The co-operative marketing of maize began with the passing by the Transvaal Parliament in 1908 of Act No. 14. "Om voorziening te maken voor het oprichten, registreren en beheren van Koöperatieve Landbouw-Verenigingen." ⁸⁾

This act envisaged co-operative associations whose members suffered from the disadvantage of unlimited liability.⁹⁾

This Act was passed mainly as a result of very strong recommendations by Mr. Stilling-Andersen for the establishment of co-operative associations on a legal footing. The whole of the Act, with very minor differences, was taken over in the form of a Co-operative Act by the Orange Free State in 1910.

Mr. Stilling-Andersen was put in charge, in the Transvaal, of the co-operative development programme, and the Department of Agriculture was responsible for the administration of the Act. Co-operative associations were formed throughout the Transvaal, unfortunately without making provision for the close supervision of their activities. In the Orange Free State the formation of co-operative associations proceeded at a much slower pace, mainly because the principles of co-operation were not

7) Report of the National Marketing Council on the Marketing Boards, 1938-46; U.G. 27 - 47, p. 59.

8) The first Annual Report of the Transvaal Agricultural Department, 1907-8, p. 318.

9) J.F.W. Grosskopf: Ko-operasie in Suid-Afrika. Annale van die Universiteit van Stellenbosch, Augustus 1923, p. 3.

explained in detail to the Free State farmers, as was the case in the Transvaal. A further mistake which caused considerable difficulties later was the introduction of the credit system rather than a system whereby members paid cash for all their requirements, as had originally been suggested by Mr. Stilling-Andersen.

All the associations in both the Transvaal and the Orange Free State operated on the principle of unlimited liability of their members. This was a most undesirable state of affairs, as it resulted in the more efficient members having to pay in to meet the debts of the less efficient farmers, if and when the association was involved in financial difficulties.

As the newly formed associations lacked sufficient fixed and working capital, the Government agreed that they should be financed by the Government controlled Land and Agricultural Bank, which granted fixed loans for the erection of buildings and the purchase of plant. These loans could be re-paid over a number of years. It also advanced seasonal cash credit loans which could be used for the payment of advances on produce delivered.

Soon after the launching of the co-operative movement in the Transvaal, it became apparent that many of the associations were being run by farmers and officials who had little or no business aptitude. The result was that the management of the associations was at a very low level, and it became obvious, that if some re-organisation were not carried out soon to keep the affairs of the associations under closer supervision, a large number of them would become insolvent. To overcome this mismanagement, two inspectors were appointed to the staff of the Registrar of Co-operative Associations. Their investigations showed that very few associations had made any progress and, that in fact, of the thirty associations registered,

fourteen of them had already been dissolved. After these findings, the Department of Agriculture insisted that no association could be registered unless it adopted the principle of cash transactions with its members.¹⁰⁾ The only exception allowed, was the supply of grain bags, which continued to be provided on a credit basis.

At the inception of the co-operative association movement in 1908 "The Central Agency for Co-operative Societies Limited" was established by the Transvaal Government in Johannesburg for the purpose of selling the maize that had been delivered to the co-operative associations established throughout the Transvaal. The Central Agency operated a pooling system for all the maize received from its members. The identity of the maize received from any one member was therefore lost. In the first year this Agency was maintained by the Transvaal Government, but after that it was taken over by the co-operative associations themselves. It then became a company with limited liability and only co-operative associations, not individual farmers, could become members.

The services rendered by these co-operative associations were mainly those of collective selling and purchasing and the removal of competition amongst their members. From a maize marketing point of view, the aim of co-operative associations was mainly the stabilisation of maize prices by a much more even flow of maize to the market than had been possible before. In addition, they provided information about current marketing conditions and also assisted farmers in grading and improving the quality of their maize. Some co-operative associations also undertook to supply farming implements to their

10) Report of the Commission to inquire into Co-operation and Agricultural Credit,; U.G. 16 - 34, p. 2.

members. Unfortunately the credit facilities granted to members were at times too generous and this not only caused the co-operative associations financial difficulties, but also made potential members diffident about joining, especially as their liability was unlimited.

The co-operative associations did not buy and sell maize for their own account, but acted purely as agents for their members. Briefly their system of operation was that, on delivery of the members' maize, they paid an advance (voorskot), which they, in turn, obtained from the Land Bank. This advance was a percentage of the price that they anticipated they would get when they sold the maize. The maize of all members was pooled according to grades. Once all the maize for a particular season had been sold, a final account was drawn up of all receipts and expenditure and a final payment (agterskot) was made to farmers for any sums still due to them.

Once again, however, it must be stressed that these co-operative associations far too often found themselves in financial difficulties as a result of inefficient management and administration. The percentage advance payable to members on delivery of their maize to the co-operatives' stores was not fixed among associations and consequently a high rate of advance was often used to encourage new members to join. This lack of uniform formula in determining advances did not continue for long, for in 1913, on account of a sudden slump in the maize price, associations were faced with the fact that they had already over-advanced against maize delivered and that there was, therefore, no final payment to farmers once the accounts for the year had been drawn up. Furthermore, members found themselves in the unfortunate position of not only having to settle their debts for the year with the co-operative associations, but also

having to refund that portion of the payment which exceeded what they were entitled to receive. This caused much hardship and dissatisfaction among members. However, after this experience a new policy was fixed whereby the advance payment for each year was determined at a meeting attended by directors of the various associations in consultation with the Land Bank. There was, therefore, from 1914 some form of control over the advances made to members against maize delivered, and individual associations could not use high advances as an inducement to a farmer to join a particular co-operative association.

In spite of this control, however, the associations once again over-advanced on maize delivered. At the beginning of the 1921-22 season maize was selling at between 25s. (R2-50) and 30s. (3-00) per bag and the associations fixed their advance bearing these prices in mind. The advance payment was 18s. 6d. (R1-85) per bag. Due, however, to exceptional circumstances caused by restrictions on the exportation of maize and also by the speculation with export permits, the price of maize slumped within the year to 11s. (R1-10) per bag. On investigation it was found that the various maize co-operative associations had over-advanced to their members a total amount of about £500,000 (R1m.) This amount, as before, would now have to be paid back to the associations in order that they in turn might settle their accounts with the Land Bank. The predicament in which the maize co-operative association member found himself was so serious - it must be remembered that he was on the average a man with little working capital - that a special Bill had to be passed through Parliament giving the associations five years in which to settle their debts with the Land Bank. In the end only about half of this amount was refunded by the associations to the Land

Bank and the balance of the debt was written off against the reserves of the Land Bank. The associations were thus released from their obligations to the Land Bank, but they were not obliged in turn to release their members from their obligations to refund the over-advances that they had received from the associations. Most associations did, however, during the season of 1921-22, release their own members. However, as a result of this experience, further legislation was introduced that prevented the Land Bank from granting seasonal loans of more than 60% of the estimated value of the products to be delivered to the co-operative associations.¹¹⁾

To sum up, it can be said that, for the period from 1910 to 1922, the co-operative association movement, in spite of the unlimited liability of its members, made progress. It cannot be referred to as a period of unqualified progress, for there had been many setbacks. For example, bad management and administration and disloyalty of members had hampered progress, but the movement had achieved, through its Central Agency in Johannesburg, a certain degree of stability in the maize price. Furthermore, those farmers, who had joined the co-operative associations were now certain that they were not being exploited by the middleman.

The co-operative marketing of maize was not, however, accepted by all maize producers. Statistics show that by the end of this period (1910-22), there were in South Africa 20 co-operative associations marketing maize, and that their membership was 6,313, and that between them they sold only 801,711 bags of maize, which was 10% of the total Transvaal and Orange Free State crop.¹²⁾ The

11) The Report of the Commission to inquire into Co-operation and Agricultural Credit ; U.G. 16 - 34, pp. 25 and 26.

12) W.J. Lamont: A Review of the Maize Situation in the Union of South Africa, Bulletin 101, Dept. of Agriculture, p. 13.

turnover of the maize co-operative associations by 1922 was, therefore, only a small percentage of the total maize sold. The co-operative associations, however, provided a very useful system of marketing for the farmer other than the large producer. It is to be regretted that they did not have the support of the large producer, but, it is not altogether surprising, for the large producer, who had sufficient capital to be able to withhold his maize from the market, when the price was low, could do for himself exactly what the co-operative association was doing for the small man. Furthermore, he could do it without paying commission, and from this point of view he was better off marketing his own maize than he would have been handing it over to the co-operative association.

However, that the co-operative association member was deriving benefit from his membership is clearly illustrated by the following quotation taken from the report of the Secretary for Agriculture for the year ended 30th June 1921. "The average price per bag obtained by the maize growers who belong to co-operative societies was from 6s. (60c) to 7s. (70c) more than that realised by the non-co-operators, amounting in the aggregate to some hundreds of thousands of pounds." The statement makes one wonder if it would not have paid even the big maize producer to join the associations.

The most likely explanations of why the co-operative association movement was not as popular with maize producers as it should have been, appear to be as follows:

- a. Maize farmers were ignorant concerning the advantages to be derived from becoming a member of an agricultural co-operative association.
- b. The financially more stable farmers feared that the application of the unlimited liability clause in the constitutions of the co-operative associations, could involve them in losses incurred through no fault on their part.

The very fact that by 1922 only 10% of all South African produced maize was being sold through co-operative associations, makes it obvious that there must have been other channels of distribution used by maize farmers to dispose of their maize. The following three distribution channels were the ones most often used by those maize producers who were not members of co-operative associations.

Other methods of marketing maize.

1. Direct sale to consumers.

In South Africa the main human consumer of maize is the African. To some extent the maize farmer could sell direct to the African in areas such as Natal and the Transkei, where there is a considerable concentration of Africans, and not an abundant supply of maize. In the Transvaal and the Orange Free State, however, he would supply free to his African staff some maize as part of their rations but, unless his farm was close to a main highway, he would not have had much opportunity of selling directly to consumers.

2. Sale through Produce Brokers.

There has never been, in South Africa, an organised "futures market". There are, however, produce brokers, who often gave advice as to the best markets available at any one moment, and through whom sales could be made.

3. Sale to Wholesalers.

Wholesale produce dealers bought to supply the local market when the price was favourable, or to sell to large buyers, such as the mines and municipalities or to export. They always constituted an available market for the farmer's maize.

Of the three methods mentioned above, the first one - direct sale to consumers - was the one least often

used, simply because very few maize producers had the necessary time or contacts to exploit this method of sale.

On the other hand, selling through produce brokers and direct sale to produce dealers, were both methods in common use and played a very important part in helping producers who were not members of co-operative associations to dispose of their crop.

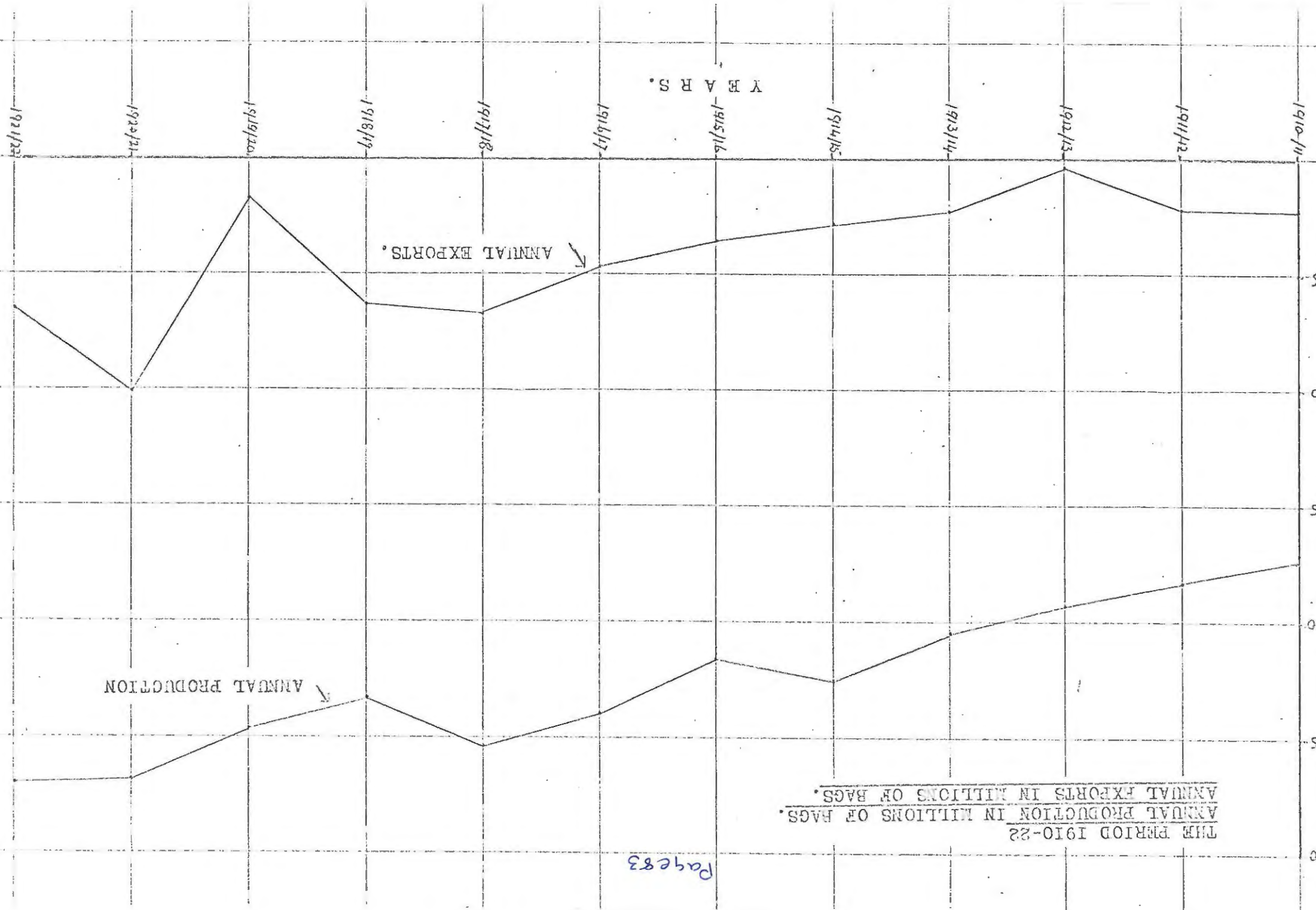
Up to now the discussion has concerned itself with the marketing of South African maize during the period 1910 to 1922, on the local market only. South Africa was, however, during this period, making a very serious effort to develop its export market in maize. It is therefore necessary, at this stage, to examine the progress made in the maize export market during this period.

The Maize Export Market (1910 - 1922).

Before examining the actual statistics for maize exported from South Africa, one very important point should be stressed. While, within South Africa, maize is used as a human food, this is not the case with maize sold on the world markets, where it is purchased mainly as a feed for livestock.

The statistics representing the exports of maize from South Africa for this period (1910 - 1922) should be examined to appreciate the relation between the amount exported and the total crop for South Africa. Table No. 9 of Appendix A, contains these statistics. A graphical presentation of these figures appears on the next page.

Firstly, it should be observed that during the period under review there was not any year in which no maize was exported. Secondly, the general trend of exports was upward. It will be recalled that the stimulus to export maize was originally the satisfactory price obtained overseas, and this price in turn caused yet more maize to



THE PERIOD 1910-22
 ANNUAL PRODUCTION IN MILLIONS OF BAGS.
 ANNUAL EXPORTS IN MILLIONS OF BAGS.

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be produced. A situation had, however, developed where there was, towards the end of this period, a very distinct surplus that had to be exported if the local maize price was to be maintained at a profitable level. During the last five years of this period, there was, in fact, only one year in which maize exports had not amounted to at least a quarter of the year's crop. The reason why exports in 1919/20 were only 6.6% of the total crop was not that there was no maize available, but that serious errors had been made when the crop was estimated. The maize exported in 1920/21, (which is represented by the very high export figure of 37.4% of the total crop) was in part actually maize which, had crop estimates been more accurate, would have been exported during the previous year.

In spite of the increase in maize exported, South Africa remained a very small and rather unimportant figure in the world maize trade. Our maize had, because of its good quality and low moisture content, acquired an excellent reputation on the world markets, but the quantities were still such that they did not and could not have any influence on world prices for maize.

For the last year for this period (1921/22), the United States of America (which certainly did not grow maize for the export market, but almost exclusively for home consumption), sent abroad 176,386,000 American bushels of 56 lbs. each,¹³⁾ which if presented in mud bags, comes to 46,593,675 bags of 200 lbs. each. How unimportant this quantity exported was in relation to the total American production can be appreciated when it is observed that the total U.S.A. production of maize for that year was 819,840,000 bags.¹⁴⁾ This was, however,

13) Henry A. Wallace and Earl N. Bressman: Corn and Corn-growing; John Wiley & Sons, Inc., New York, 1949, p. 378.

14) Ibid, p. 377.

more maize than the U.S.A. usually exported as is illustrated by the fact that during the previous two years 1919/20 and 1920/21 the U.S.A. exported only 4,051,246 and 18,765,052 bags of 200 lbs. each respectively.¹⁵⁾

South Africa has always been aware of the fact that her main competitor in the maize export market has been the South American state of the Argentine, which produces maize mainly for the export market. Statistics show that during the 1922/23 season the Argentine produced 4,473,000 tons (50,097,760 bags of 200 lb.)¹⁶⁾ and that production increased so steadily that for the 4 years 1925-28 her average annual export of maize was 6,000,000 tons (67,200,000 bags).¹⁷⁾ Against such competition it is therefore obvious that the South African maize exports had very little if any influence on the maize price in the markets of Europe.

In the days before Union, when it became apparent that the export of South African maize could be a large earner of foreign exchange, the governments of Natal, Transvaal, Orange Free State and the Cape Province agreed to make available special facilities for the exporters of maize. The arrangements, which were subsequently taken over by the Union Government, were:

- a. a specially reduced railway rate for maize from the station of the consignor to any South African port;
- b. a specially reduced ocean freight rate from any South African port to the overseas markets;
- c. grading and inspection facilities at the ports;
- d. specially low insurance rates for maize handed to the Government for disposal;

15) Henry A. Wallace and Earl N. Bressman: Op. cit. p. 378.

16) "The Agricultural Crises." Publication of The Economic Committee of the League of Nations; Geneva 1935, p. 79.

17) Ibid, p. 78.

- e. maximum care while consignments were in transit or being handled;
- f. shipment by the Government at the minimum of expense;
- g. the selling of maize while in transit;
- h. provision of storage facilities for consignments of maize at the ports; and
- i. the furnishing of information with regard to export arrangements and maize samples by the High Commissioner for South Africa in London.

From 1908 there were three schemes, any one of which could be adopted, depending on the wishes of the South African producers. These schemes were as follows:

1. "Scheme C". In this scheme a special railway charge, as low as R1-00 per ton of maize, was granted to encourage the export trade. The consignor had to ensure that all maize for export passed through the Government grader, otherwise full ordinary rates as laid down in the Tariff book would have applied. If the maize was found to be weevily, wet, unripe, or mouldy the consignment was detained, pending the sender's instructions and the export rate was increased to the ordinary rate. Further, if the Government grader refused to grant an export permit for a consignment of maize, or if the maize was sold by the Administration, the higher railway rate was applied to that consignment. The exporter made his own selling arrangements.
2. "Scheme B". Under this scheme the railway and harbour authorities acted as shipping agents on behalf of exporters, for a fee which included rail, port and agency charges. All bags of maize had to weigh exactly 203 lbs. Ordinary consignment notes had to be used and endorsed "Delivered to the S.A.R. Administration for export and sale in terms of conditions published in Government Gazette No. 145 Transvaal or 49 O.R.C. (Orange River Colony), or 9038 Cape, which I accept." followed by the signature of the sender.
3. "Scheme A". In this case not only were all the foregoing facilities included, but also the Union Government's representative in Britain would dispose of any maize on the London Market that had originally been handed to the Railway authorities. The fee for doing this was inclusive of any expenses in connection with rail and ocean freight, together with any other expenses connected with the disposal of the maize. The net result of the sale was then indicated by cable and paid to the consignor.

The Government did, however, insist that advantage could be taken by exporters of the low export railway rate, only if a minimum of 10 tons of maize was included in the consignment. Obviously it would have been an un-economic proposition if consignments of maize travelling long distances by rail did not, at least, constitute a full truck load.

In order to fulfill overseas contracts, unripened maize sometimes arrived at the ports. The Government inspectors rejected this maize and it had to be left on the wharfs to dry, causing considerable congestion of the traffic. To discourage the railing of unripened grain the Government decided that the exporter would not receive the benefit of the low export rate on any grain that had been rejected by the Government grader, but that he would have to pay ordinary rates, and that no rebate would subsequently be granted, even though the maize, at this later date, had been declared fit for the export market.¹⁸⁾ This regulation was, however, amended on the 1st of October 1913. Grain which had been rejected as wet, weevily, mouldy, or on any other account, and was not shipped immediately was entitled to 7 consecutive days free storage and thereafter storage was charged at 3d. (2½c) per ton per diem.¹⁹⁾

Of the above schemes, C was the one that was most favoured by exporters as it gave opportunity for immediate and individual action, and because it eliminated the loss of time so often associated with government undertakings. Scheme A was never used on a large scale.

It should here be repeated that no organised "futures market" in maize existed in South Africa.

18) J. Burt-Davy: Op. cit., pp. 544/5.

19) Ibid, p. 550.

Consequently the export of maize could be a considerable risk. Quite often the exporter secured a contract from an overseas buyer for the shipment of maize, only to find at a later date that he had to buy in the maize as there had been a crop failure and that, contrary to the good profit he had anticipated he would get, he found that the prices he had to pay were so high that he only just broke even or that he lost on the transaction. At other times the exporter found that, although he had booked the shipping space months ahead, once the date of loading arrived he could not purchase the maize he required at a suitable price. He therefore had to buy at a higher price and so try to cut his losses, rather than not use the shipping space for which he would have to pay in any case.

Such were the misfortunes of a grain exporter in a country such as South Africa. On account of climatic conditions, there were considerable fluctuations in the total annual crop, and, due to the absence of an organised grain exchange, it was impossible for him to hedge against losses occasioned by price fluctuations.

The maize export trade during this period (1910-22) also suffered a serious setback because of World War I. At this time shipping space was at a premium and the cost of shipping a bag of maize to Europe rose greatly. Statistics showing how these export costs increased, and then declined again during this period, will be found in Table 10 of Appendix A. A graph representing these price fluctuations will be found on the next page.

As a result of these fluctuations in export costs, there were considerable fluctuations of prices on the local market, but this was not the only reason why home prices fluctuated. For some reason, that is not apparent, it appears that the Chief Inspector of grain

found it almost impossible, for a number of years during this period, to give a reasonably accurate estimate of the crop for the coming season. Consequently, nobody was ever very certain what the country's maize position was. Thus, for example, the Chief Inspector of grain estimated the maize crop for 1913 to be about the same as that for 1912, which was a poor crop. The result was that prices remained high on the local market and no maize was exported. Towards the end of 1913, however, it appeared that the crop was in fact quite a good one. Instead of the export of maize starting during July 1913, it started only towards the end of the 1913 season when home prices were declining instead of rising as they usually do at that time of the year. Farmers, therefore, who held back their maize instead of selling it at the earlier high price, made a much smaller profit, when they eventually sold at the lower price at the end of 1913. Also, by this time, the export market was well supplied by South Africa's competitors, such as the Argentine, and foreign maize prices did not therefore encourage exports.

For the season 1918-19 the crop was under-estimated by 2 million bags. For the 1919-20 season an under-estimate of 3 million bags caused the price to rise to the record figure of 32s. (R3-20) per bag and the Government promptly prohibited the export of maize. That year only 811,457 bags of maize were exported. Much to everybody's surprise it was subsequently discovered that the crop was only slightly below normal, and when the crop for the following season was up to standard, there was a large slump in prices, and exports which had been delayed, started in large quantities in January 1921.²⁰⁾

20) H. Frankel: Co-operation and Competition in the Marketing of Maize in South Africa; University of the Witwatersrand, Johannesburg, 1925, p. 69.

These instances of the effects of inaccurate crop estimates, are sufficient to show that they can result in large losses, not only to the farmer, but, in foreign exchange, to the state.

Summary for the period 1910 - 1922.

This was a period during which the South African farmers were consistently encouraged and advised to feed more maize to their livestock, as an alternative to selling their maize. While the consumption of maize by livestock did increase, maize farmers, on the whole, continued to treat their maize as a cash crop.

By far the most important event during this period, from a marketing point of view, was the development of the co-operative association movement. The Government imported a specialist in this field from Denmark in order that he should advise and help the farmers to establish their own co-operative associations. These made the farmer less dependent on the middleman, for whom the maize producer had developed a deep distrust. For a number of reasons the co-operative association movement had only very limited success during this period and by 1922 only 10% of all the maize sold, was being marketed through co-operative associations. However, in spite of setbacks suffered by co-operative associations, figures show that the co-operative association member invariably received a better price for his maize than did the non-member.

During the whole of the period there is evidence that the Government was doing its utmost to help the South African maize industry build up a profitable export market. Not only was the export of maize desirable as a foreign exchange earner, but it was also essential that the surplus maize be exported in order to maintain the local price at a reasonable level. Special low railage

and shipping rates cut the maize exporter's freight costs to a minimum, while at the South African ports, Government inspectors and graders ensured that all maize exported was of good quality.

More and more maize was exported during this period, but this was not because new and better foreign markets were found for South African maize. Foreign markets were always available and South African maize had always found ready overseas buyers. The greater quantity of maize that was being exported was the consequence of greater production. Table III of Appendix A shows that the production index for the 1921/22 marketing season was 154.6 compared with the base index of 100 for the 1911/12 marketing season.

It would be most satisfying to conclude that this increased production was the result of better farming techniques, but, while maize production methods did improve, this was only one of the minor reasons for the increased production. The main reason for the increased production was the larger number of morgen planted with maize. Unpublished figures obtained by the writer from the Mealie Industry Control Board shows that 1,082,000 morgen were planted with maize for the 1911/12 marketing season, while for the 1921/22 marketing season 1,802,000 morgen had been put under maize.

It was, therefore, a period of advancement for the South African maize industry. However, during this period there was also evidence of the disorganisation and subsequent losses that could result to the industry if inaccurate estimates of the likely total crop for a season were made.

CHAPTER IV

The Marketing of Maize during the period
1922 to 1937

Introduction

This period covers the marketing of maize from the introduction of the Co-operative Societies Act in 1922 until the passing of the 1937 Marketing Act and the establishment of the Maize Industry Control Board. During this period there were events such as the introduction of the Elevator System, the passing of the Maize Control Act of 1931 and the establishment of Unie Graan Koöperatiewe Landbou Maatskappy, all of which left their mark on the development of maize marketing in the years that followed. These events will be dealt with separately, and in addition, the period as a whole will be reviewed.

The Elevator System

During the first period discussed, 1910 - 1922, the production of maize did increase, but so did local consumption; consequently, while maize had to be exported to keep the local price at a reasonable level, there was never really an export problem. In the second period (1922-37) the rate at which production increased was considerably greater than that at which consumption rose. Thus, to keep the internal price of maize at a reasonable level, more and more maize had to be exported, but, before the maize could be exported, it had to be graded and stored in suitable containers until transport facilities were available. It was, therefore obvious that, if the export of maize was to work smoothly, it was essential that elevators should be erected for storage purposes. As far back as 1911 Sir Thomas Price in a report to the Government, recommended the erection of elevators.¹⁾

1) Thomas Price: Report on the Storage and Handling of Grain in Europe, United States of America and Canada; U.G. 43 - 1911, p. 32.

Furthermore, in 1918 a committee under the chairmanship of Mr. C.L.S. Clarke had recommended the establishment of grain elevators to operate under state control. This committee suggested that three coastal elevators at Cape Town, East London and Durban respectively, together with fifty inland elevators, be built. The Government subsequently accepted this recommendation.²⁾ In spite of a decision being taken in 1918 to erect the elevators, it was not until 1921 that work on them was commenced.³⁾

On the 27th of June 1926 a new type of country elevator was put into commission at Settlers.⁴⁾ With the completion of this one, there were two coastal elevators (one each at Cape Town and Durban) with a total storage capacity of 72,000 short tons and 35 country elevators with a total capacity of 110,950 short tons. Where these elevators were situated and what the storage capacity of each was at the above date can be seen in Table 11 of Appendix A.

From the placings of the elevators as shown in Table 11 of Appendix A, it will be seen that the idea was that the country elevators should be in the principal grain producing areas. Farmers could deliver their grain to these country elevators, either in bags, or loose, depending on which method they preferred. The grain was then tipped from the farmer's wagon into the receiving hopper of the elevator, from where it was mechanically transferred to the various storage bins, there being a separate bin for each grade of grain. However, before it was finally stored in its particular bin, it was first

2) Annual Report of the South African Railways and Harbours Administration for 1918; U.G. 43 - 1918, p. 6.

3) Report of the General Manager of Railways and Harbours for year ended 31.3.1923; U.G. 40 - 1923, p. 17.

4) Ibid, for year ended 31.3.1927; U.G. 34 - 1927, p. 59.

cleaned, weighed and graded. Identity of the individual farmer's grain was thus lost. From the country elevator the grain was loosely spouted into closed railway trucks in which it was conveyed, either to other country elevators or to the port elevators, where it was once again mechanically transported into the respective bins, depending on its grading. From the port elevator the grain was spouted into the hold of the ship. The complete absence of grain bags once the grain was in the elevator system will be noted.

The elevator system, which was at that time controlled by the railway authorities, did not buy and sell grain. Its purpose was confined to grading, weighing, cleaning, storing and handling grain. Once the farmer had deposited his grain at an elevator, a negotiable elevator receipt, stating the weight, description and grade of his grain was issued to him. The Commercial banks recognised these elevator receipts as first class security and would advance loans against the deposit of such receipts. The elevator authorities insured grain in their possession against all losses of any kind. Furthermore, they guaranteed, on the presentation of the elevator receipt, to deliver the exact weight and grade as per the receipt. They did, however, deduct one percent to cover themselves against the loss of weight, which was likely to occur during storage, as the maize gradually lost some of its moisture content.

Under the elevator system a product emerged that had been carefully cleaned and graded and it was therefore possible to buy and sell grain simply by trading in elevator receipts. It was not necessary for the buyer to have an inspection of the grain he bought.

An essential principle of the elevator system is the pooling of the same grade of maize from different

farmers, as this makes possible economies in handling and transport. Bulk handling not only saves the price of the bag, which would otherwise have to be used, but it is very much faster. Under this system a ship can be fully loaded with grain in one day as compared with seven to ten days if bags are used. This naturally results in a substantial reduction in stevedoring charges at both sending and receiving ports. Also the ship itself can carry at least 10% more grain loaded in bulk instead of in bags.

From a storage point of view, the elevator is also ideal, as the grain is protected and cannot deteriorate on account of unfavourable weather conditions or the presence of rodents and insects. Once in the elevator the grain is kept clean and in good condition with very little extra expense. This should be compared with the possibilities of deterioration when stored in bags. Even in post World War II days there were complaints about grain being lost, because it had to be stored in bags covered by tarpaulins.

Financially also, the elevator is a great help to the farmer. Before its introduction the farmer was often compelled to sell his maize immediately after the harvest because he needed money at once, and, even if his financial needs were not pressing, he very often did not have a suitable place to store his crop. In either case he had to sell, when all the other producers were selling, and the price was at its lowest level. This difficulty was to some extent overcome by the co-operative association, which could give its members a "voorskot" when they delivered their maize, but, as already stated, not all farmers were members of co-operative associations. The system of financing through the maize elevator receipt was the first opportunity farmers, who were not members of co-operative associations, had of obtaining an

advance, while their maize remained their property.

A further major advantage of the elevator system is that it eliminates all the arguments between buyer and seller about the exact weight of the maize delivered. Often there were cases of producers alleging they had sold one weight of grain, while buyers were quite certain that they had received a lesser amount. In addition it avoids arguments about the grade of the product, since the elevator receipt clearly states the weight and the grade, hence avoiding all possibility of dispute at a later date.

As all grain is now pooled according to grade, the elevator system is a considerable saver of transport. If grain is required at a certain point, it can be drawn from the elevator nearest to that point and not necessarily from the elevator where it was originally stored by the seller. Thus, for example, if a producer stores his grain at say Kroonstad, and subsequently sells his elevator receipt for the delivery of the grain to a merchant, say in Johannesburg, the grain can be drawn from any of the elevators near Johannesburg.⁵⁾

The first figures to show the use that was being made of the elevator system by maize farmers are those for the crop year 1923-24 (marketing year 1924-25). During the following year there was a record maize crop and the General Manager of the South African Railways and Harbours stated, in his annual report, that the total quantity of maize and kaffir corn handled in the elevator system, during the year ended 30th June 1926, was 518,386 tons (equal to 5,183,860 bags), which was considered very satisfactory. This quantity was about one-fifth of the record crop of about 25 million bags

5) Report of the General Manager of Railways and Harbours for year ended 31.3.1923; U.G. 40 - 23, p. 16.

produced during that season, and represented a turnover of about five times the storage capacity of the country elevators, which was approximately 100,000 tons or 1,000,000 bags.⁶⁾

It is also worth observing that during the year ending on 30th June 1926, a record export of 11.5 million bags of maize and maize products was made and that, of this total, almost 4.5 million bags passed through the elevators. In fact, the General Manager of S.A.R. & H. stated that, in his opinion, this record export would not have been possible had it not been for the elevator system.⁷⁾

The quantity of grain handled by the elevator system is, however, considerably influenced by climatic conditions. In a good year a large tonnage of grain will pass through the system, while in the years when the crop is poor, the elevators are not used to full capacity. On numerous occasions the General Manager of railways complained in his annual report that the system was being used far too often as a storage place where the same grain would remain for six or seven months at a time. If the system was to pay its way, it had to turn over its holdings of grain at least five or six times during the season.

How the maize intake of the elevator system varied from year to year, can be appreciated if the figures in Table 12 of Appendix A are examined. The total intake of maize for each crop year during the period 1922 to 1937 is graphically presented on the following page.

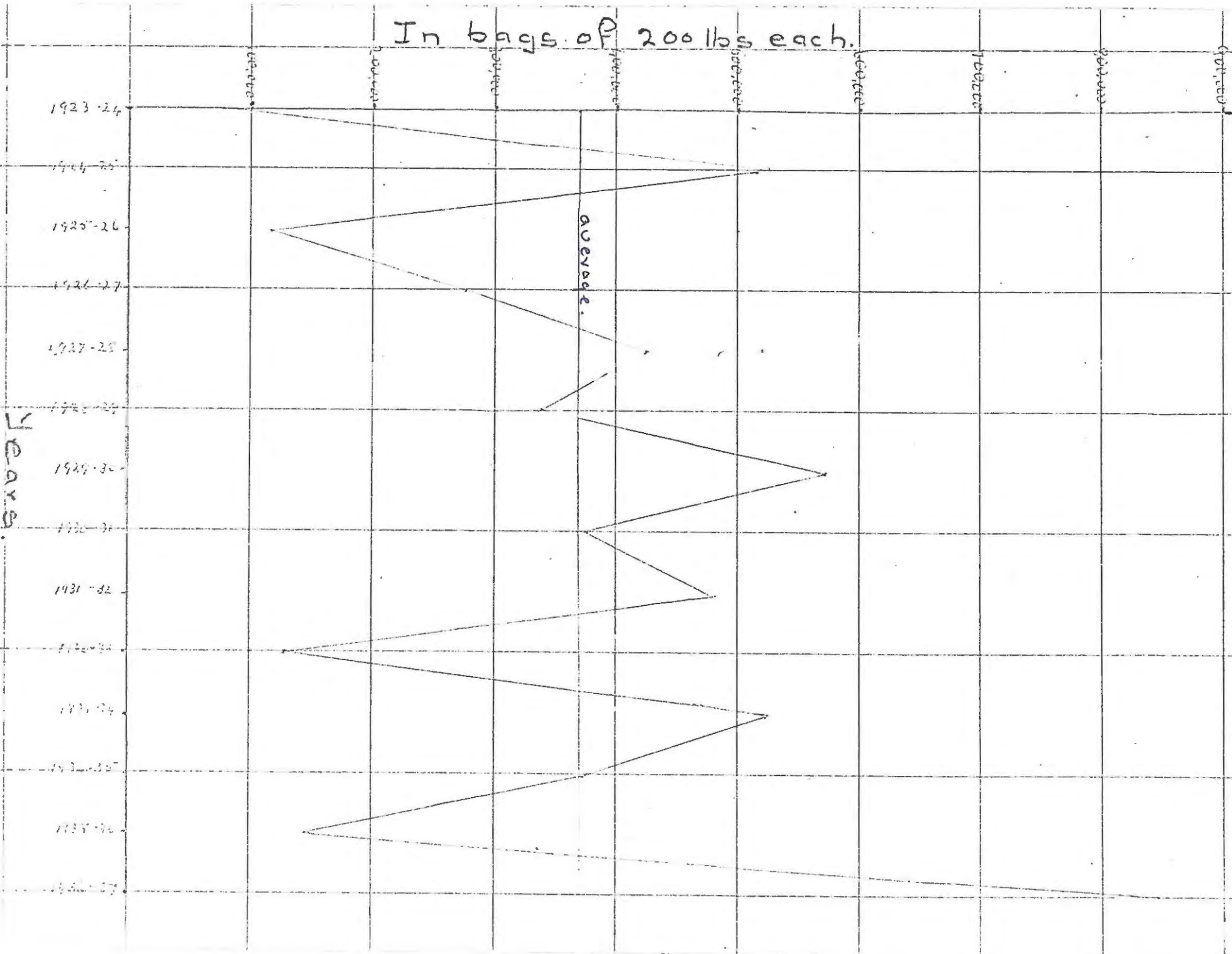
It was not until the year ended 30th of June 1931

6) Adapted from the Report of the General Manager of Railways & Harbours for year ended 31.3.1926; U.G. 42 - 26, pp. 49 and 50.

7) Ibid, for the year ended 31.3.1926; U.G. 42 - 26, p. 50.

Annual Elevator Intake of
Maize (in bags of 200 lbs each)
For the crop years 1923/24 to 36/37.

In bags of 200 lbs each.



that the system showed a surplus for the first time since its inception. During this year the intake of the system was 571,178 tons and it showed a surplus of £8,555 (R17,110). The accumulated deficit was accordingly reduced to £284,188 (R568,376).⁸⁾ This record tonnage of maize passing through the elevators was, however, due not only to the satisfactory crop for the season (by no means a record), but to the fact that there was, in the first half of that year at any rate, a very satisfactory export market for maize. During the second half of the year the export price declined and only 100,000 tons as compared to 471,000 tons for the first half passed through the elevators. Another reason for the increased flow of maize through the elevators was the introduction of a revised scale of storage tariffs. These new tariffs were specifically designed "with a view to forcing the movement of grain from the elevators during the busy intake period of the season, and they had the effect intended, namely of discouraging the use of the elevators for purely storage or speculative purposes and of securing the tonnage turnover necessary to balance accounts".⁹⁾

From the above quotation it will be appreciated that the purpose of the grain elevators was to assist in the export of grain. It was never intended that they should be storage depots. Up to the 30th of June 1937 it had cost £2,558,807 (R5,117,614) to establish the system.¹⁰⁾ If all that was wanted was storage space, this could have been provided at a considerably lower cost than that of building the elevators. By this date the cost of providing sufficient storage space in an elevator for one

8) Report of the General Manager of Railways and Harbours for the year ended 31.3.1931; U.G. 37 - 1931, p. 40.

9) Ibid, p. 63.

10) Ibid, for year ended 30.6.37; U.G. 62 - 1937, p. 129.

ton of maize exceeded R27, while the co-operative associations were providing adequate storage space at a cost of R10 to R20 per ton.

However, looking at the elevator system from the maize export point of view only, it did meet a real need during this period (1922-37). South African maize had established a good reputation for itself on overseas markets. To maintain a consistently high quality, required detailed supervision, inspection and grading. In this respect, the officials at the port elevators, through whose hands a large percentage of the exported maize passed, contributed in no small way to establishing a market for South African maize in foreign countries. The Co-operative Societies Act No. 28 of 1922.

As already stated, Agricultural Co-operative Associations were in existence from as early as 1908. While they made some progress over the years, they were not an outstanding success and their membership was small compared with the total number of farmers who could have joined.

Before the union of the four provinces in 1910, the agricultural co-operative associations had been operating under the separate provincial legislation and they continued to do this for some time. It became obvious, however, that it was necessary for the Union Parliament to pass legislation that would bring all the agricultural co-operative associations throughout South Africa under the same laws. It was, however, not until the 17th of July 1922 that an Act was passed "To provide for the formation, registration and management of co-operative agricultural societies with unlimited liability, co-operative agricultural companies with limited liability and co-operative trading societies with limited

liability." 11) This Act repealed all previous acts dealing with co-operative associations and stated that, unless an association was registered with the Registrar of co-operative associations, it could not use the word co-operative in its name. Much more important is the fact that it provided, for the first time in South Africa, for the establishment of co-operative associations with limited liability, while at the same time maintaining the old type of unlimited liability co-operative association. All co-operative associations had to be registered under this Act, and thus all the associations in existence before the passing of the Act had to re-register. In Section 57 the Act made provision for such re-registration but permitted the existing undertakings to retain their existing articles of association. Some of the older associations were not really co-operative associations in that they did not handle members' produce on an agency basis, but actually purchased such produce at a pre-determined price. Furthermore, on occasions, they also purchased agricultural produce from non-shareholders. Any co-operative association formed after 1922 and therefore registered under Act 28 of 1922, is prevented by this Act from purchasing outright the agricultural produce of members or non-members.

After the promulgation of the 1922 Act all new co-operative associations established had to subscribe to the following basic principles.

1. Only bona fide farmers could become members of such an agricultural association.
2. The co-operative association had to act as an agent for its members and the members received the full selling price of their produce less a prescribed fee, to cover administrative costs,

11) Act No. 28 of 1922; Statutes of the Union of South Africa, 1922, p. 152.

to build up reserves and, in the case of associations with limited liability, to pay a limited interest on paid up share capital.

3. The co-operative association could not trade, or in any way operate for the benefit of, or on behalf of, anybody who was not a member.
4. The organisation and operation of the co-operative association must be controlled by persons and not by capital.
5. Any accumulated funds (profit) had to be distributed among members in case of dissolution of the co-operative association.
6. Such a distribution of surplus funds had to be made, not according to the number of shares each member held, but according to the amount of business that he had done through the co-operative association.

This Act was extremely favourably received by those whom it concerned and farmers throughout the country hastened to form new associations. Care had, however, to be exercised that only co-operative associations which had a reasonable chance of survival were registered. How important the Act was to the co-operative movement, can be seen from the fact that, while there were 54 co-operative associations, with a membership of 12,878, in existence when the Act was promulgated in 1922, this number had increased to 416 associations with a membership of 85,697 by the 30th of June 1933. It is also worth observing that, of the 416 associations at that time, there were 169 with a membership of 55,786 having limited liability for their members, but that there were also 247 associations with a total membership of 29,911, in which the liability of the members was unlimited.¹²⁾ It appears strange indeed that in 1933, eleven years after the Act was passed (which permitted the formation of associations the liability of whose members was limited), this latter class of unlimited liability members should still be so large.

12) Report of the Commission to inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 4.

The writer tried to determine why there was such a delay before co-operative associations with unlimited liability re-registered with limited liability. No explanation could be given for this delay by the officials of the Maize Board. However, after further investigation regarding this subject, the writer was informed by Mr Pienaar of the office of the Registrar of Co-operative Associations that, at that time (1922-33), the financial position of many of the agricultural co-operative associations was very weak. Consequently they were instructed by their creditors that further business between the co-operative associations and their creditors would not be possible if they re-registered under the 1922 Act as co-operative associations, whose members had the advantage of limited liability. Many co-operative associations were, therefore, compelled by their creditors to improve their financial position before they could re-register as co-operative associations, whose members enjoyed limited liability.

With regard to the associations themselves, the 1922 Act succeeded in making it quite clear that farmers could either form a co-operative association whose members' liability was limited to the amount they had invested or had agreed to invest in the co-operative association, or, alternatively, another type of co-operative association whose members' liability was not limited in any way to the amount they had invested or promised to invest in the society. Thus for example, section 15(1) of the 1922 Act states: "No co-operative agricultural society with unlimited liability, shall be required to have any fixed capital", while section 16(1) states: "The capital of a co-operative agricultural company with limited liability shall be variable in amount according to the nominal value of shares from time to time subscribed."

Also matters such as borrowing powers, the general running and control, procedure at general meetings, voting of members, appointment of auditors, preparation of financial statements, inspection of affairs and, finally, dissolution of the association are dealt with in considerable detail. One cannot help feeling that it is a great pity that this Act was passed only in 1922, for it was certainly long overdue, and would have done a great deal to further the co-operative association movement had it appeared in statutes before that date. On the other hand, it must be appreciated that such a comprehensive Act as this could not have been compiled without considerable experience in the matter of co-operative associations.

A further step forward in 1922 was the pooling of all maize by the Central Agency. Until this date the maize of the various associations was not pooled, but the Central Agency sold the maize of each association on its own individual account. The result was that one association very often received a lower price than another for the same grade maize. Needless to say, this caused much dissatisfaction. Under the pooling system, however, the maize of the different associations lost its identity and everybody was much happier receiving the same price for a particular grade of maize.

At the time of the passing of the 1922 Act, there were ten maize co-operative associations in the Orange Free State and ten in the Transvaal. These twenty associations had a membership of 6395 and all twenty associations were affiliated to the Central Agency. By the 30th of June 1933 four of these associations, two in the Orange Free State and two in the Transvaal, had been dissolved. The two Orange Free State associations were, however, subsequently reformed, and a new association was formed in the Transvaal, so that by this latter date

17,462 maize farmers in these two provinces were members of co-operative associations. Surprisingly, however, "the liability of all members was unlimited".¹³⁾

In 1925 Act No. 38 introduced a very important amendment to the 1922 co-operative societies Act. Section seventeen of Act No. 38 of 1925 stated that the Minister of Agriculture could from that date, (if he was satisfied that in any province, district or area, at least seventy-five per cent of the agricultural producers residing there and producing at least seventy five per cent of a specific agricultural product produced in that province, district or area, marketed their product through a co-operative association) by a notice published in the Government Gazette, compel the remainder of the producers of a specific product in that province, district or area, to sell their product through the co-operative association.¹⁴⁾ This is a most important piece of legislation as it is the first implementation of compulsory co-operative marketing.

After the passing of the 1922 Act there was a considerable increase in the membership of agricultural co-operatives generally. This increase was not, however, apparent amongst the maize producers.

The following table shows very clearly that, for the first eight years after the passing of the Act, the total membership of maize co-operative associations remained almost constant. In fact, as the table also indicates, there was a considerable decrease in the percentage of the total Transvaal and Orange Free State maize crop that was sold through co-operative associations.

13) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 26.

14) Act No. 38 of 1925; Statutes of the Union of South Africa, 1925, p. 608.

15)
Table No. I.

<u>Year</u>	<u>No. of Societies</u>	<u>Member-ship</u>	<u>Turnover in Bags</u>	<u>% of Total O.F.S. and Tvl. Maize Crop sold through Co-operatives</u>
1922-23	20	6,313	801,711	10
1923-24	21	6,938	1,658,001	12.3
1924-25	22	6,942	566,471	8.6
1925-26	22	6,872	2,504,138	13.0
1926-27	21	7,263	447,357	6.3
1927-28	21	6,506	1,097,693	8.4
1928-29	19	6,220	1,091,415	7.3
1929-30	18	6,486	936,368	7.0

It is extremely difficult to determine why the majority of maize producers remained so unenthusiastic about the co-operative association movement. At first it would appear that the reason was, perhaps, that the prices producers obtained for their maize when selling through co-operative associations, was perhaps less than that which they obtained by direct sale. The following brief, season by season, analysis, however, shows that this was definitely not the case.

During the 1922/23 season the Central Agency paid out 14s. 2d. (R1-42) per bag, while in the open market, the price was never above R1-30 till October, and after this month it dropped to less than R1-20 per bag.

In 1923-24 the Agency paid out R1-16, while, till the end of September, the open market price was always 10 cents below that price. From October, however, the open market price did exceed the R1-16 paid by the Agency. As already indicated, however, most of the producers are usually short of both cash and storage

15) W.J. Lamont: "A Review of the Maize situation in the Union of South Africa". Bulletin 101 of the Department of Agriculture; Pretoria, 1931.

space and, therefore, cannot wait for this higher end of season price.

The Central Agency paid out R1-49 per bag during the 1924-25 season. At first the open market price was much lower, but by the end of September it had risen to R1-54. It did exceed the Agency price for more than two months, but by November had dropped to considerably less than that that paid by the Agency.

In the beginning of the 1925-26 season the open market price was just a few cents higher than the Agency price. During August the two prices were actually the same, but thereafter the open market price dropped to $12\frac{1}{2}$ cents less than the Agency price and did not recover to the Agency price level until the end of December.

During the seasons 1926-27, 1927-28 and 1928-29 the Central Agency price was higher than that obtained by most producers selling in the open market. For the 1926-27 season the Agency price was higher till the middle of December. For 1927-28 it was higher till the end of December. In fact, not till March of 1928 did the open market price actually exceed the Agency price. For the 1928-29 season the Agency price was considerably higher till the middle of November. It must be stressed again that for the majority of producers it is only the early season prices that are of any importance.

Of the eight seasons represented in Table I above, the 1929-30 season was the only one for which the open market prices for the early part of the season were actually higher than those paid out by the Central Agency. During the latter part of the season open market prices declined to a figure below the Agency price. It is, however, generally conceded that, during this season, those producers selling their maize in the open market, obtained better prices than those who were

members of agricultural co-operatives. 16)

The above season by season summary shows very clearly that the co-operative association members, more often than not, obtained better prices for their maize than those producers who did not sell through co-operative associations.

If, then, the lack of enthusiasm to join a co-operative association was not caused by a price differentiation in favour of the open market seller, one wonders what other reasons there could be for this absence of growth of maize producers' co-operative associations. The writer regrets that he has been unable to discover any literature in which this point has been investigated. He, however, suggests the following three possible reasons.

- a. It is unfortunately true, especially of those years, that the average South African farmer was not a great reader. It is therefore quite likely that, unless he had a flourishing co-operative association virtually on his doorstep, he would not have known very much about it and the possible benefits that he could have derived from becoming a member. Furthermore, the South African farmer is inclined to be very conservative. He does not like trying out anything new, until he has actually had evidence from somebody else of the benefits of a new policy. Coupled with this, is the fact that quite a number of the earlier co-operative associations, established before the 1922 Act, came to an unpleasant end and at times the farmers, who were members, were the losers. This kind of experience,

16) Mauritz Kruger: "Eight years of Maize Co-operation!"
Bulletin of the Department of Agriculture;
Pretaria, 1931, pp. 1 - 2 .

especially in a conservative community, is not easily forgotten.

b. In all of the 18 maize co-operatives which were operating in 1930 the liability of the members was unlimited. This fact in itself would have been sufficient to keep a large number of maize producers from joining the associations. The average maize farmer can easily lose his total income for the year if climatic conditions go against him, therefore he must, especially if he has only a very limited amount of capital at his disposal, be a thoroughly bad financial risk. If, therefore, he had managed to accumulate some reserves during the better years, he would have been most unwise to join a co-operative association where his liability was unlimited, and where, through no fault of his own, he could have lost part of his capital. Unlimited liability was certainly a most unattractive aspect of co-operation.

c. The co-operative association paid only a "voorskot" on delivery of the maize, while the farmer received the full price immediately if he sold in the open market.

It is worth noting that the Commission set up to investigate and report on Co-operation and Agricultural Credit in 1933, did not come to any conclusions as to why the co-operative movement had not developed faster among maize producers. They simply stated that the Commission considered that the pessimism of maize farmers as regards the future of co-operation was unwarranted.¹⁷⁾

17) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 44.

While for the eight years 1922 to 1930 the co-operative associations handled, on an average, only just over 1,100,000 bags per year, which was approximately only 7% of total production, it is found that during 1931-32 and 1932-33 this percentage rapidly increased to approximately 34% for each of the two seasons.¹⁸⁾ In actual bags of maize handled, statistics show that, during the 1931-32 season, just over six million bags and, in the 1932-33 season, just under six million bags were sold through the maize co-operative associations. This remarkable increase in the turnover of the co-operatives was due mainly to the sudden increase in membership of the co-operative associations. Table I above shows that the membership was 6,486 as at the 30th of June 1930. On the 31st of December 1930, only six months later, there were still only 18 associations, but their membership had increased to 10,154, an increase of 56.5%, whereas the increase for the previous eight years was negligible.¹⁹⁾ Furthermore, so rapidly did the membership of maize co-operative associations increase, that by the 30th of June 1932 there were 18,214 members, almost three times as many as two years previously. This figure had, however, declined by 752 to 17,462 members by the 30th of June 1933.²⁰⁾

During the seasons 1931-32 and 1932-33 the market for maize was very depressed and the sudden increase in membership of co-operative associations was, no doubt, to some extent, attributable to the very attractive advances that the co-operative associations paid, especially

18) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 44.

19) W.J. Lamont: "A Review of the Maize Situation in the Union of South Africa" Bulletin 101 of the Department of Agriculture; Pretoria 1931, p. 13.

20) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 26.

during the first of these two years. In the past it has been found time and again that farmers join the co-operative associations in years of surplus production, when the price is low, but tend to resign as soon as prices recover in the seasons that follow. At any rate, during these two years 1931-32 and 1932-33, the associations handled 60% and 57% respectively of all the maize marketed. 21)

It is important to realise that there was a marked difference in the marketing approach of the co-operative associations compared with that of the ordinary middleman. In the first instance the middleman was in business for his own benefit and expected to make a living for himself out of his transactions. Secondly, while he bought and sold maize, he never physically handled or stored maize in large quantities. As previously stated, the co-operative association, because it attempted to stabilise prices by an even flow of maize to the market, was compelled, if it wanted to ensure that the maize of its members was evenly marketed throughout the season, to undertake both the handling and storage of maize. The middleman knew that, if he wanted to keep his expenses and his capital requirements at a minimum, he had to keep up a rapid turnover. Producers thus, very often, had themselves to truck their maize to the final consumer, leaving the middleman to do only the organisation and administrative work connected with the purchase and sale.

In order to operate successfully, it was essential that a co-operative association should comply with the following requirements.

1. It had initially to have sufficient capital to pay for its fixed assets. Because it had to store members' maize in the early part of the season, it had to have considerable land

21) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 45.

and buildings where this storage could be undertaken. In addition to its fixed capital requirements it needed working capital, i.e. money to finance its daily operations, which included the payment of large advances to its members on the delivery of their maize. A co-operative association could never hope to grow and acquire more members, unless it had a reputation for paying to the farmer, as an advance, a fairly high percentage of the price he anticipated he would finally receive. Once again it must be stressed that the average co-operative association member is continually short of capital and must have money the moment his crop comes off the land. "Farmers generally lack the minimum capital resources which business prudence would dictate." 22)

2. The manager had to be a man of business experience who had a very good knowledge of marketing procedure and insight into future marketing trends. Unless he had these qualities it would be almost impossible for him to determine an advance that was not too high or too low and, furthermore, he would not know when he should enter the maize market in order that the co-operative association members might receive the maximum benefit.
3. It must operate with maximum efficiency and at the same time in the most economical manner possible in order that administrative and distribution costs be kept at a minimum, for it is only then that members would at the end of the season receive the maximum arrear payment. 23)

As most co-operative associations paid the advances to their members out of loans they received from the Land Bank, the question of what the advance per bag should be, was often taken out of the hands of the management of individual co-operative associations, as the Land Bank itself made an estimate after consulting with various authorities including central co-operative associations. The Land Bank consequently fixed the advance that co-operative associations were permitted to pay to their members, on delivery of their maize at the co-operative associations' store, at 60% of the estimated maize price

22) F.J. van Biljon: "State Interference in South Africa."; P.S. King & Sons Ltd., London, 1939, p. 121.

23) A.P. Scholtz: "Die Bemerking van Mielies in Suid-Afrika.", Unpublished thesis of the University of Potchefstroom, 1953, p. 12.

per bag for that season. This relatively low advance caused a great deal of dissatisfaction amongst members of co-operative associations and the Land Bank became extremely unpopular. (see footnote 24) In fairness to the Land Bank, however, the incident already mentioned, when in 1920 the advance paid to farmers was R1-80 per bag and the net final realisation price was only R1-10 per bag, should not be forgotten.

There is much evidence throughout this period (1922-37) of the disloyalty of members to their respective co-operative associations. Often members would, in the early part of the season, sell part of their crop to a merchant who would pay the whole price in cash. Often, also, co-operative association members would sell their whole crop for a particular year, privately, to a merchant, conveniently forgetting that, during the past year, they had bought from the co-operative association various farming requirements on the understanding that they would settle their account with it, once they delivered their crop to it, and received an advance payment. Such action by disloyal members caused the co-operative association management much inconvenience and naturally benefited the member by giving him an extended period of credit as, by the time the co-operative association had realised that he had sold his crop through another channel, he had usually spent most of the money he had received from the merchant and therefore could not settle his account for at least another year. The

24) "Numerous witnesses held that the rate of advance so agreed upon tends definitely to determine the general trend of prices for the coming season, with consequent harmful effects on the loyalty of the co-operator who is apt to compare his rate of advance with the price obtained by the non-co-operator." Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 146.

co-operative association with its very limited capital resources was the loser in such a case, especially as the Land Bank insisted that all its loans were made for one season only and had to be repaid at the end of that season. In defence of the farmer, if there is any defence in such a case, it should, however, be pointed out that, in his ignorance, he very often did not appreciate the principle of co-operation and did not realise how he was undermining the whole structure of the organisation by suddenly, for one reason or another, breaking away from it and not playing the part he was expected to play.

It has also been argued that disloyalty arose because the cost of co-operative marketing was comparatively high. It has been pointed out that the Central Agency charged a commission of $1\frac{1}{2}\%$ and that, in addition, the local associations could charge a further commission of anything up to 5%, though some associations did charge less. Some co-operative association members thus had to pay a total commission of $6\frac{1}{2}\%$. This was indeed very high when it was compared with a commission of 1% charged by produce brokers. It must be remembered, however, that the sole purpose of the broker was to put the seller in contact with a buyer, while the co-operative association, in addition to performing this function, also received, graded, handled and stored the maize of its members. Furthermore, the co-operative association acted as a del credere agency, insuring therefore, that the farmer would in fact be paid for maize sold through it. Lastly, if the co-operative association did make any profit out of the commission it received from its members, this profit went towards the payment for the assets which the co-operative association had to have, and which in fact belonged to its members.²⁵⁾

25) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 46.

Bearing these facts in mind, it is astonishing to find that complaints of the disloyalty of co-operative association members were fairly general. It is agreed that co-operative associations did suffer because of the poor managerial material at their disposal, but at the same time it is recorded that only 7% of those co-operative associations that failed did so because of poor management and extended credit to members.²⁶⁾ It is further agreed that a 60% advance on anticipated price is not nearly so attractive as receiving the full price in cash immediately the maize is delivered, and therefore may encourage disloyalty in a sellers' market. At the same time the fact that the end price paid by the co-operative association was almost invariably better than the open market price, must again be stressed.

While the farmer's disloyalty to his co-operative association was, in many cases, due to the fact that he did not appreciate that the principle of co-operation had to be applied at all times, the writer is firmly convinced the disloyalty was also, in some cases, due to the dishonesty of co-operative association members. Avoiding the payment of a debt for goods received, is very seldom the result of ignorance. If the first few farmers who had tried to avoid payment to their co-operative associations, had been severely dealt with, the lesson learnt by them would have served as a deterrent to others contemplating such action and the number of cases where co-operative associations had lost money through this type of action, would have been so few that they would not have been worth mentioning in the Report of the Commission to Inquire into Co-operation and Agricultural Credit, U.G. 16 - 34.

26) A Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34,
p. 7

In 1933 an amending Act ²⁷⁾ gave to co-operative associations "a first and preferent claim on produce produced with seeds or fertilizers or for which bags were supplied to members on credit, to the extent of the amount of credit granted." ²⁸⁾

While at first each of the various co-operative associations marketed its own members' maize so that they competed with one another, the procedure was gradually developed by which the Central Agency did more and more of the marketing and the individual co-operative associations less and less. The Central Agency was empowered to sell the maize of its affiliated members, to establish an agency overseas for the marketing of maize and to enter the open market as a buyer of maize. It was a much more satisfactory arrangement that the Central Agency should sell on behalf of members rather than members should enter the market on their own, as this gave it some control over the supply of maize and it could, therefore, prevent the overstocking of the market and the slumping of prices.

In spite of the fact that it was agreed at the time that the Central Agency was doing excellent work for the co-operative associations and that, without the Central Agency, the position would have been unfavourable for thousands of maize growers, ²⁹⁾ it was also felt that the agency was not adopting a sufficiently dynamic sales campaign. It was not doing very much about actually finding buyers, particularly new buyers, for maize, but it rather negatively offered maize for sale when a buyer made an inquiry.

27) Act No. 23 of 1933 To amend the law relating to co-operative agricultural societies and companies; Statutes of the Union of South Africa, 1933.

28) Report of the Commission to Inquire into Co-operation and Agricultural Credit; U.G. 16 - 34, p. 188.

29) *Ibid*, p. 47.

The Central Agency, however, continued to offer maize for sale. Early in 1934 it entered into a large contract with local merchants to deliver maize at 55 cents per bag. The merchants in turn sold the maize for delivery to foreign buyers. In the meantime, however, there was an increase in the local price of maize and it became impossible for the Central Agency to honour its contracts. At first it was hoped that the Land Bank would stand by the Central Agency, but the Government decided that it should not get involved in the business. The result was that the London Association of Grain Merchants decided to boycott South African maize and not to buy it until the position of the Central Agency had been clarified. In the end the Central Agency could find no way out of its troubles and on the 31st August 1934 had to go into liquidation. During the 1934-35 season, therefore, co-operative maize associations were left without a central selling organization and maize had to be sold individually by each association in competition with the others. "A substantial quantity of maize was not even pooled by local associations, but was sold direct for members. The pool prices realized by some associations compared favourably with average market prices but, generally, prices paid were not satisfactory." 30)

It was soon appreciated, however, that it was essential for the success of the co-operative movement that there should be a Central Co-operative Association. In May 1935, therefore, the Unie Graan Koöperatiewe Landbou Maatskappy was founded, financed and owned by grain co-operative associations, and from that moment onwards it acted as a central selling agency for its various grain

30) "A Review of the Co-operative Movement in the Union of South Africa. (Prepared by the Co-operative Section of the Division of Economics and Markets); Pretoria, 1937, p. 21.

co-operative association members. Unie Graan negotiated for contracts and conducted the actual selling of maize, because it was well equipped to enter the various markets and it was also in the best possible position to control the flow of maize to the markets. The local co-operative associations, in turn, confined their activities to receiving, grading and storing maize for their members.³¹⁾

It may, therefore, be concluded that, during the period 1922-37, the co-operative association movement among maize farmers achieved considerably more success than it had during the first period 1910-22. As already shown, members of co-operative associations did receive a better price than they would have received in the open market, but sometimes not to any appreciable extent. It must be remembered that the majority of members of the co-operative associations were small farmers. For these small producers the co-operative movement was a big step forward, even if considered merely from the price point of view, for it was they who were invariably compelled, by circumstances beyond their control, to sell their maize early in the season, when prices were at their lowest, and it was they who benefited most from such high prices as the co-operative associations could achieve for their members.

When considering the achievement of the movement, it should not be looked at merely from the point of view of the price realised. The main benefits derived by farmers who joined co-operative associations were as follows.

- a. The Associations provided organised and rational marketing of their products.

Co-operative associations studied the maize market very carefully before they entered it. Furthermore,

31) M.D. Marais: Op. cit., p. 80.

the co-operative associations were in a position to withhold maize stocks from the market, if the maize price was too low.

- b. The co-operative associations graded their members' maize according to its quality. Good maize was therefore not sold mixed with maize of poorer quality, but each type was sold as a specific grade.
- c. The introduction of the pool system was also of considerable benefit to members, for now all maize of a particular grade was stored together and no longer was it possible for one farmer to get a better price for a specific grade of maize than the price paid to his neighbour. Members were very much happier when they all received the same price for the same grade. The co-operative system indeed held many advantages for the small producer.

In spite of these advantages accruing to co-operative association members, there were still many farmers who did not join the movement. Possibly they were of the opinion that the co-operative association was still not doing enough. What they really wanted from it, was that it should be able to determine or fix the maize price for each season, so that they would be sure that they would not get less than the price so determined. No co-operative association had any control over total production and, therefore, none could ever hope to achieve such a state of affairs, especially since surpluses were being produced in most years.

It must, however, have been obvious, even to the non-members, that they had, over the years, benefited considerably through the establishment and continued

existence of co-operative associations. It is indeed doubtful whether there would have been any system resembling organised marketing amongst maize producers during this period (1922-37), if there had been no co-operative associations.

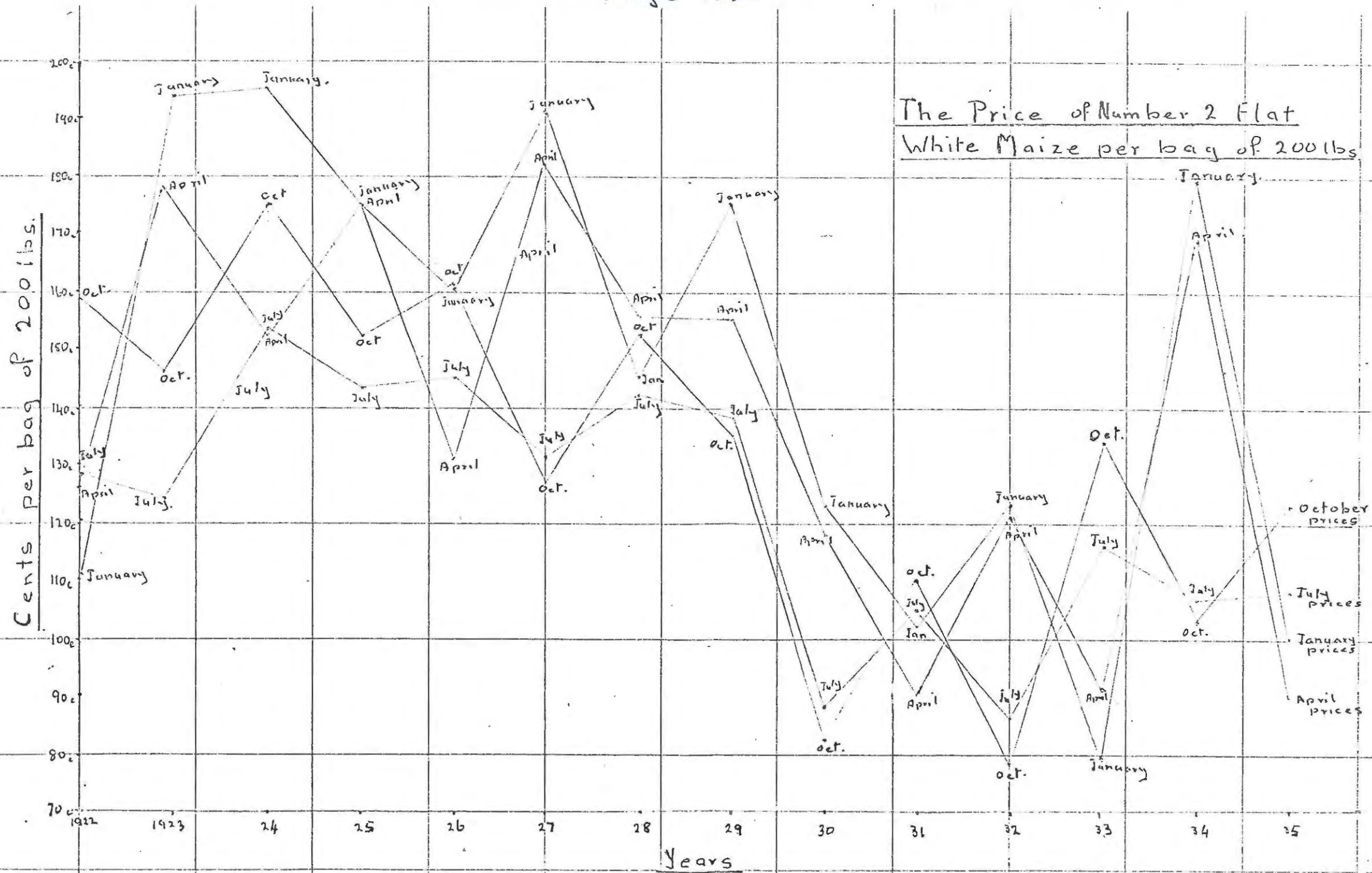
Factors influencing the price of maize during the period.

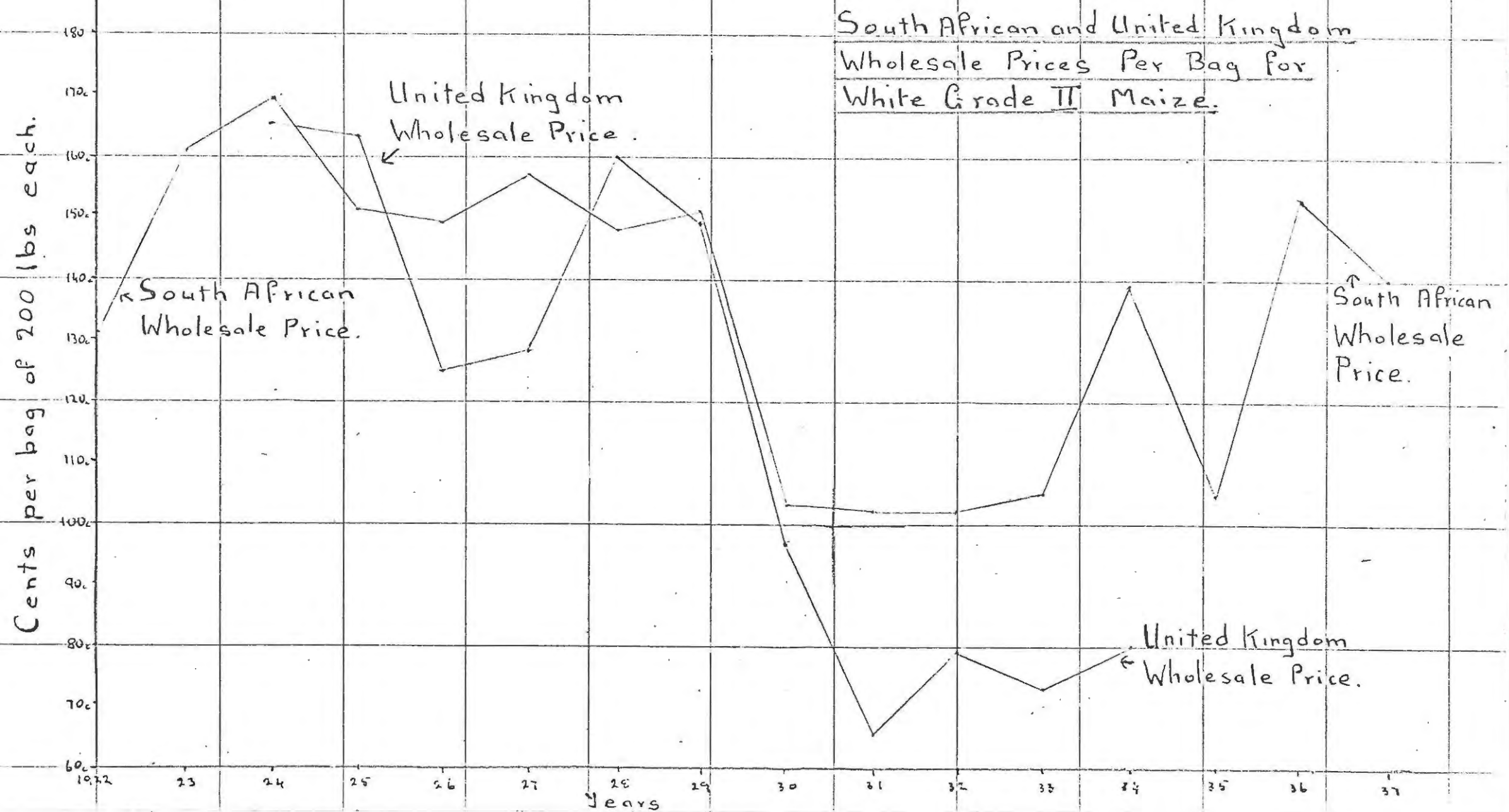
During the first part of this period from 1922 until the passing of the Mealie Control Act of 1931 the local price of South African maize was very much dominated by the prices of maize ruling in foreign countries. The pattern year after year was that of supply exceeding demand. Consequently, to prevent a complete collapse of the internal price, it was essential that part of the crop be exported each year.

XIII etc.
Tables 13, 14 and 15 in Appendix A show very clearly how the two prices, internal and foreign, varied from season to season, and how the prices fluctuated during any one season. The graphs on the following pages were constructed from the facts given in Tables 13, 14 and 15 and show at a glance the variations of prices from season to season and the fluctuations in the maize price during each season.

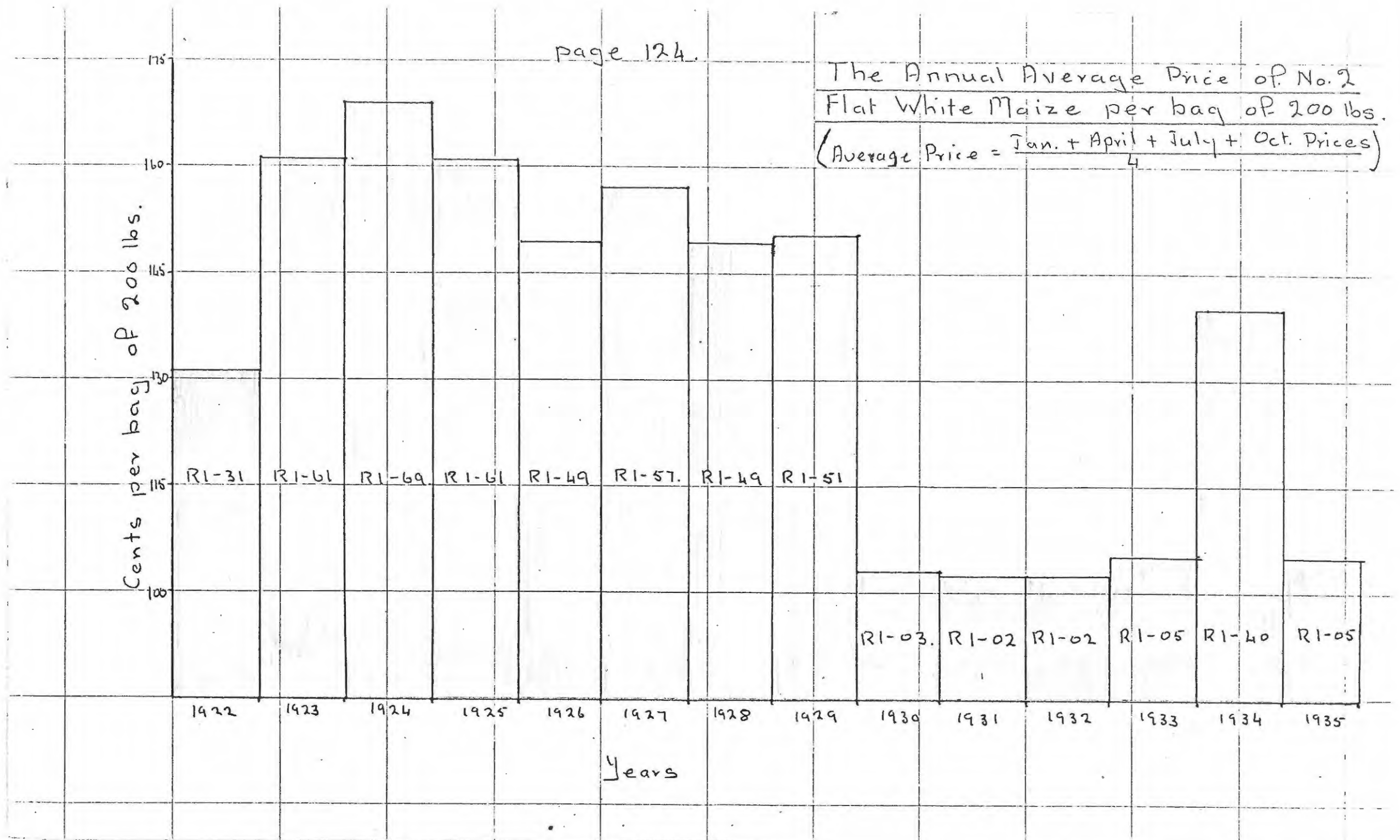
Other things being equal one would normally expect the price of South African maize to be at its lowest level during June and July, when the crop is being harvested, and when a large number of farmers are anxious to turn their crops into money as soon as possible. If supply exceeds demand, it would be at this time that the position would be at its worst. Further logical reasoning would suggest that the price should then start rising so that the October price should be higher than the July price and that the January price should be better than the October price with the highest price in April, when there might actually be a shortage

The Price of Number 2 Flat White Maize per bag of 200 lbs





The Annual Average Price of No. 2
Flat White Maize per bag of 200 lbs.
(Average Price = $\frac{\text{Jan.} + \text{April} + \text{July} + \text{Oct. Prices}}{4}$)



of maize, just before the new season's crop came in.

On examining Table No. 13, this general pattern of prices can be traced, if not for the whole season, at any rate for the first three quarters of it. Thus, for example, in July 1922 the price was R1-28 per bag, in October R1-59, in January 1923 R1-94, but by April 1923 it had fallen to R1-78. Likewise, at the beginning of the season in July 1923 the price was R1-24 and had increased to R1-46 by October and to R1-95 per bag by January 1924, but had slipped back to R1-52 by April 1924. It therefore appears that, while not much maize had come in for the new season by April, the anticipation of the coming crop was nearly always sufficient to reduce the price below the figure it reached in the previous January. While it was, therefore, the general rule that the price tended to increase as the season progressed, there were also exceptions to this rule. During July 1927 the price was R1-31 per bag, but declined to R1-27 by October, and subsequently rose again to R1-45 in January 1928 and increased still further to R1-56 by April 1928. There is one case of the price steadily declining as the season progressed. In July 1934 maize sold for R1-07 per bag, in October the price was R1-03, in January 1935 it was down to R1-00 and by April 1935 it was only 90c per bag. For all these seasonal variations and peculiarities there are reasons and M.D. Marais in his thesis "Die Ontwikkeling van die Mielienywerheid in Suid-Afrika" goes into them in a considerable amount of detail. For our purpose it is sufficient to observe that Table 13 shows very clearly that the general trend in the price of maize from 1923 to 1933 was downward. This fact is further confirmed by the statistics in Tables 14 and 15. Table 14 shows that, with minor exceptions, the maize price in the United

Kingdom declined and recovered and declined again between the years 1924 and 1929, and collapsed in 1931. Table 15, which gives the wholesale price of grade 2 maize in South Africa, shows that it reached its lowest ebb in 1932, a year later than was the case in the United Kingdom.

It may well be asked at this stage why the maize price declined so drastically and what the state did to ensure greater stabilisation of prices.

Looking at the price of maize first of all on a world wide basis, it is found that the statistics in Table 14, showing the decline in price of maize in the United Kingdom during the period 1924 to 1931, represent with considerable accuracy what was happening to the price of maize throughout the world. From 1922 to 1929 a series of record crops by the world's major maize producing countries forced the price to become lower and lower. In 1929 the world found itself in one of the worst depressions it had ever known, and the prices of both agricultural and manufactured commodities collapsed completely.

In South Africa the internal maize price declined during this period, very much in step with the world price, as shown by the graphs on page 122. The reason for this is apparent, for here too the production of maize was mounting steadily and a larger and larger percentage of the crop had to be exported. the result being that the export price to an increasing extent influenced the local price. If during this period local consumption could more or less have kept pace with production, the position would have been totally different. Then the co-operative associations with their available storage space, limited though it was, could have attempted, perhaps with some Government assistance, to keep up an even flow of maize to the market and to keep the internal price at a

considerably higher level than the overseas price. In spite of all the talk and advice about feeding maize to livestock and poultry and then marketing them at a higher price than they would otherwise have commanded, this was simply not being done. As a result a considerable maize export surplus existed annually and this surplus, which was often sold at a loss on foreign markets, was sufficient to bring down the local price to an uneconomic level, especially for the smaller producer. Unfortunately the supply of maize is inelastic, and while it is in some years considerably reduced by adverse weather conditions, production does not respond immediately to variations in price.

The farmer, therefore, found himself in a most unsatisfactory state. Not only were agricultural prices declining, but, in spite of the efforts of co-operative associations to stabilise prices, these continued, though to a lesser extent, to fluctuate over short periods, and this fact made it difficult for farmers to plan ahead.

The depression of 1929-32 accentuated the difference between the prices of industrial and agricultural products and the position deteriorated to such an extent that the Government was more or less compelled to step in, in an attempt to improve the position of the farmer.³²⁾ The Government reacted by introducing The Mealie Control Act (No. 39 of 1931), which came into force on the 9th of June 1931.³³⁾

The Mealie Control Act No. 39 of 1931

During the period 1923-27 the South African maize production averaged approximately 17 million bags per year, but for the three years 1928-30 this figure

32) Annual Report of the National Marketing Council, 1943-44, Part 1, U.G. 31- 1945, p. 2.

33) P.R. Viljoen: "The Mealie Control Act 1935", Farming in South Africa, July 1931, p. 143.

increased to an average of 20 million bags per year, while at the same time annual consumption remained steady at about 12 million bags. The export of the surplus had, therefore, to be undertaken on a larger scale, while there was a general decline of prices. This Act to be implemented by the Department of Agriculture, was therefore a piece of legislation very much concerned with preventing the maize farmer from becoming even worse off as prices declined still further. The main objects of the Act were:

1. to protect the maize producer by ensuring that he obtained a reasonable price for his product; and
2. as (1) above could be achieved only if sufficient maize were exported, to provide that the responsibility for exporting maize was to be that of the merchants and co-operative associations and to ensure that this responsibility was proportionately distributed among those concerned, depending on the extent of their purchases or receipts of maize.

The most important provisions of the Act were as follows.

1. Any merchant who or co-operative association which had been in the habit of buying or receiving maize from farmers in the past, could only continue to do so provided they had a licence authorising such business, but farmers were permitted to buy a reasonable quantity for their own use without possessing a licence. 34)
2. Private individuals, merchants, co-operative associations or farmers who bought 100 bags or more per month were compelled to export a percentage of their purchases, and this percentage or export quota was determined by the Minister from year to year, depending on the surplus of maize available for export in that year.

Thus by making the the exporting of maize compulsory, the Act ensured that a surplus production would not exert a depressing influence on prices in the inland market, and facilitated to a large extent the regulation of inland consumption by the powers of the Minister to fix export quotas.³⁵⁾ The immediate objective of the Act was to

34) A reasonable quantity in this case was defined as anything up to 99 bags per month.

35) Annual Report of the Secretary for Agriculture for the the year ended 30th June 1931. Farming in South Africa, November 1931, p. 302.

bring about a higher internal price for maize by creating an artificial shortage and, as production could not be controlled, this shortage could be brought about only by removing the surplus from the internal market.

This Act goes down in history as the first step of direct State intervention in the export marketing of maize, with the object of increasing the local maize price above the very depressed world price, which prevailed at that time. Before this date the State's influence was very much more indirect and limited to its attempt to foster the growth of the co-operative movement.

While the Act deserves the highest praise for the help it rendered to the producer, it is regrettable that this should have been done at the expense of the local consumer. Were maize a luxury commodity no great harm would have been done, but it is in fact a staple commodity, being to a very large extent a basic food for the lower income groups. It is unfortunate that they, who could least afford to pay more, should have had this additional price burden placed upon them.

Under this Act, as has been noted above, the Minister of Agriculture had to declare, each season, an export quota percentage. This percentage of either the purchases of a trader, or the receipts of a co-operative association would have to be exported or proof submitted that it had been exported.

The success of the Mealie Control Act of 1931, in creating a shortage of maize on the local market, therefore depended, in the first place, on how accurate the estimate of the total crop, for any one season, was. Secondly, a fairly accurate estimate had to be made of the number of bags of maize producers would hold back for consumption on their farms. This maize held back would naturally not enter the market. A third estimate that was

required, was of the number of bags of maize that could be sold on the local market at a reasonable price, and, lastly, a decision had to be made by the authorities concerning the carry-over of maize to the next season in case the crop for that season proved to be a poor one. The ratio between the export quota and total production was to be not higher than that between the estimated surplus and the total quantity of maize which producers were expected to sell.³⁶⁾

It should be made clear at this stage that, because of the artificial local shortage of maize, the internal price was higher than the net foreign price which was known as the export parity. A percentage of the maize, which merchants and co-operative associations had received from producers, had, therefore, to be exported at a loss. It was thus assumed that, in order to recover the loss they had incurred on the maize they were compelled to export, merchants would raise their price to local consumers. The local consumer's price therefore contained a form of levy or subsidy, which enabled the producer to receive a price, which was higher than the export parity (net export price).

The basic essential for the successful operation of the Act was thus that a local scarcity had to be created. In other words the supply-demand relationship for maize on the internal market had to be different from that prevailing on the world market. This variation in the supply-demand relationship could, in turn, be brought about only if there was a fairly accurate estimate of the crop position for the coming season. Unfortunately it was almost impossible to make a very accurate estimate,

36) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 1947,
p. 49.

as the amount of maize, which producers retained on their farms, depended very much on climatic conditions, which fluctuated from season to season. Consequently, because the amount of maize they retained directly influenced the amount they sold, which in turn determined the surplus available for exports, it was impossible to fix accurately in advance what the export quota percentage had to be. A further difficulty, which complicated matters even more, was that the following year's crop was always a matter of considerable uncertainty, as it once again depended on climatic conditions. In case there happened to be a total or partial crop failure in the next year, care had to be taken during the current period, that not too much maize was exported, even though there was for a particular season a surplus available for export. It was therefore essential that allowance be made for a considerable carry-over into the new season. The export quota thus had to be arrived at on an extremely conservative basis; and this militated against the whole purpose of the Act, which was to create an artificial scarcity.

Yet a further difficulty encountered was that, because the small producer, who was not a member of a co-operative association, wanted to sell his maize almost immediately after harvesting was completed, it was important that the surplus should be exported as soon as possible as its continued presence could create a glut of maize on the market and so cause the local price to fall to export parity. At first the Act allowed the buyer four months from the date of purchase in which to export, but this period was much too long and was subsequently reduced, first to three months, and then to two months. Even when the period allowed for export had

been cut by 50%, it was still long enough to influence local prices.

There were thus two factors conflicting with each other.

- a. As much maize as possible had to be exported as quickly as possible each season in order to create a local shortage and so force up the local price; and
- b. care had to be taken that not too much maize was exported in case the crop of the following season was a failure.

As these two factors were pulling in completely opposite directions, it is not surprising that the Act in itself failed as an internal price raising measure.

On paper, the procedure by which a local scarcity of maize could be created, was a satisfactory one, but, if the total crop was under-estimated, as so often was the case, or if producers held back less maize than it was estimated they would do, the market automatically received more maize than was expected, and as only a fixed percentage (the export quota) of this extra maize was exported, the effect of the extra maize on the market was to depress the local maize price.

Although the Act did not succeed in its aims, the Government's decision to guarantee the advances that the Land Bank made to the co-operative associations, proved to be an effective instrument in bringing about an increase in the internal maize price. Before this Government guarantee was introduced, the Land Bank was permitted by law to advance only 60% of the current season's price to the co-operative associations. However, in the 1931-32 season the Land Bank advanced the usual 60% of the current price, together with a further 1s. 9d. (17½c) per bag under Government guarantee. In the 1932-33 and 1934-35 seasons the Land Bank advance again exceeded the usual 60%, because of the Government guarantee. In order to

compete with the co-operative associations, the trade was obliged to pay prices to producers which were competitive with those of the co-operative associations. Moreover, in order to provide for losses on export quota maize, the co-operative associations and the trade had to sell their local quota maize at prices which would cover those losses.³⁷⁾

The exporting of maize was so specialised a business, that the ordinary merchant did not undertake it himself, nor did the Act expect him to do so. A specialised exporter of maize performed this function for him. All that the merchant had to do was to obtain proof that he had discharged his obligations by buying from the specialised exporter export quota certificates. These he then tendered to the Department of Agriculture as proof that the required percentage of his purchases had in fact been exported. The price the merchant paid for the export quota certificates was the difference between the local consumer's price and the current export parity. Because the export price fluctuated from week to week, however, there was always some doubt as to the price of the export quota certificates. This doubt soon gave rise to speculative dealings. Thus, while these export quota certificates assisted the flow of maize through the usual trade channels, it was necessary to check the speculation that was going on, because, while this was happening, most of the benefit, which should have accrued to the producers of maize, was going into the pockets of the speculators.

How the speculative dealings, mentioned above, came about can be explained by means of the following example. Let it be assumed that the quantity of maize to be

37) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 1947,
p. 50.

marketed is, say, 10 million bags. Further, let it be assumed that the export quota is 50%, and that 5 million bags must therefore be exported. Also let the aim be that the farmer must average, say, R1-00 per bag. Let it be anticipated that the net export price will be only about 60 cents per bag.

Bearing the above facts in mind, a merchant who buys 1,000 bags from a farmer at R1-00 per bag, will be compelled to export 500 bags, for which he will get only 60 cents per bag. Therefore, to break even on this transaction he will have to sell the remaining 500 bags in the home market at R1-40 per bag. (500 at 60c + 500 at R1-40 = R1,000) However, unless he is a very big maize merchant, he will not export any maize at all, but sell the 1,000 bags he purchased on the local market at R1-40 per bag. He will, however, at the end of the season be required to furnish the necessary export certificates to the authorities. He could, however, still obtain the necessary proof by entering the market as a buyer of export quota certificates for 500 bags of maize. The price he would pay for such certificates would be the difference between the net foreign price and the local price for maize. The export quota certificate this maize merchant would purchase should therefore cost him R1-40 less 60 cents = 80 cents per bag, or 80c X 500 = R400 in total.

However, the foreign maize price very seldom remained fixed. Consequently, if this price rose, the export quota certificate should cost less per bag, while, if the foreign maize price declined, the export quota certificate should cost more per bag. It was therefore possible for a large maize merchant to export more maize than he was required to do and so obtain a surplus of

export certificates over and above his own requirements. If at a later date in the season, the net export price for maize declined, the export quota certificate increased in value. This state of affairs introduced a new class of individual who was, in fact, a speculator in export quota certificates. He bought a supply of maize export quota certificates from the maize export merchants and then kept these certificates in the hope that the foreign maize price would fall, and that he would therefore be able to sell his export quota certificates at a profit.

The Act itself, therefore, introduced various uncertainties, which brought about speculation - the very thing producers objected to in the days before the Act. While previously there existed only one price for maize, the Mealie Control Act now introduced four bases on which sales prices could be fixed.

- a. At export parity. The sale was effected at the net price obtained in the foreign market.
- b. On buyer's quota contract. Buyer's quota contract price was the price paid to the producer of maize. The responsibility for exporting some of the maize purchased under this type of agreement, was on the buyer.
- c. On seller's quota contract. The price of maize sold under such a contract was the price paid by the local consumer. The responsibility for obtaining an export quota certificate remained with the seller of the maize.
- d. By sale of quota certificates. As explained above the price of the export quota certificate was determined by the difference between the local price and the net foreign price for maize. 38)

In 1935 the Mealie Control Act was amended, and provision was made for the establishment of the Mealie Industry Control Board to act as advisor to the Government

38) Report of the Commission to inquire into Co-operation and Agricultural Credit; U.G. 16 - 1934, p. 35.

on all matters concerning maize.³⁹⁾ (See footnote 40)

At the same time the Government decided that it should attempt to stabilise the value of export certificates.

Because it was believed that, for a particular season, the demand for, and supply of, quota certificates must balance, it was decided by the Government that it could, without loss to itself, offer to redeem all excess quota certificates at a fixed price and so establish a fixed market value for these certificates. This action would eliminate the local price difficulties that arose because the surplus maize was not exported fast enough. This procedure did in fact succeed in raising producers' prices, but its success was not achieved without any risk to the Government. As exporters now had a fixed price at which to redeem certificates, the risk of loss was eliminated and there was every incentive to over export. Consequently, there was now a surplus of quota certificates, which cost the Government R600,000 in the 1935-36 season and R1,060,000 in the 1937-38 season. This surplus in export certificates was attributable to the following factors.

- a. Certain exemptions were granted from furnishing export certificates.
- b. Some merchants simply avoided or ignored their obligations to obtain such certificates.
- c. Sometimes, before the end of the season, further exports were prohibited.

In 1937 the Act was again amended and the Mealie

39) Act No. 59 of 1935. To establish a Mealie Industry Control Board and to define its functions; to provide for the imposition of a levy on mealies milled in the Union; to make further provision for the regulation in certain respects of the trade in mealies; and to amend further the Mealie Control Act, 1931. Union Statutes, 1935.

40) According to Act 59 of 1935 the Mealie Industry Control Board shall be made up out of members representing a) maize producers who are members of Co-operative associations, b) maize producers, who are not members of co-operative associations, c) ordinary consumers of maize, as well as those consumers who buy maize for feeding to livestock and, d) millers, brokers, merchants and export merchants.

Industry Control Board became the clearing house for all export quota certificates. All those maize merchants who had exported more maize than their quota obligations, were compelled to sell all their excess quota certificates to the Control Board at the Government guaranteed price for the season. The ordinary merchants, who were not engaged in the export of maize, could then buy these certificates from the Control Board (at the same price as the Board had paid) and so fulfil their obligations. The outcome of this was that all speculation in quota certificates ceased and the Control Board was able to keep a much firmer hand on exports.

It should, however, be pointed out that an export quota percentage was not fixed every year. In some years the crop was so poor that it was not deemed necessary to fix a quota for export. The following table shows this fact clearly. Maize was, however, exported to a limited extent even in these poor years as a later table will show.

41)
Table No. II
Quota Percentages and Estimated Export Quotas

<u>Season</u>	<u>Quota Percentage</u>	<u>Estimated Export Quota</u>
1931-32	$33\frac{1}{3}$	3,200,000 Bags
1932-33	50	5,100,000 "
1933-34	00	0 "
1934-35	50	4,700,000 "
1935-36	50	6,300,000 "
1936-37	00	0 "
1937-38	$66\frac{2}{3}$	10,600,000 "

41) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 1947, p. 50.

The 1935 Act empowers the Mealie Industry Control Board,

- a. to give the minister advice that will help him determine the export quota percentage,
- b. to advise the minister in connection with the export of maize and maize products,
- c. to advise the minister on all matters concerning the marketing of maize and to take steps that will improve the position of the industry.

It will, therefore, be observed from the above that the Mealie Industry Control Board acted as an advisory body to the Minister of Agriculture. This position was soon changed. According to the 1937 Marketing Act the Mealie Industry Control Board may,

1. buy maize which it may then sell or treat or dispose of in a manner it thinks will best serve the industry,
2. forbid producers to sell their maize to any person or through any channel that is not an agent of the Board, although the Board itself may act as agent for the receipt and sale of maize,
3. forbid any person to export his maize unless he has first of all obtained a permit from the Board,
4. determine producers' and consumers' prices for maize in South Africa by placing a levy on maize sold locally, and by paying a subsidy to exporters of maize.

At the beginning of every year the Board shall determine the price at which maize shall be sold. The price paid to producers is determined after taking into consideration the following factors:

1. the size of the current season's crop, and
2. the price at which the export surplus is likely to be sold. 42)

42) The first Control Board consisted of fifteen members. Co-operative Mealie Producers had four representatives, Non-co-operative Mealie Producers also four representatives, while the Millers, Brokers, Exporters, Merchants, Stock-feeders and consumers each had one representative. The fifteenth member of the Board was a nominee of the Department of Agriculture. It is worth noting that right from the start the producers had the greatest representation on the Board and could outvote all the other representatives even if they faced the producers with a united front.

The purpose of the 1937 Marketing Act may be very briefly summarized as follows.

1. It aimed at greater price stability for agricultural producers. In spite of the actions of co-operative associations and of the Mealie Control Act of 1931, the farmer was still subjected to considerable price fluctuations.
2. It aimed at increasing the productive efficiency of farming. Farming in South Africa was still very much on an extensive rather than an intensive basis. In the case of maize the yield per morgen still compared very unfavourably with that of the major maize producing countries of the world.
3. It aimed at a reduction in the price spread, that is, it attempted to narrow the gap between the price paid by the consumer and the price actually received by the producer. 43)

Up to the passing of this Act the agricultural producer had very little say, if any, in the marketing of his produce. The Act, through the establishment of various control boards, particularly the establishment of the Mealie Industry Control Board, gave the producer an opportunity to have some say in the marketing of his product.

Up to this point the discussion has been concerned mainly with the marketing of South African maize on the home market during the period 1922-37. It is, however, also necessary that the position of South African maize on the world markets should be examined.

The Export Market for Maize during the period 1922 - 1937.

Encouraged by leading members of agriculture and also by the Government, and promoted by the high price for maize on the foreign markets in the early post war (1914-18) years, farmers did everything possible to turn South Africa into one of the world's leading maize producing countries. It is therefore found, at the

43) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 1947, pp. 1, 7 and 8.

beginning of this period, that there was every incentive for the maize farmer to produce not only for local consumption, but for the export market.

Bearing in mind all the incentives, it is thus not surprising that during the ten years 1924-34, with very minor exceptions, approximately one third of the annual crop was exported as surplus production.

Table 14 of Appendix A shows that the average wholesale price per bag of 200 lbs. declined from R1-65 in 1924 to R1-25 in 1926, remained almost steady at R1-28 in 1927, but recovered to R1-60 in 1928, declined to R1-51 in 1929 and slumped to 97 cents in 1930 and to 65 cents in 1931.

During this period the cost of production per bag of maize in South Africa varied from approximately 50 cents to 65 cents, which was a very high cost compared with that of the other major maize producing countries. The main reason for this high cost of production was the fact that the yield per morgen was usually between 5 and 8 bags, while in the Argentine, which was South Africa's main competitor, production averaged 16 bags per morgen.⁴⁴⁾

With such a comparatively high cost of production it is therefore obvious that South Africa could never effectively compete in the foreign market and, furthermore, when the price collapsed to 97 cents per bag in 1930 and 65 cents per bag in 1931, it was totally uneconomic for South Africa to attempt any maize export.

At this time the United Kingdom was by far the largest buyer of South African maize. The following table shows that, in the years before the price collapse, the South African producer would have been in serious

44) P.R. Viljoen: "The Ottawa Conference and our Agricultural Export Trade." Farming in South Africa, February 1933, p. 47.

trouble with his surplus production, were it not for the fact that he could sell most of it to the United Kingdom. It should, however, be observed that in 1930 Canada came into the market and that in 1931 she was by far the biggest buyer of the export surplus.

Table No. III 45)

Exports of South African Maize

Percentage of total export taken by each country)

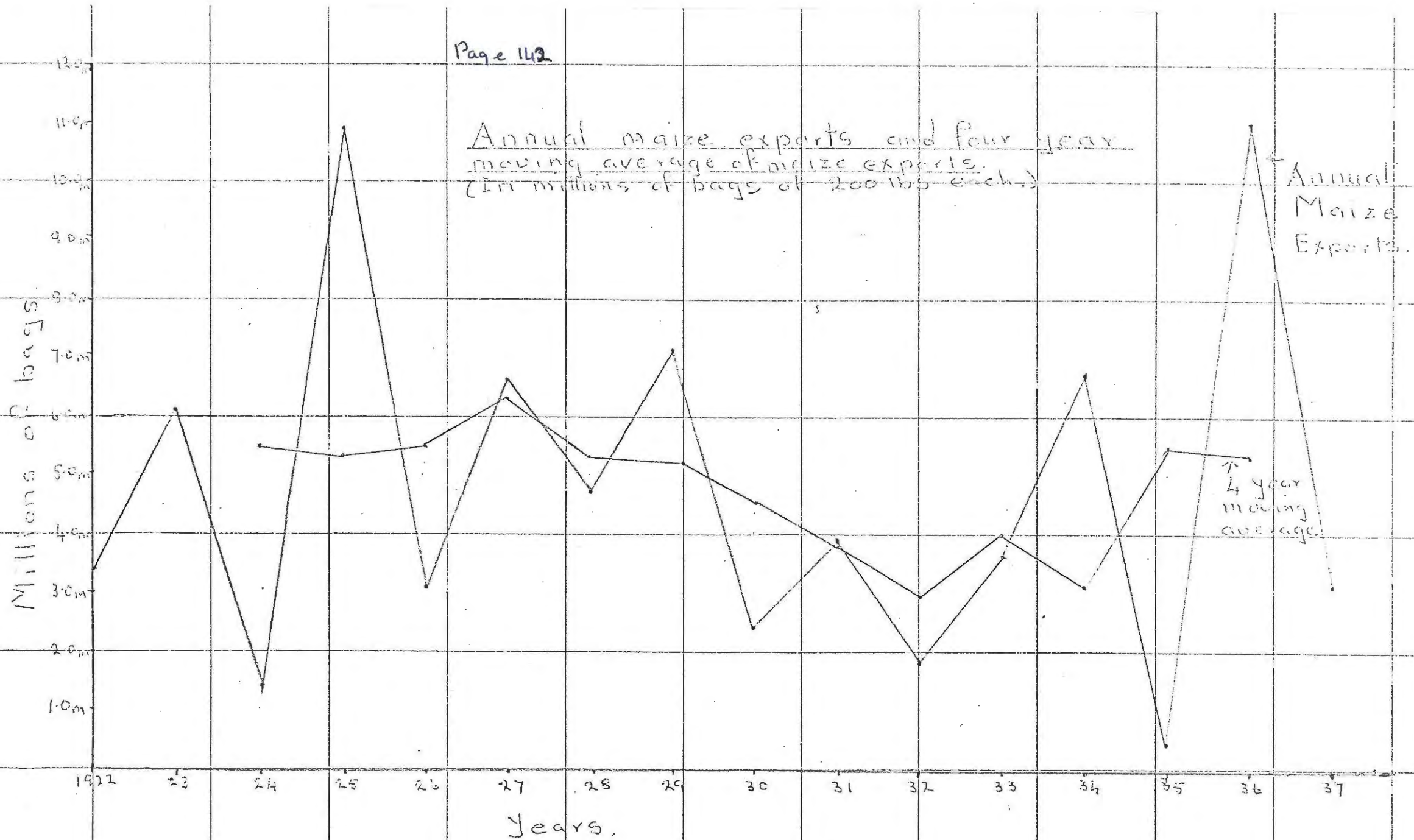
Consignee Countries	1927	1928	1929	1930	1931
United Kingdom	79.82	59.87	62.64	54.22	29.87
Germany	7.51	13.76	8.80	5.15	1.04
Holland	1.87	10.30	10.74	15.20	.71
France	1.92	9.28	7.30	8.77	1.85
Canada	0	0	0	4.88	59.43
Others	8.88	6.79	10.52	11.78	7.10
	100.00	100.00	100.00	100.00	100.00

As the above figures are purely percentages, they give no indication at all as to quantities. It appears that it is therefore necessary to look at yet another table to get some idea of what quantities of maize were being exported during this period. Table 16, Appendix A, gives the annual exports of South African maize in bags of 200 lbs. each, together with a four year moving average of these exports. The graph on the following page illustrates these facts.

It will be observed that the amount of maize annually exported fluctuates and obviously bears no relation at all to the average wholesale price per bag in the United Kingdom as given in Table 14, Appendix A.

45) S.J. de Swardt & M.L. Stahl: "The future of our maize industry." Farming in South Africa, February, 1933, p. 77. (Table constructed from facts and figures given in this article.)

Annual maize exports and four year moving average of maize exports.
(In millions of bags of 200 lbs each.)



In an attempt to determine some export trend, the writer calculated the figures shown in column three, but even here there is no definite trend apparent. This brings us back to a fact already known, namely that the total production of maize, and hence the export surplus, depends mainly on climatic conditions, which vary from one season to another. It appears, therefore, logical to conclude that, unless the price of maize declined and remained at obviously uneconomic level, production, and with it the export surplus, will increase, provided climatic conditions are reasonable and if no other local outlet can be found for the surplus production.

During August 1932 a most important conference for all agricultural producers in the British Commonwealth took place in Canada. At this conference, which subsequently became known as the Ottawa Conference, numerous agreements between members of the British Commonwealth were entered into. The object of these agreements was to aid and promote trade between members of the British Commonwealth and the British Colonies in respect of products for which those countries and territories were largely dependent on an export market.⁴⁶⁾ The Conference aimed at

1. more trading within the Commonwealth, particularly for primary products,
2. an increase in the general levels of wholesale prices, but not necessarily of retail prices at the same time.

It was agreed that, while preference should be given to fellow Commonwealth members, this did not necessarily mean that foreign countries would be excluded altogether. The general principle accepted,

46) Annual Report for the year ended 30th June 1933 for the Secretary of Agriculture. Farming in South Africa, Dec. 1933, p. 454.

was that in the case of each country its own home producers of a product should be the first to be considered, thereafter members of the Commonwealth and lastly foreign countries, that is those not members of the Commonwealth. 47)

As a result of this conference, the United Kingdom granted, on maize from South Africa and any British colonies in Africa, a preferential tariff of 10% on "Flat White" maize. Thus maize from these countries had free access to the United Kingdom, while on maize from other countries, a duty of 10% of the declared value had to be paid.

In connection with maize exported to Canada by South Africa, it was agreed at the same conference that, should the maize come into Canada as stockfeed, it would receive a preference of 20 Canadian cents per bushel, that is, approximately 71 Canadian cents per bag of 200 lbs. The Canadian dollar - South African pound rate of exchange of that time - was such that the preference given to the South African exporter by Canada amounted to approximately 3s. 8d. (37 South African cents per bag). A further point that should be observed, is that it was anticipated that, while South African maize to the United Kingdom would be mainly of the white variety, the maize to Canada for stockfeed would be the yellow variety. 48)

It is important at this stage to examine what had been happening to South African maize exports since 1930, and to find out which countries had been South Africa's main buyers and in what quantities they bought. In 1931

47) P.R. Viljoen: "The Ottawa Conference and our Agricultural Export Trade." Farming in South Africa, February 1933, p. 41.

48) S.J. de Swardt and M.L. Stahl: "The future of our maize industry." Farming in South Africa, February 1933, p. 78.

Canada purchased 59.43% of South Africa's maize exports, while the United Kingdom bought only 29.87% (Table III). But percentages are meaningless if the quantities involved are not known.

Tables 17, 18 and 19 in Appendix A, were constructed from statistics extracted from the Department of Customs and Excise annual publication "Trade and Shipping". Further explanation is, however, required as the three tables will not in themselves, be found in this publication. Thus Table 17, dealing with maize exported as maize and not as a product of maize, was taken from Table 83 in the export section of "Trade and Shipping" for each edition from 1930 to 1937. Table 83 does not give the maize exported in bags of 200 lbs. each, but in pounds, and the necessary division was done to arrive at the figures given in Table 17. It will also be found that Table 83 gives much more detail than is incorporated in Table 17. Because interest is concentrated on the main buyers of maize, the item "Others" was introduced to cover the many small buyers of South African maize.

The average price per bag was calculated by dividing the total value of the export for each year by the number of bags.

The explanation given in the above two paragraphs also applies to the Table 18, under the heading of "Exports of Maize Grits in 200 lb. bags", except that in this case the relevant statistics were extracted from Table 61 of the export section of "Trade and Shipping".

Likewise is the explanation applicable to Table 19, under the heading "Exports of Maize Meal in 200 lb. Bags", except that here the information was supplied in Table 95 in some years and Table 96 in other years of the publication "Trade and Shipping".

It will be observed that the figures given in

market, considering her low yield per morgen compared to the Argentine, and therefore her higher cost of production per bag. The following are some of the reasons why she had some success in the foreign market.

1. Because of favourable climatic conditions South African maize has a lower moisture content than American maize. This fact reduces its chances of deterioration while in transit to Europe. The South African product was considered maize of good quality by the foreign buyer.
2. This good reputation was guarded with great care and a system of careful grading was introduced at the South African ports to ensure that the foreign buyer would not be disappointed.
3. The maize producer was given special facilities, such as low rail and shipping rates and excellent storage facilities were provided by the elevator system.
4. Commonwealth preference provided that final boost which made the export market in maize an economic proposition in some years.

Summary

During this period (1922-37) a major step forward for the South African maize industry was the introduction of the elevator system. The small maize farmer, who was not a member of a co-operative association, could now, at last, through this system, obtain a loan against his crop deposited in an elevator. He was, therefore, no longer forced to sell his crop to a middleman, at an unfavourable price, if he wanted money in a hurry.

The elevator system also, through the services it rendered, did a great deal to improve the quality of South African maize that was being exported. It was, however, very unfortunate that the system in most years, could not build up a sufficiently large turnover in maize to enable it to be a financial success.

In the early part of this period, the agricultural co-operative association movement made very little

progress among maize farmers, because it had certain undesirable features. However, from June 1930 the total membership of the maize co-operative associations increased from just over 6,000 to over 18,000 in two years. From this time onwards co-operative associations became an important force in the marketing of maize. The whole co-operative association movement did, however, receive a severe setback, when its Central Agency went insolvent in August 1934.

There is, however, ample proof, throughout this period, that the co-operative association member was better off as regards the price he received for his maize, through organised marketing, than was the farmer, who was not a co-operative association member. However, the benefits to farmers, who became members of co-operative associations, should not be looked at only from the price point of view. They were also greatly assisted by their co-operative associations in the grading of their maize, so that good quality maize was not sold in the same bag as lower grade maize. Furthermore, by the introduction of the pool system, by co-operative associations, maize farmers benefited considerably and certain producers could no longer claim that they had been badly treated, because they had received a lower price for a certain grade of maize than other producers had.

It was again apparent during this period, especially before the introduction of the Mealie Control Act of 1931, how much the maize price on the world markets influenced the local maize price.

The Mealie Control Act of 1931 goes down in history as the first step of direct state intervention in the exporting of maize. Its objective was to ensure that all surplus maize would be removed from the local market, so that the domestic price would not be forced down, because

the supply of maize exceeded the demand. It was found that this Act was only partially successful in achieving its objective. The success it did achieve was unfortunately at the expense of the local consumer, who was asked to pay a price that was at times considerably higher than the maize price ruling on the world markets.

While examining South Africa's efforts to export maize to foreign markets, it becomes clear that, in spite of the natural advantages that she enjoyed (such as the lower moisture content of her maize), and, notwithstanding the fact that the Government was providing special facilities (such as the elevator system and low rail tariffs for maize), and also that South African maize enjoyed certain tariff advantages when sold in Commonwealth countries, South Africa was still finding it extremely difficult to sell her maize at a price on these foreign markets, that covered production costs and left a reasonable profit margin.

The logical conclusion was, therefore, that the cost of production per bag of maize in South Africa was still too high, and that the main reason why it was too high was because the yield per morgen of maize was much lower in South Africa than it was in the other leading maize producing countries of the world.

CHAPTER V

The Marketing of Maize

Marketing Schemes during the period 1937 to 1947.

The early part of this period, immediately after the passing of the 1937 Marketing Act, was very much one of trial and error for the Mealie Industry Control Board. At an early date the Board submitted, as it was required to do under this 1937 Marketing Act, a comprehensive scheme for the marketing of maize. In view of its new powers, the Board was doing its best to find what measures would prove best for the industry as a whole after giving due consideration to the needs of both the producer and the consumer. In fact, the whole period from 1937 to 1944 may be looked upon as a transition period until the Maize Board eventually arrived at the basis for the present one-channel marketing scheme, which was first put on trial for the season 1944/45.

So important was this transition period, that it warrants a brief examination of the changes that took place each year during the period.

The scheme the Mealie Industry Control Board submitted was referred for investigation to the National Marketing Council, which had to report on it to the Minister of Agriculture. Unfortunately the Marketing Council could not complete its investigation before the start of the 1938/39 season, so a temporary scheme was introduced for that season's crop only. This temporary scheme came into operation from the 17th of June 1938 and differed in principle very little from the old control scheme that had developed under the Mealie Control Act of 1931. The main powers given to the Mealie Board were as follows.

1. It had to regulate exports under a permit system after considering local requirements and providing a normal carry-over for the following season.

2. In order to raise the price paid by local consumers above that which would be obtained for maize exported, it had to impose a levy on all maize purchased from producers, this money being then used to pay compensation to those who exported maize at a loss.
3. It could buy and sell maize and maize products for its own account to enable it to guide both producers' and consumers' prices towards target prices set by the Board.
4. It had to compel all persons trading in maize or maize products to submit monthly returns covering these transactions to the Mealie Board.

From the above facts it will be observed that all those powers connected with controlled marketing of maize, previously possessed by the Department of Agriculture, were now transferred to the Mealie Industry Control Board. It should be observed that the levy on maize purchased from producers once again fell on the shoulders of local consumers, as the merchants naturally passed on this charge, when they sold to local consumers. It was, therefore, once again the local consumer who had to finance the loss incurred in exporting maize.

The most significant of the above powers was, however, that whereby the Board itself was permitted to enter the market as buyer or seller. This was an entirely new factor which could have a very significant influence on the price, for, if the local market conditions were such that supply was exceeding demand, the Board could come in as a buyer of large quantities and so create an artificial shortage and cause the price to rise, while it should actually have been declining. It had, of course, the advantage that this power could be used to stabilise early season prices at a reasonably high level, even before the surplus had been exported.

The Board was, however, still faced with the same difficulties which had been encountered under the control measures of the 1931 Mealie Control Act. The export

surplus still had to be determined in advance, while a number of other factors, such as the exact size of the crop, the amount of maize retained on the farms and therefore the amount that would be offered for sale, were all still very uncertain. Also there was the difficulty of determining what a suitable carry-over figure for the next season should be. Altogether the collection of statistical data proved a great burden. It was, however, essential for the successful working of the scheme that these statistics be reasonably accurately determined.¹⁾

The Maize Marketing Scheme for 1938/39.

During May 1938 it was estimated that the crop for this season would be about 17.6 million bags. To this had to be added the carry-over from the previous season of 1.5 million bags, making a total of 19.1 million bags available. On the other side of the account it was estimated that 9 million bags would be retained on the farms, 6 million bags could be sold on local markets and 1 million bags could be carried over to the following season. This left an exportable surplus of approximately 3 million bags.

The Board, with the Government's consent, decided to stabilise the consumer's price at R1-00 per bag f.o.r., and the producer's price at 90 cents per bag. Because the net export price was only about 80 cents per bag, the Board decided that compensation would have to be paid on maize exported and so fixed the rate at 22.5 cents per bag. It then imposed a levy of 10 cents per bag on all maize and maize products purchased from producers by maize merchants or by co-operative associations. The result was that the consumers' price was raised to R1-02.5 per bag (80 + 22.5) and the producers' price to 92.5 cents (80 + 22.5 - 10).

1) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 51

As the season progressed the Board issued permits for the export of 1.75 million bags of maize and maize products. However, it soon became obvious that the export compensation of 22.5 cents per bag was too high in relation to the income it was likely to receive from the levy of 10 cents per bag. The reasons for this were as follows.

- a. The final crop was 19.2 million bags and not 17.6 million, as originally estimated.
- b. During the season the export price declined from 80 to 70 cents per bag. Consequently at least another one million bags had to be exported and, as a result, both consumers' and producers' prices declined by 10 cents per bag.

In the meantime, however, co-operative associations had advanced up to 90 cents per bag to producers, and because an improvement in foreign prices was anticipated, they had not exported earlier in the season, when foreign prices were favourable. Under pressure the Board increased the levy from 10 to 15 cents per bag and raised the export compensation from 22.5 cents to 32.5 cents per bag. As a result producers' prices rose by 5 cents to 87.5 cents per bag, i.e. 17.5 cents above the export parity of 70 cents and consumers' prices went back to R1-02.5 per bag. Further permits were then issued permitting the export of another 1.53 million bags.

To prevent the presence of the surplus from depressing local prices, the Land Bank granted the Board a loan of R200,000, so that it could enter the market as a buyer, provided it did not pay more than 85 cents per bag, and that it would subsequently sell its purchases to consumers at a price to cover only its cost plus the levy and any expenses incurred.

As a result of improved weather conditions the

consumption of maize on the farms declined and more maize was put up for sale. To prevent this additional maize from depressing the market, permits were issued for the export of a further half a million bags. Because of the inadequacy of the Board's funds, it was granted a further R160,000 to pay export compensation of 32.5 cents per bag. Later, when it was finally realised that the crop had amounted to 19.2 million bags, further permits were issued for the export of another 800,000 bags on which the export compensation was only 25 cents, as the export parity had improved to 75 cents per bag.

The final result for the season was therefore that 4.825 million bags, and not 3 million bags, as originally estimated, had to be exported, and the Board had to pay R136,000 more compensation than it had received from the levy on maize sold locally. However, in view of all the uncertainties which the Board had to face, it was considered that, on the whole, it had been successful in achieving the objectives of the scheme. The Board, in fact, came very close to its target prices, as producers' prices for the best grade maize averaged 88.8 cents and consumers' prices averaged not more than R1-00 per bag. The experience of the season indicated that the matters to be watched in future seasons were as follows.

- a. As the Board was annually faced with a number of uncertainties concerning the size of the crop and local consumption, it should not too readily yield to pressure from producers for a price that was well above the export parity, as export losses must be paid out of the levy on local sales and the Board could not continually turn to the Government for assistance in this matter.
- b. Although the Board at the beginning of the season stated its intention to aim at certain target prices, it should not be taken by bodies such as co-operative associations that this was in fact a guarantee that those prices would be achieved and maintained.

- c. It was impossible under the Marketing Act to maintain a constant price for the season to producers or consumers, because the export surplus could not be accurately determined in advance and also because the export parity, which was completely beyond the control of the Board, played a very important part in determining any local price. If the Board had had large reserves on which it could have drawn, it would of course have been possible to maintain local prices at a fixed level, but this was not the case at the time. 2)

The Marketing Scheme for 1939-40.

The permanent scheme which was submitted to the National Marketing Council, but on which they could not complete their investigation before the start of the 1938/39 season, was implemented for the 1939/40 season. It was basically the same as the temporary scheme, but it gave the Maize Board two further and rather important powers, viz.:-

1. to place a levy on maize ground by millers;
and
2. to use its funds for any purpose, which in its opinion, would promote the local consumption of maize. 3)

The purpose underlying 1. above was to have a source of revenue out of which the administrative costs of the scheme could be met. It was, however, stated that no levy would be paid by a producer who had maize ground for his own use.

The power given to the Board under 2. above was encouraging, for obviously the higher the local consumption of maize was, the easier it would be to stabilise prices and so to ensure the continued economic existence of the producer. To all those who fed maize to livestock as well as to the industrial processors of maize, a rebate of 20 cents per bag was given. Unfortunately

2) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 52.

3) Annual Report of the Mealie Industry Control Board for the Year, 1939/40, p. 12.

this rebate did not do much to increase the consumption of maize as it was not generally known that a rebate was being offered and also because the demand for maize from these sources was of rather an inelastic nature.⁴⁾ The idea was, however, a sound one.

A further important difference contained in the permanent scheme was that price assistance was to be given to producers in a much more direct way than before. Also the payment made was not really an export subsidy, but simply a repayment of the levy collected.

The basic price paid to the producer during this season was the same as the export parity. Therefore, after the merchant had paid the levy on his purchases from the producer, to the Board, he could not export maize without making a loss on such purchases. Provision was therefore made to have the levy repaid to exporters on all maize and maize products that they had exported as per permit they had received from the Board.⁵⁾ For example, if the levy was fixed at, say, 10 cents per bag of maize for the season, a merchant who purchased, say, 20,000 bags of maize during that season, would have to pay a levy of R2,000 (20,000 X 10c) to the Board. But, if he subsequently obtained permission from the Board to export, say, 10,000 bags of maize, he would receive a refund from the Board of R1,000 (10,000 X 10c) as soon as he had submitted proof that he had in fact exported the 10,000 bags of maize.

A further concession made to producers by the Government, was a reduction on railage costs of 7.5 cents per bag on all maize that was exported, while on maize for local consumption the railage rate was reduced by 50%.

4) Annual Report of the Mealie Industry Control Board for the year, 1939/40, p. 20.

5) Ibid, pp. 13 and 17.

The crop for the 1939/40 season was a record one, being over 29 million bags and it was estimated that between 13 and 14 million bags would have to be exported. However, because of drought conditions early in 1940, further issues of export permits were stopped, and in the end, only 12,345,000 bags were actually exported.

Statistics published for this year showed that the majority of maize producers, in fact 79% of all producers, sold less than 500 bags each during the whole season. In order to assist these small farmers, as ruling prices were very low, it was decided in August 1939 to pay an additional 15 cents per bag on the first 500 bags delivered by each producer. Of this payment 10 cents came from the levy funds and 5 cents per bag was contributed by the Government. Still later in the season it was decided to make a further payment of 3.33 cents per bag to all producers on the first 500 bags sold. The end result was that for the first 500 bags a producer received 88.33c per bag as compared with an average of 80 cents per bag for the whole crop.⁶⁾

The Maize Marketing Scheme for 1940-41.

The statistics for this season showed that the estimated crop was 18.5 million bags and that this crop, together with a large carry-over from the previous season, was such that between 3.0 and 3.5 million bags would be available as the exportable surplus. However, by the end of the season only 2.874 million bags had in fact been exported.

The scheme applied to this season differed very little from that for the previous season. The principle of a levy, to be paid (by those who purchased maize and maize products from the producers), and subsequently used for export subsidies, was re-instated. The direct supplementary payments to maize farmers, out of the levy funds,

6) Report of the National Marketing Council on Marketing Boards, 1938 to 1946; U.G. 27 - 47, pp. 52 and 53.

continued as an important part of the scheme. A payment of 15 cents per bag, on account of the supplementary payment, to be settled in full at the end of the season, was made at the time of sale on the first 500 bags sold by each producer.

South Africa was, at this stage, very much involved in the Second World War, with the result that the South African maize producer found his overseas market adversely influenced by war-time conditions. The Argentine had disposed of large quantities of maize on foreign markets and had caused prices to fall to a very low level. An agreement between the South African Government and the British Ministry of Food, by which the latter Government body agreed to buy all South Africa's surplus maize at fixed f.o.b. prices, did a great deal to assist the Board in stabilising maize prices. The prices agreed to were very low indeed, amounting to only 57.5 cents per bag f.o.r. producers' stations for the best grades of maize. But even at these low prices no advantages accrued to Britain as the prices were, in fact, slightly higher than those that were being paid on the open overseas markets.

On the above basis, producers' prices were stabilised at 80 cents per bag ex elevator for the best grades. A levy of 25 cents per bag had to be paid and export compensation was first fixed at 15 cents, then at 18.33 cents and then at 22.5 cents per bag. The result of this was that a producer selling not more than 500 bags, received 95 cents per bag which included a supplementary payment of 15 cents. At the end of the season a further supplementary payment of 4.166 cents per bag was made so that all maize producers received a total of 99.166 cents per bag for the first 500 bags of maize sold by each.

Transport delays made it necessary for the Board to enter the market from time to time as a buyer, in order to

prevent surplus maize from depressing the price to an unreasonably low level. In all, it purchased 903,000 bags at 80 cents each, and of these it later in the season exported 700,000 bags.

Early in the 1940 season the consumer's price was R1-05 per bag, that is 80 cents producer's price plus the levy of 25 cents, f.o.r. producer's station. The Board therefore considered that a wholesale price of R1-22.5 cents per bag towards the end of the season should be sufficient to give the merchant a reasonable profit and also cover storage costs. In actual fact, prices started rising after November 1940 and by March 1941, the wholesale price was R1-42.5 cents per bag. In order to protect the consumer the Board therefore entered the market as a seller of maize and offered its stocks at R1-20 to R1-22.5 per bag. This happened in spite of the fact that the co-operative associations still held considerable stocks of maize. No doubt this was not a very popular move by the Board as the co-operative associations were then required to sell their stocks at R1-25 per bag f.o.r. It must, however, be appreciated that, although producers constituted the majority of the Board's members, it was not there for the benefit of the producers only, and that it had to take action, if it thought such action was necessary, to protect the consumers also against excessive prices they might be asked to pay.⁷⁾

The Marketing Scheme for 1941-42.

The 1941-42 season opened with the same scheme in operation as that which was used during the previous season. The crop was estimated at 24 million bags and the export surplus at 3 million. In the end, however,

7) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 53.

due to increased local consumption, only 1.4 million bags were exported. The Board again made arrangements with the British Ministry of Food for the sale of the surplus maize at fixed prices.

For the season the levy was fixed at 20 cents per bag and the export compensation at 27.5 cents per bag. Again the supplementary payment was fixed at 15 cents per bag and once more a further supplementary payment of 4.166 cents per bag was made at the end of the season on the first 500 bags received from each producer. Because production costs had increased, the Board stabilised producers' prices at 85 cents per bag, so that the producer who sold not more than 500 bags, actually received R1-04.166 per bag.

The estimates for the 1940-41 season allowed for a carry-over of about 1 or 1.5 million bags to the 1941-42 season. It was subsequently found that these estimates were very inaccurate and that, in fact, the carry-over was almost nothing. This confirmed the Board's suspicion that both the farm consumption and the consumption through merchants had increased considerably in recent years. Today it appears to have been an extremely short-sighted policy of the Government of the time to discontinue the taking of the annual agricultural census at the beginning of World War II. A body such as an agricultural commodity Control Board, must surely get into serious difficulties in formulating future policies, if it has no suitable statistics of past performances at its disposal.

Local wholesale prices for maize showed a strong upward tendency during November 1941. As most producers had already sold their maize and would not benefit from the rise in prices the Board decided to utilise the power given to it under Proclamation No. 82 of 1941 and

(See footnote 8)
to peg prices ^ . Wholesale prices only were pegged at R1-18.33 per bag and a further allowance of 3.33 cents per bag was made to cover railage on maize that had to be delivered to Natal and the Cape Province. At the same time a maximum wholesale price was also fixed for mealie products.

The fixing of prices could not, however, by itself, solve the difficulties encountered, and, from early 1942 great difficulty was experienced by consumers in obtaining supplies. At the same time it was found that there was, in fact, sufficient maize within the country to meet requirements, but because of unfavourable climatic conditions, the trade was predicting a poor crop for the next season and was therefore holding back stocks in anticipation of a rise in price. Therefore, in order that the Board might effect a better distribution of available stocks, it was given a further power, under War Measure No. 20 of 1942, which enabled it to demand from any person, such a quantity of maize, which in the opinion of the Board that person was holding in excess of his immediate requirements. The Board was also permitted by War Measure No. 20 of 1942 to appoint agents who could receive maize on its behalf and distribute maize according to its instructions. This was the first time that the Board had appointed agents to act on its behalf. Furthermore, because it was necessary at this time that the Board should have complete control of all available

8) Proclamation No. 82 of 1941 amended Section 22 of the Mealie Control Scheme, so that it might, subject to the approval of the Minister, prohibit -
a. "any producer of mealies from selling mealies which he had produced, or any mealie product derived from such mealies, at a price below the fixed price,
b. any person from selling mealies or any mealie product at a price above a price fixed by the Board for such mealies or mealie products."
(page 277 Union of South Africa Government Gazette, 2nd May 1941)

stocks, no further registration of merchants (who could normally purchase maize from producers) was permitted in March and April 1942. The Board's permission was necessary before maize could be accepted for storage in elevators.

These measures enabled the Board to obtain control of 428,000 bags of maize which it requisitioned from the surplus stocks of the mines, the trade and co-operative associations and which it subsequently redistributed on an equitable basis. Producers also assisted the Board by selling to it a further 25,000 bags of maize. The Board had also, during this difficult period, in an attempt to stabilise producers' prices at a predetermined level and to prevent the over-exporting of maize, managed to buy elevator receipts for 1.058 million bags. This enabled it to carry over 740,000 bags into the new season for which, as a result of a severe drought, an abnormally small crop was expected.⁹⁾

It is indeed interesting to observe that an attempt to solve a problem, created by a shortage of maize and not a surplus, had brought about the stricter control of the marketing of maize. Here are very clearly the first steps that were taken towards the eventual system of one-channel marketing. During this season they were no doubt looked upon as purely temporary measures, introduced to overcome an emergency. The fact remains, however, that these temporary measures remained as part and parcel of the marketing schemes that followed for the succeeding seasons, and eventually became the corner stones on which the current system of one-channel marketing was based.

9) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 54.

The Maize Marketing Scheme for 1942-43

As the total carry-over from the previous season was estimated at 1.25 million bags (including the 740,000 bags carried over by the Board) and the crop for this season was estimated at the abnormally small figure of 16.8 million bags, it is easy to see just how difficult the position was. The greatest possible care had to be exercised in the distribution of the available maize.

Although the Board had the power to act as sole buyer of maize, it did not have the necessary staff to implement this right. It therefore allowed registered traders a free hand to buy and sell maize for their own account. Later in the season the Board found it necessary to have physical control over most of the crop. It therefore entered into an agreement with the co-operative associations to take over all maize held by them after the 1st of September 1942. For continued storing and handling on behalf of the Board they were paid 9.167 cents per bag, together with any interest on the loans from the Land Bank to cover the purchases. Altogether the Board took over 3.185 million bags from the co-operative associations. At this stage the Board also became the only buyer of maize from the elevators. Furthermore, it ruled that only producers were allowed to draw maize from the elevators.

As it was generally believed that the price of maize would rise considerably during this season, and because the Board wanted to support the Government's anti-inflation policy, it was agreed by producers and the Board that the price of maize should be fixed on a cost of production basis for the season. Producers were assured that the long-term policy of the Board, which would stretch into the post-war period, was the stabilisation of agricultural prices. With this assurance

given, producers were prepared to sacrifice any short-term gain which would have been theirs, due to the current temporary shortage. The main consumer, who could least have afforded the increase in prices, the African, was thus protected from any inflationary rise in maize prices that might have taken place.

The cost of maize production had increased considerably during the war period. Unfortunately, due to the complete absence of any reliable statistics, it was impossible to determine exactly by how much the production costs had increased. However, after taking into account a number of figures and facts, the producers' price was fixed for the 1942-43 season at R1-50 per bag (for maize in bags) and R1-42.5 per bag ex elevator for the best grades of maize. In addition, to protect the consumer, the Board fixed the maximum wholesale prices for maize and maize products. These prices allowed the wholesaler a margin of 3.33 cents per bag on wholesale quantities of not less than 100 bags and a retail margin of 10 cents per bag was allowed to merchants. The millers' margin on granulated mealie meal was fixed at 22.5 cents per bag, while the retailers' margin on mealie meal, if bought in quantities of not less than 30 bags and sold in quantities of one bag, was 15 cents per bag.

It was also in this season that supplementary payments to producers and export subsidies out of levy funds disappeared. As export surpluses no longer existed, and the price was fixed, measures to raise depressed prices for the producer's benefit were not necessary. It was much more important that measures be adopted that would protect consumers against inflationary prices.

The first rationing scheme to be administered by the Board was introduced by the Food Controller on the 3rd of June 1942 and appeared in the Government Gazette under

Notice No. 1033. Maize and maize products could henceforth be sold only under a permit issued by the Board. The only exceptions were quantities up to 2 bags per month sold to ordinary consumers and 25 bags, later only 10 bags, per month sold to bona fide farmers. Also the supply of maize for milling was placed under permit; and millers and traders were rationed through the permit system, each one's ration depending on past turnover.

The position deteriorated to such an extent that by November 1942 no person without a permit could buy more than 100 lb. per month of mealie rice, samp and crushed mealies. By February 1943 the purchase of permit-free maize and maize products for human consumption was limited to 200 lb. per month per person, and, with the exception of such maize-byproducts as hominy chop and germ meal for animal consumption, the sale of all maize and maize products was prohibited. Also by December 1942 nobody was allowed to use sifted mealie meal.

(See footnote 10)

To ensure that all the measures mentioned above were carried out, placed a tremendous responsibility and strain on the staff of the Board, but, it is certain that, had the Board not been in existence, considerable maldistribution would have taken place and the suffering that the less fortunate members of the South African community would have had to endure, would have been disastrous. There is no doubt that the Board played a most important and humane role during this season.¹¹⁾

10) "Sifted mealie meal means mealie meal from which the bran and other offals have been removed." Proclamation 23 of 1942. Government Gazette, dated 29th January 1942.

When mealies are crushed the husk is taken out. This husk, after it has been ground, is known as hominy chop and is used for cattle feeding.

When making mealie samp (crushed mealies), the heart of the mealie is taken out. This heart is known as the germ and when it is crushed, is known as germ meal, which is also used for cattle feeding.

11) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 55.

The Maize Marketing Scheme for 1943-44.

The crop for this season was estimated at 24 million bags. Of this 12.5 million bags were marketed during the season. The Board again decided to take over all maize delivered to co-operative associations which acted as its agents. The central maize co-operative "Uniegraan" acted as the selling agent of the Board. Grain merchants who were agents of the Board accepted maize on behalf of the Board up to the 31st May 1943, but after that date they were permitted to purchase for their own account. As in the previous season all elevator maize was purchased by the Board.

This season can be considered to have commenced at the 20th of March 1943. Because of the poor crop for the previous season there was at this date still a shortage, and producers were encouraged to start harvesting at the earliest possible date. The Food Controller declared that R1-60 would be paid per bag for all maize delivered between the 20th of March and the 31st of May 1943. In the end the price throughout the season was fixed at R1-60 per bag. To encourage early delivery and because it was a very wet season, it was further stated that maize would be accepted with a moisture content of 18% and in some cases even 20% during these two dates (instead of the usual 12.5% moisture content usually allowed), without any reduction in price. It will be recalled that one of the reasons why South African maize had had a favourable reception in earlier years on overseas markets was because of its low moisture content as compared with maize from the Argentine.

Because of the extremely wet conditions and also because of the shortage of farm labour, reaping was very difficult, therefore, to expedite deliveries to meet the shortage, the Food Controller asked for and obtained a

large number of army lorries and the services of Italian prisoners of war to assist in getting the maize to the co-operative associations and merchants. However, June turned out to be a dry month, with the result that the merchants, who were the main suppliers to the market in the early season, found that they in fact had sufficient dry maize to meet current demands, and there was, therefore, no demand for the maize with the high moisture content. The rapid delivery of the maize to merchants and co-operative associations had, in the meantime, caused an acute shortage of storage space. Furthermore, because the maize was in many cases very damp, it would indeed have been very unwise to store it in closed stores where it might have deteriorated long before it was dry. Large quantities were therefore stored in the open. Unfortunately, however, excessive rains fell during July and August 1943. The end result was that, altogether, 640,000 bags of maize were damaged to a greater or lesser extent and their value in some cases declined by as much as R1-39 to 21 cents per bag. In addition, 84,000 bags were completely lost. Some of the larger maize co-operative associations lost as much as R400,000. 12)

During this season the one-channel maize scheme did not operate. At first the Board purchased only elevator maize, but in July 1943 it decided to take over all maize held by co-operative associations, "Uniegraan" acting as the Board's selling agent. An arrangement was also made with the Food Controller that the Board, as a seller of maize, would not compete with the grain merchants, but that it would hold its maize until the end of the season before entering the market.

12) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U. G. 27 - 47, p. 56.

It is a pity that the co-operative associations should have received this financial setback, especially as it had by now become apparant that they would play a very important part in the controlled marketing of maize. Evidence subsequently given shows very clearly that at any rate part of the blame for this setback was theirs as their storage space was inadequate. At a later date it was decided that this loss should be made good partly out of the funds of the co-operative associations themselves, partly out of funds of the Maize Board and partly by the Government.¹³⁾

The Maize Marketing Scheme for 1944-45 season.

The crop for this season amounted to 18.3 million bags. This, together with the carry-over of 3 million bags from the previous season was still not sufficient to meet the country's needs and once again great care had to be taken in the distribution of available supplies.

Because the crop was again below normal and, furthermore, because of the increased costs of production, the Board recommended to the Minister that the producer should be paid R2-00 per bag. This price was, however, not acceptable, and, after the National Marketing Council's recommendation, the Minister agreed to a price of R1-75 per bag, together with a further 5 cents per bag on the first 500 or less bags sold by each producer during the season. Basic prices to consumers for maize and maize products were, however, maintained at the previous season's level, which could only be done because the Government paid a subsidy of 15 cents per bag.

The Board had previously found, especially during the period November 1942 to June 1943, that it was extremely difficult to operate a fair and just system,

13) Report of the National Marketing Council on the Marketing Boards, 1938 - 1946; U.G. 27 - 47; Annexure 10, pp. 199 to 206.

while it had control over only a portion of the crop. Furthermore, the previous system had operated to the disadvantage of the co-operative associations who were expected to render a national service by accepting maize at considerable financial risk to themselves, as the maize might deteriorate while in storage, while the merchants, on the other hand, were left free to do as they pleased within the limits of the fixed prices.¹⁴⁾

To overcome this difficulty and also to ensure the greater price stability to farmers on a long term basis, which had been promised to them, and also to reduce the difference in producers' and consumers' prices at any one moment, the Board was permitted to introduce a one-channel marketing scheme for maize. This is an event of such magnitude in the history of the marketing of maize that it should be dealt with on its own. It will, therefore, not be discussed here, but will be given the attention it deserves in the following chapter.

The Marketing Scheme for the 1945-46 season.

The crop was again a poor one, being estimated at 18.3 million bags, while the carry-over from the previous season was as low as 1.1 million bags. The position was so bad that the Government had to buy maize from outside the Republic, wherever it could be found, but, outside supplies were also limited and in the end only 1.887 million bags were imported during the season. The strict rationing of maize thus had to continue and the one-channel scheme introduced during the previous season was retained.

In this season also a Committee was set up to investigate the average cost of production of maize during the years 1938/39 to 1943/44. It was hoped that the

14) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 56.

Committee would produce sufficient facts to enable the Board to establish a basis on which it could determine future prices for maize on a long term basis. However, in the absence of census figures, the Committee had to base much of its work on the annual estimates of the Division of Economics and Markets. It therefore started on a not very satisfactory basis. In the end it concluded that total costs were R1-94 per bag in the Transvaal Highveld area and R1-77.5 per bag in the Orange Free State. On these facts the Board recommended a price of R2-00 per bag be paid to producers. The National Marketing Council disagreed with this price and recommended that the price should remain the same as it was for the previous season, namely R1-75 per bag. Eventually the producer's price was fixed at R1-90 per bag. The consumer's price, however, was raised from R1-60 to R1-65 per bag while the Government increased its subsidy by a further 10 cents to a total of 25 cents per bag.¹⁵⁾

The Marketing Scheme for the 1946-47 season.

As a result of the drought conditions this was again a poor season. The total crop amounted to 18.1 million bags and the carry-over from the previous season was only 600,000 bags. Every effort was made to import from other countries, but as the world as a whole was experiencing an acute shortage of all grain, this was no easy matter. However, during the first half of the season, 4.5 million bags of maize were imported. Once again it was necessary to introduce very careful rationing of available supplies.

Because of the poor crop, producers demanded a minimum price of R2-50 per bag. The Board recommended R2-25 per bag. The National Marketing Council recommended that the price should not exceed R2-15 per bag.

15) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47. p. 58.

Eventually the producer's price was fixed at R2-25 per bag, and at the same time a guarantee was given that the price for the following year's crop would not be less than R2-00 per bag.

The consumer's price for the year was raised from R1-65 to R1-75 per bag and the Government subsidy was increased from 25 cents to 50 cents per bag. It is also worth observing that the imported maize was being sold at the local price. This could only be done with the aid of a Government subsidy, which for this season, due to world shortages of grain, amounted to over R2-00 per bag.¹⁶⁾

The Maize Co-operative Associations and the 1937

Marketing Act

The production of most agricultural products is not only seasonal, but also fluctuates from season to season and year to year, depending on Climatic conditions and other factors beyond the control of the producer. Because the demand for agricultural products, over the short period at any rate, is fairly inelastic, these variations in supply cause variations in the prices paid for these products. Because total consumption and dietary habits of consumers do not change much, there is very little reaction to changes in producers' prices. This stability in demand becomes accentuated by transport and distribution costs, which are fixed. This results in variations in retail selling prices, which are very much smaller than the large variations that the producer experiences in the prices he receives.

Unlike industrial production, agricultural production does not respond readily to changes in demand. This is so mainly because of the high percentage of fixed costs in agriculture, the long production cycle

16) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 58.

and the inability of the individual farmer to influence prices by his own efforts. In fact, all these difficulties show, in one way or another, that the agricultural producer is really much worse off than his counterpart in industry.

The problems faced by the farmer served as an important motive for the establishment of agricultural co-operative associations. Co-operation was the first attempt at collective marketing by the farmer. He expected that such joint action would result in the stabilisation of prices for his products. There is no doubt that by more orderly marketing of products the co-operative associations did achieve a certain degree of success, but it is also a fact that they did not influence prices to the desired extent. Mainly because too small a percentage of the crop was marketed through the co-operative associations and also because the co-operative associations were not always in a position to achieve the necessary security the farmer desired.

In order to raise and stabilise prices, co-operative associations often found it necessary to withhold supplies from the market. Unfortunately, once the price rose to a reasonable level, others, namely those producers who were not members of co-operative associations and merchants, off-loaded their supplies and once again the price went down. The result was that the co-operative association members at times receives even lower prices than those who were not members. As was to be expected, this in turn led to disloyalty amongst co-operative association members, who still continued to use the co-operative association to buy their farming requisites, but sold their crops for their own account, so leaving the co-operative association with a debt for their purchases, which it had somehow or other, to collect from them.

This inability of the co-operative associations to stabilise, or even control to a limited extent, the price movements of agricultural products was a direct cause of the introduction of the 1937 Marketing Act. It should, however, be appreciated that, while this Act did introduce some state control, it did not mean that free enterprise was completely abolished. However, the circumstances which exist in agriculture are rather unusual and as such justify the introduction of special measures. These measures are, however, not peculiar to agriculture in South Africa only. Investigations show that "measures to stabilise agricultural prices by way of state interference are applied in all capitalistic countries." 17)

During the war years when there was an acute shortage of maize, unlike the time when the Maize Control Board was established, the prices fixed by the Board were very much on a cost-plus basis, perhaps a generous cost-plus basis, because the Board wanted to do everything possible to increase the production and so overcome the shortage. However, no system can go on indefinitely fixing prices on a cost-plus basis only. Sooner or later it will have to take note of the supply and demand position if it wants to stay out of trouble. However, the purpose of the Marketing Act was the stabilisation of prices and not the guaranteeing of a fixed margin of profit to the producer. To ensure such a fixed margin of profit would have been impossible, as no two producers ever have the same production costs. The Maize Board did, however, during the war period, do very useful work.

17) A.J.V. Rörich: "Some aspects of the Marketing Act." Second short course on Co-operation in Agriculture, arranged by The Eastern Agricultural Union in Co-operation with Rhodes University, Grahamstown, 27th April - 1st May 1959, p. 49.

To take only one example, there would have been complete chaos during the very wet 1943/44 season, when the railways could not move all the maize in time, if the Maize Board had not been in existence to organise the overall distribution pattern.

The establishment of the Maize Control Board has brought about important changes in the nature and functions of the maize co-operative associations. No longer is it necessary for the co-operative association to perform its erstwhile main function, that of stabilising maize prices; and almost as important, no longer is it now necessary for the co-operative associations to find a market for the maize delivered by their members. However, in spite of the fact that the co-operative associations have now lost their main function to the Maize Control Board, an extraordinary expansion of the co-operative movement has taken place since the coming into existence of the Control Board. This fact is, furthermore, not only true in the case of maize co-operative associations, but all agricultural co-operative associations have shown remarkable growth since the passing of the 1937 Marketing Act. In the case of maize only 30% of the 1938/39 crop was marketed through co-operative associations, while at present about three quarters of the total crop is delivered to co-operative associations. This remarkable expansion of the co-operative movement under the Marketing Act requires some attention.

Firstly, the Maize Control Board confines itself to regulating the disposal of maize under its control. It was never intended that the Board should handle the maize. For this purpose it employs the services of the established channels such as the co-operative associations. Furthermore, the recognised channels provide these

services efficiently, and probably much more economically, than the Control Board could do itself.

Secondly, "By assuming the responsibility for price, the control boards have placed the co-operative societies in a position of greater security, have freed them from the speculative risk of market finding, which took a great part of their energies, and have made it possible for them to concentrate on greater service-rendering to their members." 18) There is no doubt that, as the many services rendered by the co-operative associations to their members grew, so it became more and more obvious to others that they should join the co-operative association movement.

Thirdly, as maize prices were now fixed, all speculative dealings in maize had come to an end. This fact considerably assisted co-operative associations in increasing their turnover in maize. As to be expected, if the price is fixed, maize farmers would naturally give preference to their own organisations.

Fourthly, with the advent of the Control Board, the credit facilities of co-operative associations improved. They were now in a position to obtain bigger advances from the Land Bank as the Control Board guaranteed part of their loans and therefore they in turn could give their members more credit.

All these improvements helped the growth of the co-operative association movement amongst the maize farmers. The co-operative associations assisted in no small way in making the operations of the Maize Board a success. The Control Board, for example, would have experienced more difficulties had it not been for the storage space

18) Reconstruction of Agriculture. Report of the Reconstruction Committee of the Department of Agriculture and Forestry, G.P.S. 9278 - 1943/44,
p. 30

placed at its disposal by the co-operative associations. In fact, it may be said that "since the Boards and the co-operatives in certain respects pursue the same basic aims, they are in a position to supplement each other."¹⁹⁾

From the facts and figures discussed above, it will be appreciated that the period 1937 to 1947 was one, during which there was, for several years, an acute shortage of maize in South Africa, and that there was, therefore, no maize available for export. Furthermore, war-time conditions were such that, even if South Africa had had maize available for export, she would have found it extremely difficult to obtain the necessary transport facilities to export maize to the foreign markets. However, there were years during this period when maize surpluses were produced and exported. There is, therefore, some justification for giving the maize export market during this period some attention.

The Export Maize Market during the period 1937 to 1947.

Under Section I of the Mealie Control Amendment Act No. 59 of 1935, the Mealie Industry Control Board was established as from the 5th of July 1935. The Board was empowered to advise the Minister in connection with the export of maize. However, soon afterwards there was further important legislation with the passing of the Marketing Act (Act No. 26 of 1937). This act provided the legal framework for the comprehensive control of the marketing and distribution of the major agricultural products. Various control boards, each for a different product or group of products, were set up, with the object of achieving stability and increased productivity, by careful application of appropriate control measures.

19) A.J.V. Rörich: "Some aspects of the Marketing Act", Op. cit., p. 58.

Table 17, Appendix A, shows that during 1937, before the Marketing Act was actually applied, South Africa exported 8,554,645 bags of maize, Canada being South Africa's best customer during that year with 3,124,629 bags, followed by the United Kingdom with 2,362,694 bags. The United Kingdom did, however, also buy 2,103,533 bags of mealie meal and 197,155 bags of maize grits. She was, therefore, overall, the biggest buyer of South African maize and maize products. The very poor prices for maize and maize meal for the year 1937, should be observed from this table. Looking at it strictly from an economic point of view one wonders if it would not have been more profitable to feed this surplus maize to livestock, rather than dispose of it at such uneconomic prices on the world markets.

For the 1938 season Table 20 of Appendix A, shows that the export price was slightly better, but at the same time that the quantity exported, due to a smaller crop, was considerably less. The local price itself at this time was very low being only R1-00 per bag to consumers and 90 cents to producers. Export compensation was paid at the rate of 2s. 3d. (22.5c) per bag.²⁰⁾

The quantity exported in 1939 was large in spite of the fact that the price remained very depressed. However, in September 1939, war was declared and the South African foreign market conditions for maize changed completely, in the first instance because there was an acute shortage of shipping space for a commodity such as maize, and secondly because of the poor crops of the war years.

That South Africa still contributed only a small

20) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 51.

percentage of all the maize exported by the maize producing countries throughout the world in these immediate pre-war years, is clearly illustrated by Table 21 of Appendix A and by the bar diagram on the following page, which was constructed from the statistics appearing in Table 21.

As regards the Mealie Control Board there were few amendments in the first seasons after 1938/39. Probably the most important was the abolition of the system of compulsory export, which was replaced by a system of export subsidies. Thus, the Board had power under Proclamation No. 86 of 1939, as amended by Proclamation No. 88 of 1940, to regulate the exportation of mealies and mealie products, and no mealies or mealie products were exported during the 1940-41 season without the authority of the Board. With regard to subsidies it is worth observing that, in terms of section 25 of the Scheme, a levy of 2s. 6d. (25 cents) per bag was imposed during the seasonal year 1st May 1940 to 30th April 1941, on all mealies and mealie products delivered by a producer. Out of the moneys derived from the levy (imposed under section 25), the Board was required to remit the amount of the levy in respect of mealies and mealie products exported under the authority of a permit.²¹⁾

The crop for the 1940-41 season was about 18.5 million bags, which was more than 10 million bags less than the record crop of the previous season. However, due to an abnormally large carry-over of maize from the previous season, no thought was given to a possible shortage. It was estimated that the export surplus would be somewhere between 3 and 3.5 million bags and this quantity would have been exported were it not that "war conditions adversely influenced the overseas market and due to heavy selling of maize from the Argentine, prices receded to

21) Union of South Africa Year Book for 1941, p. 667.

4						
	5,500					
				page 179		
				MAIZE EXPORTS OF THE PRINCIPAL EXPORTING COUNTRIES. (000 METRIC TONS.) AVERAGE FOR THE YEARS 1937-39.		
	5,000					
	4,500					
	4,000					
	000 METRIC TONS					
	3,500					
	3,000					
	2,500					
	2,000					
	1,500					
	1,000					
	500	ARGENTINE	U.S.A.	SOUTH AFRICA.	YUGO-SLAVIA	ROMANIA.
						OTHER.

Countries.

very low levels". 22)

During the 1941-42 season the crop was again large, being about 24 million bags, and it was estimated that the export surplus would be about 3 million bags. Arrangements were again made with the British Ministry of Food to take over all exportable maize at a fixed f.o.r. price. However, local consumption had increased and less than half the anticipated surplus of 3 million bags was eventually exported.

The 1942-43 crop was extremely poor and much less than South Africa's own requirements. Consequently exports of maize virtually ceased for the rest of the war period. Table 20 of Appendix A shows that just over two hundred thousand bags of maize were exported to Holland. In view of the shortage within South Africa, which necessitated rationing of available supplies, this export must have been under a contract previously entered into. A little maize, as Table No. 20 shows, left South Africa in 1943 and 1944, most of it going just across the border to Portuguese East Africa. By 1945 the maize export had fallen to 478 bags, of which 442 bags were destined for Southern Rhodesia. By 1946 the war was over and more maize could have been exported if only a surplus had been available. Of the 10,931 bags that left South Africa almost all went to South West Africa. By 1947 the South African maize position was desperate and 4.5 million bags of maize had to be imported during the first six months of the 1946-47 season. It seems surprising, therefore, that 395,870 bags were exported to Southern Rhodesia. However, as that country also suffered from a shortage of maize at this time, this export was more of a good

22) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 53.

neighbour act than anything else.

By far the most interesting information contained in Table No. 20 comprises the figures for the second half of the war. The third part of this table shows the figures for the exports of maize meal and indicates that from 1942 to 1945 a fair amount of maize meal was exported to Egypt, a country which had not previously featured as a buyer of South African maize or maize products. Further research by the writer revealed that this maize was exported to Egypt at the request of the South African troops who were at that time campaigning in the Western Desert. (See Footnote 23)

From the above it therefore appears that with minor exceptions, brought about in most cases by necessity, the South African export of maize and maize products more or less ceased during the war years and immediate post war years. This was occasioned at first by the shipping difficulties encountered. However, even if there had been no war and no shipping difficulties, there would have been very little export trade, because of the poor crops during these years.

23) The writer contacted the Mealie Industry Control Board in Pretoria in an attempt to determine why this maize meal was exported to Egypt, but their chief statistician, Mr. Malherbe, could not furnish any reason for this. The writer then contacted Mr. Kahn of Kahn and Kahn (Pty.) Ltd., grain exporters of Johannesburg. Mr. Kahn remembered the exporting of the maize meal during the war years very well, and stated that it was sent to Egypt to provide the South African troops, who were stationed in Egypt at the time, with their regular mealie meal porridge breakfast. On the suggestion of Mr. Kahn the writer subsequently also contacted Mr. Nicole of Louis Dreyfus and Co. Ltd., another grain exporting firm. Mr. Nicole confirmed that Mr. Kahn was right and that the mealie meal was exported to South African troops stationed in Egypt. He added, however, that it was not the white, but the African and coloured South African troops who had demanded their regular plate of mealie meal porridge.

Summary

By far the most important event during the 1937/47 period was the implementation of the 1937 Marketing Act. This Act made provision for the establishment of Control Boards for agricultural products. Throughout this period the Maize Board operated on a trial and error basis. At first it had to regulate the export of maize on a permit system, after it had given due consideration to certain other factors, such as local requirements and a suitable carry-over to the following season. It compelled local consumers to pay more for their maize than the price at which maize was being exported, by imposing a levy on all the local sales of maize. This levy was subsequently used to compensate those who had exported maize at a loss.

The Board was also given the right to enter the local maize market as a buyer and seller of maize. It was essential that it had this right if it were to guide producers and consumers towards the target prices it had set for them.

The Board insisted that all those who traded in maize submit to it a complete record of all their maize transactions each month. It would have been impossible for the Board to have a complete picture of the country's maize position at any one moment if it did not have these statistics at its disposal.

In spite of all the additional powers the 1937 Marketing Act gave the Maize Board, it was still encountering the same difficulties that were present under the 1931 Mealie Control Act. It still had to rely heavily on a number of estimates concerning both production and consumption which had to be made in advance of the harvesting of the season's crop. If in any one season

these estimates were inaccurate the success of the whole scheme was jeopardised. The season by season review of the Maize Board's operations showed that it operated for a number of years before it eventually introduced the one-channel marketing scheme. In fact, it was only in the 1944/45 season that this very important step, which is today one of the corner stones of the whole maize marketing scheme, was taken.

It is interesting to observe that the main reason for the introduction of the one-channel scheme was not to obtain more efficient control of the marketing of surplus maize, but the acute shortage and therefore the very careful rationing of the very limited supplies that were available at that time, that necessitated the introduction of the one-channel scheme.

The establishment of the Maize Board took away from the co-operative associations two of their main functions. It was now no longer necessary for co-operative associations to control the flow of maize to the market in order to stabilise the maize price, nor was it necessary for them to find markets for the maize that they received from their members. This change did not, however, destroy the co-operative association movement, in fact, rather the opposite happened and they became more and more important as the agents of the Maize Board. The growth in the amount of maize they handled, is illustrated by the fact that for the 1938/39 season only 30% of the country's maize crop was marketed through co-operative associations, while at present about 75% of all the maize produced is marketed through the co-operative associations.

It should, however, not be forgotten that, while the establishment of the Maize Board did stimulate the growth of the co-operative association movement among maize

producers, it is also a fact that the co-operative associations contributed in no small way to the efficient functioning of the Maize Board.

In spite of the very poor prices obtained for South African maize on the foreign markets, the export market for South African maize was very active for the years 1937 to 1940. After this latter date, however, partly because there was very little shipping space available for maize, and partly because of very poor maize crops in the years that followed, virtually no maize was exported for the remaining years of the 1937-47 period.

CHAPTER VI

The Marketing of Maize

The One-Channel Marketing Scheme

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A. Introduction

For the application of the one-channel marketing scheme for maize the Republic is divided into three areas, namely areas A, B and an exempted area. The parts of the Republic that fall into each of these areas have already been given in Appendix B, Section I. The one-channel marketing scheme means that all maize produced in area A can be marketed only through the Mealie Industry Control Board. (See footnote 1)

While the one-channel scheme was introduced only in March 1944, the ideal of selling maize through one central agency had been cherished by organised maize growers as far back as 1908.²⁾ At that time the Co-operative Societies Act was passed by the Transvaal Government, which also undertook to establish and maintain for one year only, a Central Agency, through which all the co-operative associations could market their maize. The Government believed, and the co-operative associations agreed, that, once such a Central Agency was firmly established, it should be run by the co-operative associations themselves. Subsequently this Agency was converted into a private company and operated by the co-operative associations, who were its shareholders, until the Co-operative Societies Act was passed in 1922, when it was registered as a central co-operative company, in which manner it

1) Area A consists of the provinces of the Transvaal and Orange Free State together with the magisterial districts of Vryburg, Mafeking, Taung and Warrenton.

2) Report on the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 59.

continued to operate until it went into liquidation in 1934. In the same way the Central Agency, "Uniegraan", that was established in 1936 by the co-operative associations, acted as a seller of all the maize of its members and it was hoped that, at some future date, it would be in complete control of all maize sales. But, in spite of the compulsory clause, (See footnote 3) introduced into the Co-operative Societies Act of 1925, the one-channel ideal did not become a reality, as many maize producers still remained independent of all co-operative association activity. However, the idea of one-channel selling once again came to the thoughts of many of those who supported it, when the Marketing Act came into being in 1937.

In 1941 the first scheme under the Marketing Act, for the one-channel marketing of maize, was submitted by the Mealie Industry Control Board. The scheme was, as laid down in the Act, referred to the National Marketing Council, whose business it was to submit a report on the scheme to the Minister of Agriculture.

The Marketing Council found that the proposed scheme was to be regarded as a permanent, long range one, whose purpose was to bring about a radical change in the marketing of maize. The first question to which the Council required an answer, was whether the proposed one-channel scheme would actually be of benefit to the

3) The compulsory clause states that if, in any province district or area, seventy-five per cent of the producers of a particular agricultural product, provided they produce seventy five per cent of the total crop, are members of a co-operative association, the Minister may, at the request of such an association, compel all other producers of that product in that province, district or area, to sell their product through the co-operative association, whether they be members of such an association or not - Clause 17(1) of Act 38 of 1925, p. 608. Statutes of the Union of South Africa, 1925.

producer, by insuring that he would, as a result of the scheme, receive a better price for his maize, or alternatively, a more stable income, than was the case in an open market system.

A considerable portion of the annual maize crop does not come on to the market, but is consumed on the farms. The farmer's return is, therefore, determined by the price that he obtains for that portion of his crop that he does sell. In normal years a fair percentage of the marketable crop has to be exported as there is a surplus over local requirements. Over the price obtained for this exportable surplus no control scheme could have any influence, as South African maize exports are only a very small part of all the maize sold annually on the world markets. Therefore, the one-channel scheme could not possibly claim that it would benefit the producer by obtaining for him in the foreign market a better price than he would normally get there. The only way in which the export price could be improved by local action, would be by the South African Government lowering the export charges, over which it had some control, but this, of course, in no way depends on the marketing system being used.

The National Marketing Council stated in its unpublished report⁴⁾ that, if the proposed one-channel scheme could not obtain a better export price for the producer, the only remaining possibility was that a full control of supplies would realise a better price on the local market. This the one-channel scheme could of course do, if it developed a more efficient marketing technique, that would reduce marketing costs, but, at the same time, it must be remembered that the local maize price had already been maintained for a number of years at an artificially high

4) Report No. 44A of the National Marketing Council.
(Unpublished), 1942.

level above the export price. This higher price was, in fact, already the result of Government policy, which in turn depended on a number of factors, and which had the effect of transferring income from the pockets of the consumers to those of the maize producers. Certainly this Government policy could not be influenced by the proposed one-channel marketing scheme to the further advantage of producers. If the Government did increase the benefits to the maize producers, it would not be due to the fact that all maize was now sold through one-channel.

The Marketing Scheme could, however, bring about greater stability by fixing prices but, to fix prices for a season or longer did not require the implementation of a one-channel scheme, for in fact, price fixation had already taken place without the one-channel scheme.

The National Marketing Council therefore concluded that, as far as prices to the producer were concerned, a one-channel selling arrangement could be superior to the existing control system, only if it succeeded in reducing the distributive margin.⁵⁾ The Council went further to point out that this would mean the elimination of some middlemen, such as the grain brokers, and a reduction in numbers of the numerous wholesale and retail distributors, who were available. This latter fact (a reduction in wholesale and retail distribution) was, however, not contemplated by the scheme at all. Therefore the only possible saving which could have been brought about by the one-channel scheme, was not to be explored. The Council, therefore, concluded its examination of the proposed scheme by stating that the scheme would definitely not be able to raise producers' prices for maize above those already achieved with

5) Report No. 44A of the National Marketing Council.
(Adapted). (Unpublished), 1942.

Government assistance. Consequently the Council could not lend its support to the claim, frequently made, that one-channel sale of maize, along the lines contemplated, would give producers a higher price for their product. Some benefit could be conferred on producers (or consumers) only if the distributive system were to be re-organised as part and parcel of a one-channel scheme. As stated, the promoters of the scheme did not intend to embark upon such an endeavour. 6)

The above were the findings of the National Marketing Council during 1942 with regard to the proposed one-channel marketing scheme for maize. There can be very little doubt that the Council was quite certain, in its own mind, that the introduction of such a scheme would be of little, if any, benefit to the producer. However, in spite of this very formidable opinion, the one-channel scheme was introduced in 1944. In 1946, after the scheme had been in operation for eighteen months, the Council again had an opportunity to express its views on the merits of the scheme. On this occasion the Council pointed out that the dominating factor, which persuaded the Minister to agree to the introduction of the scheme, was the great scarcity of maize at the time, which necessitated the restricting of consumption, and the rationing of available supplies. The Council admitted that, under such extraordinary conditions, there existed a good case for giving the Maize Board the necessary powers to have full control over all supplies of maize that came to the market. Only then would the Board be able effectively to control distribution and so to ensure a just distribution of the very limited supplies. The Council hastened to point out, however,

6) Report No. 44A of the National Marketing Council.
(Unpublished), 1942.

that under such circumstances, the one-channel marketing scheme was in fact an emergency war-time measure, introduced primarily to deal with shortages created by unusual circumstances. Had there been no war at the time it seems certain that South Africa would have avoided the rationing of maize by entering the foreign market as a buyer and not as a seller of maize as she had so often done in the past, and so the one-channel marketing scheme would have been unnecessary.

In case it should now be thought that by 1946 the National Marketing Council had accepted the one-channel marketing scheme for maize as a necessary, permanent evil, with which it would have to learn to live, it ended this section of its report with a paragraph that left the reader in no doubt whatsoever as to how it felt about the one-channel scheme. Its report stated: "The Council is therefore convinced that in order to attain stability and security for the maize industry under the Marketing Act the continuance of such a fully-fledged one-channel marketing scheme is unnecessary. It will, in fact, prove to be an obstacle to the attainment of those objects." 7)

In another section of the above report the Marketing Council went further and expressed concern about the marketing of maize in future years, when the shortages of the war years once again give way to surpluses that would have to be exported. In this connection it pointed out that, if maximum sales were to be achieved under conditions of surplus, much would have to be done to create markets, and that this would only be possible with energetic salesmanship, which the Maize Board, if it were still burdened with a centralised one-channel scheme, would not be able to provide. The Council also believed that, while such

7) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 61.

a one-channel scheme would be ideal for the marketing of wheat, it was not nearly as suitable for maize, because this product had a much wider market than wheat and consequently the one-channel scheme would not be flexible enough to give satisfactory results in such a wide market. It therefore recommended that, as soon as adequate supplies of maize were once again available, the one-channel scheme should be modified, so that it possessed greater flexibility.

The full one-channel marketing scheme was introduced during the 1944/45 season for the first time. In the first instance it was only for a trial period of one year, but, except for minor amendments over the years, the scheme has remained as originally formulated.

B. The Main Objects of the Scheme.

The main objects of the scheme were and still are as follows.

1. All producers must obtain a fixed price for their maize as determined by the Mealie Industry Board and approved by the Minister.
2. Each consumer of maize must pay his share of handling and storage charges on the maize he buys.
3. All consumers of maize must be assured of an adequate supply at predetermined prices. 8)

C. Method of operation of the one-channel scheme.

Under this heading there will be two main sections, and various sub-sections. The two main sections will deal with 1. The Board of Control. 2. The application of the scheme. In the first of these sections the composition, powers and duties of the Board, together with its functions of appointing agents and registering millers will be discussed. In the second main section the various sub-sections will cover production, handling, storing, consumption, exports, imports and the financing of the maize trade.

8) Annual Report for the Mealie Industry Control Board for the year 1949/50, p. 31.

1. The Board of Control

Introduction

The one-channel scheme applies to Area A only,⁹⁾ which area produces approximately 98% of all the maize of the Republic.

At the beginning of each season the Board recommends and the Minister accepts or refers back for further consideration, a price to producers of maize for that season. In addition to the maize price, other prices, including maximum millers' resale prices for maize, maize meal and other milled maize products are then determined. In order to render producers' prices effective, and furthermore to give the Maize Board full control over available maize supplies, the Board appoints agents in area A. Producers in area A are compelled to deliver at fixed prices to these agents the maize they wish to sell. Naturally an agent cannot compel a producer to deliver to him any maize that he wishes to keep back for his own use.

Through its agents, the Board is, therefore, the sole buyer of maize from producers in area A. It is important to appreciate that the Board itself does not undertake any of the physical handling and storage of maize, but that this is all done on its behalf by its agents, who also await the Board's instructions with regard to the eventual disposal of the maize. For the services they render the agents are remunerated at predetermined rates.

In area A there are three types of agents, viz.: co-operative associations, millers and merchants, or trader agents as the Board prefers to call them. They

9) "Brief Review of the Maize Industry in South Africa." A publication of the Mealie Industry Control Board, Pretoria, December, 1964, p. 6.

must all render to the Board monthly returns that keep it informed of the quantities of maize at each point. This information is naturally of great value in helping the Board to ensure an orderly distribution and marketing of maize stocks. If, however, a producer finds that there is a consumer in his neighbourhood, who wishes to buy maize, but that there is no agent of the Board in the vicinity, the producer may apply to the Board for a permit enabling him to supply the consumer direct. This permit system not only cuts out unnecessary transport costs, but it also serves two other purposes, viz.: (1) it ensures that the necessary Stabilisation Fund levy is collected and (2) it protects the interests of agents, who have to lay out considerable amounts of capital to ensure that they have the necessary facilities for the efficient handling and storage of maize.

Although area B does produce some maize, it is usually not sufficient to meet the demand for maize in that area. In fact, it is estimated that the annual inflow of maize from area A to area B is approximately 500,000 to 750,000 bags.¹⁰⁾ According to the Board's regulations, all producers of maize in area B may sell their maize only to merchants registered with the Board. However, unlike the merchants in area A, who purchase maize from producers on behalf of the Board, the merchants in area B are permitted to purchase maize for their own account. They therefore naturally have the right of disposal over the maize they have purchased for their own stocks. In area B producers are liable for certain levies on the maize they sell. These levies must be collected on behalf of the Board by the registered merchants who must also submit to the Board monthly

10) "Brief Review of the Maize Industry in South Africa."
A Publication of the Mealie Industry Control Board,
Pretoria. December, 1964, p. 5.

returns of their transactions in maize.

In the exempted area, which comprises the rest of the Republic very little maize is annually marketed by producers, and because of this, the area is not subjected to any of the control measures that are applicable to either area A or B. Producers are therefore free to sell their maize to whom they wish and buyers do not have to submit returns to the Board, nor do they have to be registered with the Board. The only way in which producers in the exempted area are affected by the Board's regulations at all, is that, when they wish to sell any of their maize in areas A or B, they are liable for, and must therefore pay, the same levies as their producers in areas A and B pay when they sell their maize.

With the implementation of the control explained above and the division of the Republic into areas, the Board is in a position, which enables it to exercise complete control of the bulk of the maize crop each year. To a very limited extent the agents of the Board can sell maize without reference to it, but orders for large quantities of maize have to be placed directly with the Maize Board, which then instructs its agents to make deliveries. At all times one of the objectives of the Board is to keep the cross haulage of maize at a minimum.¹¹⁾

While the Board fixes prices, it never concerns itself with the physical retailing of maize or the disposal

11) The cross haulage of maize is avoided or reduced by the judicious utilisation of available stocks. For example, if the Board finds that it has surplus maize stocks at, say, Lichtenburg, while, due to drought conditions there has been a crop failure in the Ermelo district, and a partial crop failure in the Potchefstroom district, the Board will not immediately rail all surplus maize stocks from Lichtenburg to Ermelo, only to find later in the season that some of the maize delivered to Ermelo must now be re-railed to Potchefstroom. As the Board has complete control of all maize stocks in area A, it can decide in advance how much of the surplus maize at Lichtenburg must immediately be railed to Ermelo and how much must, later in the season, be railed to Potchefstroom.

of milled products. In fact, it confines itself to arranging the execution of wholesale orders. Because maize merchants, unlike the co-operative associations, very often had very little storage space and were therefore likely to stack their maize stocks in the open, the Board found it necessary to satisfy early season orders from the stocks of the merchants and only later in the season to start disposing of the stocks held by the co-operative associations. The Board has, however, no fixed pattern of operation and simply does its best to satisfy local purchasers from the nearest source, at the same time taking care that no maize is lost due to a lengthy period of storage in the open.

The early years of the one-channel scheme were, however, years of shortages or in which the crop was only just sufficient to meet local demands. However, the 1947 Marketing Act Commission anticipated that the years of surplus production would again return and that it would then be a very difficult task to fix prices in advance for the whole season. The Commission therefore recommended the establishment of an equalisation account out of which possible deficits could be met. It also pointed out that it would, in years of surplus production, be necessary for the Government to assist the Board to finance carry-overs, if its reserve funds were inadequate.¹²⁾

The 1947 Commission was also perturbed about the fact that the Maize Board was fixing prices for maize on a free-on-rail basis so that those maize producers, who had paid high prices for their land, because it was near the market, no longer received a better price than the far-off producer. This the Commission stated, was unjust. The Commission ended its report with the comment that the

12) Report of the Marketing Act Commission (1947);
U.G. 48 - 1949, p. 42. (Adapted)

Commission agreed with the Marketing Council that, at least some of the rigidities involved in the one-channel scheme, were both undesirable and unnecessary, and it supported the Marketing Council's view that modification should be introduced, when the supply position permitted. The specific modifications, which the Marketing Council suggested, were, however, open to criticism. It appeared to the Commission that a workable solution was to be found under the one-channel scheme, if agents were allowed greater scope to accept and execute orders under the general control of the Board. If, in addition, the Board's policy in appointing agents were to be modified, a further degree of elasticity would be imparted to the scheme.¹³⁾

This view was very strongly supported by the Distribution Costs Commission, which stated in 1947, in connection with maize, that the greatest possible flexibility in distribution should be fostered, and therefore the fullest latitude should be given to ordinary trade channels to assist in distribution. Only if freer competition were found to give rise to the exploitation of consumers - the majority of whom were both ignorant and poor - should the determination of retail prices be adopted.¹⁴⁾

1.(a) The Composition of the Maize Board.

At this stage a closer examination of the composition, rights and duties of the Board appears to be justified. Under the Mealie Control Amendment Act of 1935 and also under the first Mealie Control Scheme, promulgated in terms of the Marketing Act of 1937, the Mealie Industry

13) Report of the Marketing Act Commission (1947);
U.G. 48 - 1949, p. 43. (Adapted)

14) Report of the Distribution Costs Commission;
U.G. 28 - 1947, p. 37. (Adapted)

Control Board consisted of 15 members. Of these, eight members represented producers (there being four Board members, who represented producers, who were members of co-operative associations, and four further Board members representing producers, who were not members of co-operative associations). Therefore, from the very beginning, the producers' representatives, provided they voted en bloc, could dominate the decisions of the Board. The other seven members represented the very scattered interests of Mealie Merchants, Brokers, Millers, Exporters, Stock-feeders, Consumers and the Department of Agriculture, each having one representative on the Board. In addition to the above, provision was also made for the appointment to the Board of certain advisory members, provided they were nominated by the Minister. Also, the Board could co-opt advisory members. In those early days there were four advisory members, one each from the Department of Agriculture, the South African Railways, the Department of Native Affairs and the High Commission Territories.

During the 1939/40 season the composition of the Board was changed, and the total membership increased from 15 to 19. This was done by increasing the number of representatives of co-operative association producers from 4 to 6 and also the representatives of non-co-operative association producers from 4 to 6. The producers' representatives therefore completely dominated the Board, as they comprised 12 members out of a total of 19. At the same time the advisory members increased from 4 to 5 as the Department of Agriculture now had two advisory members.

In the 1945/46 season it was decided to dispense with the representatives of the Brokers and the representative of the Exporters. The consumers and the mealie

traders, on the other hand, each received an additional representative on the Board and were, therefore, from this date represented by two members each.

The Board's membership was further increased to twenty-one members in 1957. On the 15th of March 1957 the scheme was amended to make provision for the control of kaffircorn and the number of Board members was increased to twenty, but during July 1957 the membership was increased to 21. The composition of the Board at that date was therefore as follows:-

- a. Six members representing those producers of maize and kaffircorn, who were members of co-operative associations,
- b. six members representing those producers of maize and kaffircorn, who were not members of co-operative associations,
- c. two members representing the consumers of maize and kaffircorn,
- d. two members, representing maize and kaffircorn traders,
- e. two members representing maize and kaffircorn millers, and
- f. one member representing stock-feeders, one exporters and one the Department of Agricultural Economics and Marketing.

Since that date the composition or the representation on the Board has not changed and today it still stands as detailed above.

The representatives on the Board of the various bodies are appointed as follows.

1. Representatives of producers who are members of co-operative associations are nominated by those co-operative associations who, in the opinion of the Minister, are concerned mainly with transactions involving maize and maize products.

2. Non-co-operative association representatives on the Board are nominated on a provincial basis by associations in their respective provinces, who, in the opinion of the Minister, represent maize producers in that province. Representatives can only qualify for nomination, in the first instance, provided they are definitely not members of maize co-operative associations. The provincial division amongst these members is at present such that the Orange Free State and Transvaal each have two representatives and Natal and the Cape Province each have one representative.
3. The stock-feeders' representative on the Board is nominated by the South African Agricultural Union.
4. The Minister himself nominates the consumers' representatives after he has consulted the Consumers' Advisory Committee. At least one of the representatives of this group on the Board must be a member of the Consumers' Advisory Committee.
5. The Millers' representative is nominated by an association that, in the opinion of the Minister, is representative of the maize millers of the Republic. If such an association is not in existence at the time that the nomination has to be made, then the nomination can come from local associations of millers, after they have reached agreement amongst themselves.
6. One of the maize traders' representatives is nominated by an association that, in the opinion of the Minister, represents maize buyers in the Republic or, if no such association exists at the time of nomination, then by local associations of maize buyers, after they have reached agreement amongst themselves. The other representative is nominated by the Minister after consulting with the above associations.
7. The representative of the Department of Agriculture is nominated by the Minister. This representative must be a member of the Department of Agriculture.
8. The Minister may also appoint one or more Civil Servants and one or more officials of the South African Railways Administration to attend one or more meetings of the Board as advisors. Such a member enjoys the same status as the other members of the Board, but does not have the right to vote at Board meetings.
9. The Board itself also has the right to co-opt not more than two further members who will act purely in an advisory capacity. 15)

15) A.P. Scholtz: Die Bemaking van Mielies in Suid-Afrika. Unpublished thesis, Potchefstroom University for C.H.E., Potchefstroom, 1956, p. 67.

Members of the Board are appointed for a period of two years in the first instance, but may then be re-appointed. The two year rule does not, however, apply to the representative of the Department of Agriculture who, once appointed, holds office at the State President's pleasure. 16)

With the permission of the Minister, the Board may, from time to time, appoint from its members various committees to assist in the proper functioning of the scheme. These committees are appointed to investigate specific matters and to submit their findings and recommendations to the whole Board. In addition to these temporary committees there are also several standing committees, viz.:

- a. the Finance Committee, that deals mainly with matters such as temporary staff appointments, staff promotions, increases and regrading of salaries, appointment and cancellation of sub-agents to maize merchants and any other matters which require urgent attention, but which do not involve a deviation from current policy,
- b. the Farm Policy Committee that originally kept an eye on the pilot research farms that the Board acquired, (which farms have, however, since ceased to be under the control of the Board and now come directly under the control of the Department of Agriculture),
- c. the Export Committee that deals with all matters concerning the export of maize, maize products and kaffircorn and its products,
- d. the Kaffircorn Committee that is consulted by the Board mainly on matters of an administrative and technical nature, relating to kaffircorn. 17)

1.(b) The Powers of the Board

Various sections of the scheme give the Board certain general powers, which it requires to operate effectively. In addition to these general powers, however, it also has specific powers as follows.

16) Mealie Industry Control Board Report for the Year ended 30th April, 1958, p. 2.

17) Ibid.

1. It may appoint any staff and hire any property it may require to enable it to carry out its duties effectively, although it may not acquire any fixed property without the Minister's consent.
2. Out of its income it may pay any expenses it has incurred in the course of the operation of the scheme.
3. Provided the Minister gives his consent, it may borrow money and use it for the purpose of achieving the objects of the scheme. It may also use funds obtained from any levies imposed on maize or maize products under section 22 of the scheme for any purpose which, in its opinion, will be to the advantage of persons interested in maize or maize products.
4. The Board may accept any money or property given to it as a donation by any person. It may, however, use such income or property only in a manner the Minister approves.
5. It may assist with a grant, loan or otherwise, any person or organisation with the object of preserving, processing, storing or conditioning of maize or maize products. It may also assist financially or otherwise in any research work that may bring about an improvement in the production, processing and marketing of maize and maize products.
6. The Board may, if it so wishes, establish an information service to advise maize producers about marketing conditions generally or about conditions on a particular market at a specific time.
7. It may co-operate with any person to perform a task that the Board wishes to perform on its own behalf or on the behalf of any other similar Board.
8. The Board must advise the Minister on the following:-
 - a. on conditions in respect of grades, quality, standards, packing methods and the marking of any product to which this scheme relates, or any receptacle containing the product, subject to which any such product may be sold or imported for sale,
 - b. the prohibition, control or regulation of importation or export of such product.
 - c. any matter concerning or related to the marketing or the processing of such a product.
9. It may purchase maize and maize products (at such prices as it may determine) with the Minister's approval.
10. The Board may treat in such a manner as it may deem fit, grade, pack, store, adapt for sale, advertise, transport and insure any maize or maize products which it has purchased. It may

also cause to be ground, crushed, gristed or otherwise processed any maize it has purchased.

11. It may sell maize in the form originally purchased, or it may partly or completely process such maize before it resells it. Furthermore, it may withhold from future markets, part or all of its purchases of maize.
12. It may also act as an agent for the receipt and sale of maize and maize products.
13. Provided the Minister approves, it may appoint agents, whose assistance it thinks it requires to help it carry out its functions. However, if any person who has applied to the Board to be appointed as its agent has been refused such an agency, or if the appointment of any person as agent of the Board is terminated, then the applicant has the right, after he has deposited with the Secretary the sum of thirty rand, to appeal to the Minister against such a decision. The Minister shall also decide how the thirty rand deposited shall be disposed of.
14. Once again, provided the Minister approves, the Board may prohibit any person from processing maize or manufacturing or processing any maize products of any class, on behalf of anyone, unless a permit has been issued by the Board permitting such action.
15. Also, with the approval of the Minister, the Board may fix the fees to be charged by anyone for the processing of maize and for the processing and manufacture of maize products.
16. The Board can demand that anyone concerned with the production, threshing, shelling, marketing, grinding, crushing, gristing or otherwise processing maize, or maize products, supply to it such information as he may have available and as the Board may specify.
17. Provided the Minister approves, the Board may decide what records should be kept and the period for which such records should be retained and the returns such a person or group of persons, should render to the Board and at what periods, and in what manner such returns should be made to the Board by any person producing or dealing, in the course of trade, with maize and maize products.
18. The Board may prohibit any producer of maize from selling maize or maize products of any class or grade, or in any quantity or percentage which the Board may from time to time fix, except through the Board or such person as may be appointed by the Board.
19. It may also prohibit any producer of maize from selling any maize or maize products to anyone, who is not registered under section 28 of the scheme, except under the authority

of a permit issued by the Board, and subject to the conditions specified in such a permit.

20. Provided the Minister approves, the Board may, from time to time, prohibit any producer of maize or maize product, from selling his product, except in such class, grade, quantity or percentage as the Board determines or except for such purposes as the Board has defined.
21. The Board may prohibit anyone from buying, selling, using, manufacturing or processing any maize and maize products in any class, grade or quantity determined by the Board, except under the authority of a permit which may be issued by the Board, subject to any conditions which it may lay down.
22. The Board may also prohibit the purchase or sale or export for sale of maize or maize products, except under permit, the issue of which shall be at the discretion of the Board. Furthermore, such a permit may be cancelled by the Board if the holder thereof has failed to comply with the conditions specified therein, or any regulation made under the Act. However, if the Board refuses to issue such a permit, or subsequently cancels the permit, the holder thereof may appeal to the Minister against such a decision of the Board, and the Minister may, after consideration, confirm, set aside or vary such a decision. 18)

1.c. Duties of the Board

While a Board such as the Maize Board has so many duties - many of a minor nature - that it is not possible to list them all, the following may be said to be the most important of these.

1. It must determine and apply reasonable prices for maize for the various groups of individuals, producers, middlemen and consumers that are directly or indirectly affected by the policy of controlled marketing.
2. It must introduce and apply a proper system of grading according to quality, for maize and maize products, so that both producers and consumers can benefit from the price differences arising from quality variations.
3. It must make the necessary arrangements for the orderly marketing of the crop by:-
 - a. seeing that its agents undertake the assembly of the crop on a reasonable and efficient basis,

18) Proclamation No. R.113 of 1961. Government Gazette Extraordinary No. 6668, pp. 9, 10, 11.

- b. seeing that the portion of the crop that is not consumed immediately is stored in a safe and hygienic manner, and
 - c. seeing that the wholesale distribution of maize is carried out as speedily and efficiently as possible.
4. It must ensure that the country's maize requirements are met in the best and most efficient manner. To achieve this, it must have a detailed knowledge of all distribution possibilities, as well as of exports and import possibilities.
5. Its price stabilisation policy must encourage greater productivity as well as the protection of natural resources, thus:-
- a. the prices the Board fixes, must take into account the general level of prices in agriculture, so that, as far as possible, there must be the co-ordination between the various branches of agriculture that is aimed at by the Marketing Act,
 - b. it must co-operate with the Department of Agriculture in the undertaking of research and the distribution of information to producers and so give a lead to the industry as a whole.
6. It must aim at applying the whole system of controlled marketing as effectively and as efficiently as possible. 19)

1.d. The Appointment of the Board's Agents

The appointment of the Board's agents, together with the registration of millers, forms a very essential part of this scheme for the marketing of maize. Therefore, before actually examining the scheme in operation, it is desirable that some attention should be given to the appointment of agents.

As already explained the maize Board is the controlling body, but does not itself do any of the physical handling required to move the crop from the producer to the eventual consumer. This, as has been

19) A.P. Scholtz: Op. cit., p. 69.

emphasised before, is where the agents serve the Board and as this is such a very important part of the marketing of maize, it is essential that those who are appointed as agents, should not only fully co-operate with the Board, but also that they perform their tasks in the most efficient manner possible. It should be observed that the Marketing Act Commission of 1947 fully agreed with this procedure, and stated that the appointment of agents by the Board must go hand in hand with the institution of the one-channel marketing scheme, which prohibited producers from selling maize, except to the Board or persons specified by it. For this purpose, the Board had hitherto employed the services of established trade channels and had not undertaken physical handling itself.²⁰⁾

When the one-channel scheme was introduced in 1944, it was indeed fortunate for the Board that those who were appointed as its agents, namely the co-operative associations, the maize merchants and, to a limited extent, the commercial millers, had already had some experience in the handling of maize. It would have been very much more difficult to have introduced such a scheme if inexperienced agents had had to be used. It was therefore easy for the Board to adopt a policy which permitted its agents to continue the functions, which they had previously performed. The only new policy which the Board had to formulate, was one that covered its procedure in the case of new appointments as agents. Perhaps the most difficult question for which the Board had to find an answer in this connection, was whether it would appoint most of the applicants desiring to be its agents, or whether it would impose some limit on the number of new agents.

20) Report of the Marketing Act Commission (1947);
U.G. 48 - 1949, p. 28. (Adapted)

On this matter the Marketing Act Commission of 1947 also had a great deal to say. It stated, that while it appreciated that, if there were indiscriminate appointments of agents, who perhaps would not observe the agency agreement, and so cause the whole scheme to break down, it was very much opposed to the creation of a closed field of agents. This could lead to inefficiency and ultimately make the Board beholden to existing agents, as it would then have no other channels of distribution.

The Board, however, believed that restricting the number of agents would keep costs down, but the Commission considered that this was an inadequate reason for limiting the number of agents. The Commission therefore recommended that the policy rigidly to restrict the number of receiving agents should be modified. Furthermore, the Commission stated that one type of agent should not be preferred to another. It made this statement, because it had received complaints that the co-operative associations were being preferred to the private traders, simply because they were owned and run by the producers. The Commission said that it would, however, deprecate the use of the powers of the marketing boards, in such a manner as to give preferential treatment or recognition to the co-operative associations rather than to private traders. The Commission believed that the Board must act impartially, it being their duty to take only costs and efficiency of service into account. 21)

Over the years the co-operative associations never ousted the merchants and registered millers, who wanted to act as agents for the Boards, though the co-operative associations did become by far the most important body of agents. It is essential that there should be other types

21) Report of the Marketing Act Commission (1947);
U.G. 48 - 1949, p. 28.

of agents in addition to the co-operative associations, as this gives the producers a choice of agents to which they can deliver their crops, not that a producer has much of a choice if he already owes the co-operative association money for purchases that he has made on credit through it. The choice of agents by the producer however generates competition amongst the various types of agents and prevents any one type from becoming the only type of agent that the Maize Board has. However, while competition is desirable, it must also be borne in mind that for the effective working of the one-channel scheme, the number of agents must not be too large, as it would then be extremely difficult for the Board to control them all. At the same time each new application must be considered on its merits. In later years new applicants were required to satisfy certain conditions before they were considered. For example, the applicant had to have storage space for at least 60% of the total quantity of maize he would handle during the season, and in any case, he had to have storage for at least 20,000 bags.

The Board naturally does everything possible to prevent the double handling of maize. Therefore, in the case of maize consigned to millers it is desirable that such a consignment must come straight from the producers. Thus, where established agents cannot supply all the maize required, it is found that Commercial Millers in these production areas, are permitted to act as agents for the Board. These millers may not have receiving depots in any other areas, except the ones in which they are situated.

The Board also has the right to stop any agents from opening up depots in any area in which they are not established. This regulation has been subject to a great deal of opposition, especially from the co-operative

associations, but in spite of the opposition, it is essential that the Board should have this right, provided it does not apply it indiscriminately. The limiting of the registration of other agents would have been pointless unless the Board could, when it deemed it desirable, implement this regulation.

To accommodate shopkeepers and smaller merchants in the production area, the Board originally permitted its agents to register smaller buyers as sub-agents. The appointment of these sub-agents had to be approved by the Board, but the main agent was responsible to the Board for the application of the Board's rules and regulations by the sub-agent. These sub-agents had to deliver their maize purchases to the main agent or to his depot, and such purchases were then entered as purchases from producers in the records of the main agent. The Board subsequently decided that, as from the 1955/56 season, all sub-agents had to register direct with it and that they would be registered as retail agents.

l.e. The Registration of Millers

"Manufacturers of primary maize products in the Republic are required to be registered with and to submit monthly returns of their transactions to the Board. The Board can accept or reject applications for registration, in accordance with such conditions as it may deem necessary. There are two classes of millers, namely gristing millers, who grind only for customers and commercial millers who manufacture and sell maize products." 22)

Section 28(b) of the original Mealie Control Scheme states that all processors of maize had to be registered

22) Mealie Industry Control Board Annual Report for the year ended 30th April 1962, p. 3.

with the Board. Producers who processed maize on their farms for their own use were, however, exempted from such registration.

During the period 1944 to 1946, when there was an acute shortage of maize, the Board's policy was to restrict the number of new millers, but it did so, more with the view to rationing short supplies, than to rationalizing the milling industry. However, when supplies of maize became more plentiful after 1946, the Board discontinued this policy.²³⁾

Up to the season 1945/46 the Mealie Industry Control Board did not distinguish between commercial millers and gristing millers. However, at this date it became apparent that it was desirable to distinguish between these two groups from the date of registration. It is not difficult to appreciate that one of the reasons why it was better that these two groups should be registered separately, was because it was necessary to follow a different policy in connection with each group.

In the case of commercial millers it was at one stage suggested that further increases in their production capacity should be strictly limited, as it was thought that, during the season 1951/52, only 50% of the total capacity of the existing roller mills was being utilised. Naturally, if each miller's output was much smaller than **he** was capable of handling, the cost of production per unit would be much greater, because certain expenses incurred in connection with the output were fixed, irrespective of the number of units going through. It was, therefore, desirable that each mill should operate as near to full capacity as possible, as this was the only

23) Report of the National Marketing Council on the Marketing Boards, 1938 to 1946; U.G. 27 - 47, p. 65.

sure way of reducing the cost of production per unit. If, therefore, the number of commercial millers was, at any one moment, too great, there were two possible courses of action open, if a reduction in cost of production per unit was desired.

The first course would be to cancel the registration of some of the commercial millers already in operation - a most undesirable procedure, as it would be extremely difficult to know which registrations to cancel. The alternative course of action would be to adopt the long term approach, and to do nothing for the time being. If this procedure were adopted, not only would no existing registration be cancelled, but also no new commercial millers would be registered. Over a long period, as production increased, the demand for the services of commercial millers would, however, increase and therefore the capacities of existing millers could be more fully employed. In conjunction with this approach, it would also have been necessary to prevent already registered millers from increasing their capacities, because, if they were allowed to expand their capacities, the whole purpose of refusing or limiting new registrations would have been defeated. Capacities of existing millers could have been expanded at such a rate that the total capacity utilised, could have remained at a very low figure.

However, it was not during the 1951/52 season that the problem of over-capacity of commercial millers appeared for the first time. As far back as 1947 the Marketing Act Commission found itself confronted with this problem and expressed itself as follows: "The Commission considers that the grant of such powers (viz. restrictive licensing of processing industries), must be preceded by a searching investigation to establish whether or not marked economies will ensue. Most

supplies from other areas, and this would bring about an increase in the cross haulage costs.

The above policy, as applied to commercial millers, also fits in well with the general policy of the Board, whereby these millers in production areas can also be appointed as agents of the Board.²⁵⁾

According to the National Marketing Council's Report published in 1965, the Maize Board was still very concerned with avoiding the cross-haulage of maize, wherever possible, and it stated that the basic object of the registration policy of the Maize Board was to limit to a minimum transport costs, which represent an important item in the case of maize products. In order to eliminate cross-haulage as far as possible, the Board, in practice, registered as many mills in producing areas as are necessary to meet local demand. No new mill was, however, allowed in the producing or consuming areas, if an existing mill (or mills) within a radius of 20 miles could meet the demand. ²⁶⁾

The above report continued to state that the capacity of the maize mills was, however, not controlled, and therefore, although no new mill could be started without being registered with the Maize Board, there was nothing to prevent existing millers from expanding their mills' capacity to any amount. This is no doubt one of the reasons for the low rate of utilisation of available capacity. Other factors such as the distribution policy of the Maize Board and the variations, from year to year, in the size of the maize crop, also led to the

25) A.P. Scholtz: Op. cit., p. 74.

26) Report of the National Marketing Council on the Control Boards under the Marketing Act, 1950/51 to 1963/64, p. 29. (Adapted)

enlargement of the capacities of existing mills. (Footnote 27)

It was estimated by the National Marketing Council that the surplus productive capacity of the maize milling industry was still in the region of approximately 50%.

Because there was this surplus capacity available, it appears that it was only right that the Board should limit the establishment of any new mills. However, the Marketing Council also pointed out that, as the distribution of maize exerts a very important influence on the location of the mills and, furthermore, since possible changes to the distribution policy of the Maize Board are under consideration, it may become necessary in the near future to review the millers' registration policy of the Maize Board.²⁸⁾

Up to this point only commercial millers have been considered. In the case of gristing millers who process maize only on behalf of customers, the unit size of the mill is much smaller than in the case of commercial millers. (Footnote 29) Consequently applications for registration are usually fairly easily granted. (Footnote 30) Because the Board has always paid particular attention to the wants of producers as far as gristing millers are concerned, particularly the wants of African producers, who have very limited transport facilities at their disposal, it

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- 27) If the distribution policy of the Maize Board was such that it caused too much maize to be directed to certain mills, the capacities of those mills would naturally expand, while others, perhaps slightly less conveniently situated mills, would have idle capacity. Also if the maize crop was exceptionally large in an area, for a number of consecutive years, it would cause the capacities of the mills, in that area, to expand.
- 28) Report of the National Marketing Council on the Control Boards under the Marketing Act, 1950/51 to 1963/64, p. 29.
- 29) The majority of the customers of gristing millers are farmers who only have a few bags of maize ground at any one time for their own use.
- 30) Because it was desirable that the gristing miller should be near the maize producer, registration of a new gristing miller was fairly easily granted, provided there was not already another gristing miller in close proximity.

decided that, if the distances between such gristing millers were between 6 and 7 miles, the position was satisfactory. It did, however, also take into account other topographical factors before it finally agreed to a new registration.

The maize merchants that are found in area B are more or less on the same footing as the Board's agents found in area A. However, because the total maize production of area B is only a very small percentage of all the maize produced in area A, the transactions of the B area merchants are, comparatively speaking, on a small scale. The Maize Board permits these merchants in area B to buy and sell for their own account, a privilege not extended to its agents in area A. Usually all the maize that the merchants in area B buy from producers in that area is again sold to consumers in the area. In fact, area B invariably does not produce sufficient maize for its own requirements and a large quantity of maize must therefore be "imported" from area A for consumption in area B. Like the agents in area A, the maize merchants in area B are required to register with the Board and submit returns to it, showing their various maize transactions during each month.³¹⁾

2. The Application of the One-channel Marketing Scheme Introduction

The Mealie Industry Control Board was originally established for two main reasons:

- a. to stabilise the producers' prices for the various grades of maize, which was achieved by fixing the prices at the beginning of each season, and
- b. to ensure the orderly marketing of maize.

31) A.P. Scholtz: Op. cit., p. 75.

As the stabilisation of prices was mentioned first, it would appear logical that this topic should be the first to receive attention. However, the writer is of the opinion that the fixation of maize prices can be examined with greater success once it is appreciated how the marketing of maize, on an orderly basis, is executed. It is for this reason that orderly marketing will be the first to be discussed.

It should not be thought that the orderly marketing of maize was introduced only with the establishment of the Control Boards in 1937. Long before that date one of the chief aims and objects of the co-operative association movement was the orderly marketing of all agricultural products, because, even in those early days it was appreciated that prices of agricultural products could only be enhanced and stabilised, if there was orderly marketing of the products concerned. In Chapter II of this thesis it was stated that the agricultural co-operative associations were not entirely successful in their efforts to achieve orderly marketing, for it is a well known fact that co-operative associations must control a large part of the total crop, before they will be able to develop a system of orderly marketing for that crop. ³²⁾ In those preControl Board days the maize co-operative associations never managed to gain control over such a large portion of the crop that they could dominate the market.

When examining the marketing of maize, attention must be given to such facets of the overall problem as total production and the percentage thereof marketed locally, as well as the percentage of the total crop held back by producers for various reasons - the handling and

32) R.D. Tousley, E. Clark and F.E. Clark: Principles of Marketing; The MacMillan Co., New York, 1962, p. 321.

storage of the crop, and also the distribution of the total produced.

2.a. Production

This subject has already received a detailed analysis in Chapter II and for that reason will not be subjected to an intensive study again. There are, however, some facts that were not previously examined and, therefore, now deserve some attention.

As has already been pointed out, the provinces of the Transvaal and the Orange Free State, together with the magisterial districts of Mafeking, Taung, Warrenton and Vryburg in the Cape Province are referred to as area A and usually produce at least 95% to 98% of all the maize produced in the Republic. The following table clearly illustrates the importance of each of the four provinces in the production of maize. The table shows that the Cape Province produces quite a large amount of maize, but it must of course be realised that most of this maize is produced in the four districts mentioned above and that, if their production had to be subtracted from the total figures for each year given for the Cape Province, it would immediately be seen that very little maize is grown elsewhere in that Province.

Table No. I 33)

Production in bags of 200 lbs. each

	1963/64	1964/65	1965/66
Transvaal	32,061,000	24,897,000	23,604,000
O.F.S.	27,338,000	16,267,000	21,946,000
Cape Province	5,409,000	3,862,000	2,175,000
Natal	2,435,000	2,141,000	1,769,000
Total	67,243,243,000	47,167,000	49,494,000

33) All figures supplied by Mr. Malherbe, statistician of the Mealie Industry Control Board.

The table on the previous page clearly shows that the Transvaal is the biggest producer of maize. Both the Transvaal and the Orange Free State cover a very large area of land. The Department of Agriculture has subdivided the recognised maize regions of the Republic (the Transvaal and Orange Free State) into the following six agro economic regions.

1. The Transvaal Highveld Region that is made up mainly of the districts of Bethal, Heidelberg, Middelburg, Standerton and Springs and portions of the district of Ermelo.
2. The Northern Free State Region consisting mainly of the whole district of Heilbron, together with portions of the districts of Frankfort, Kroonstad, Lindley, Vereeniging and Vredefort.
3. The Caledon River Region made up of the districts of Ficksburg and Fouriesburg and parts of the districts of Bethlehem, Clocolan, Ladybrand, Senekal, Wepener and Zastron.
4. The Western Transvaal Region that includes the whole of the district of Delareyville and parts of the districts of Klerksdorp, Lichtenburg, Schweizer-Reneke, Ventersdorp and Wolmaransstad.
5. The North Western Free State Region which includes the districts of Odendaalsrus and Koppies, together with portions of the districts of Bothaville, Bultfontein, Kroonstad, Ventersburg and Winburg.
6. The Central Free State Region which covers the whole districts of Marquard, Reitz and Senekal and portions of the districts of Bethlehem, Clocolan, Frankfort, Harrismith, Ladybrand, Lindley, Thaba 'Nchu, Vrede and Winburg. 34)

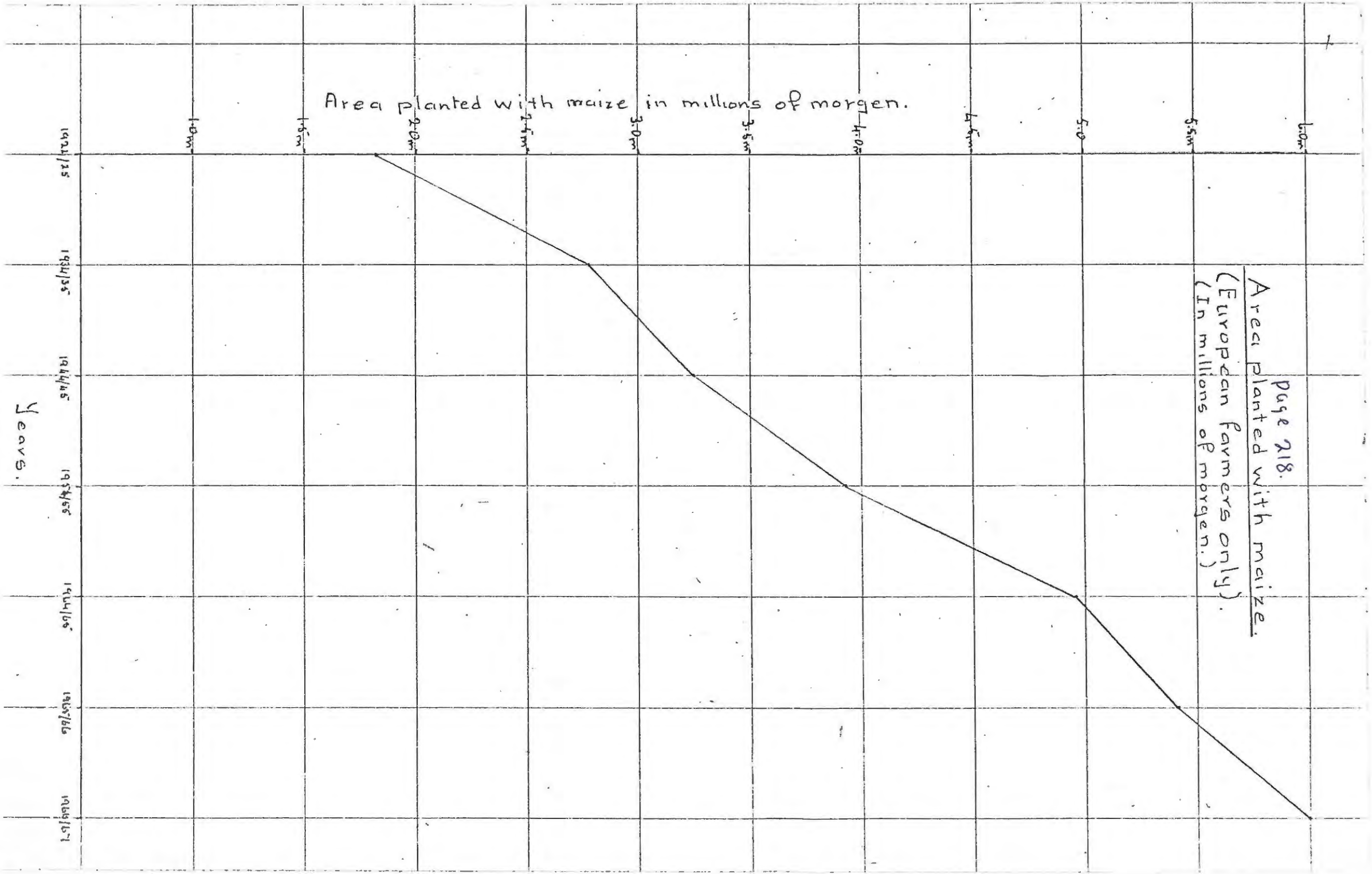
With the exception of the very bad drought years the total maize produced annually in the Republic has shown a steady increase. This increase is the result of:

- a. a steady increase in the area put under maize annually as shown by Table No. 22, Appendix A, and the graph on the following page, constructed from this table, and
- b. an increase in the yield of maize per morgen planted. Statistics show that the yield per morgen has

34) Mealie Industry Control Board Annual Report for the year ended 30th April 1957, p. 7.

Page 218.
Area planted with maize.
(European farmers only).
(In millions of morgen.)

Area planted with maize in millions of morgen.



Years.

increased from an average of 5.34 bags per morgen for the 1918/19 - 23/24 period to 11.11 bags per morgen for the 1959/60 - 63/64 period. (See Table 4, Appendix A)

During September 1966 the writer made a tour of the Western Transvaal and interviewed a number of maize farmers, maize breeders and officials of co-operative associations. He was very fortunate indeed to spend some time with Dr. A.R. Saunders, former professor of Genetics at the University of Natal and then general manager and chief maize breeder of Sentrale Saadkwekers Ko-op. Dr. Saunders has been recognised for the past forty years as one of South Africa's leading authorities on maize breeding and maize production.

Both the above points: the total area under maize and the yield per morgen were discussed with Dr. Saunders in considerable detail.

As regards the total area under maize, Dr. Saunders expressed the opinion that more and more marginal and sub-marginal land, that was not really suitable for maize production, was now being used for this purpose. He felt that much of this marginal land could be used much more profitably for the production of kaffircorn. In fact, Dr. Saunders has found that some of this poor maize land can and has been used to produce as much as 60 bags of kaffircorn per morgen and has proved to be a very profitable venture to a farmer, who, the year before, could not make a living out of planting maize on the same land.

The average yield of maize per morgen was being kept low according to Dr. Saunders, because all this marginal land was being utilised for the production of maize. He suggested that, as a result of an all-round improvement in farming methods, and the greater use of hybrid maize

seed, the yield per morgen for the real maize farmer in the right maize producing areas had increased much more than statistics suggest. In fact, he stated that farmers obtaining yields of 40 bags of maize per morgen in a good season were no longer achieving something out of the ordinary.

A very interesting point that Dr. Saunders made, was that it was most unlikely that the South African maize yield per morgen would ever be as high as that in the U.S.A., irrespective of any improvements in production techniques. He stated that one of the factors that limits the yield per morgen in South Africa, is that there are not as many solar heat-units per 24 hour cycle as in the U.S.A. This, Dr. Saunders explained, does not mean that it does not get hot enough during the day for successful maize production, but that it actually gets too cold at night, even in the summer months, and that these cold nights have an adverse effect on the maize plants and so the yield per morgen is considerably reduced. Dr. Saunders was, however, confident that maize breeding experiments at present being conducted in South Africa, will, within the not too distant future, produce a maize hybrid seed that will be capable of yielding 100 bags of maize per morgen in South Africa under favourable climatic conditions.

Another point made by Dr. Saunders was that in the U.S.A. it has been found that, if the maize is planted across the direction of the sun's path, the yield per morgen increases, compared with maize in adjacent fields planted in the other direction. This increase in production is due to the fact that if maize is planted across the direction of the sun's path, it is not possible for one plant to shade the other at the extreme ends of each day. All the maize plants therefore get

the maximum period of sun each day and this results in an increased yield.

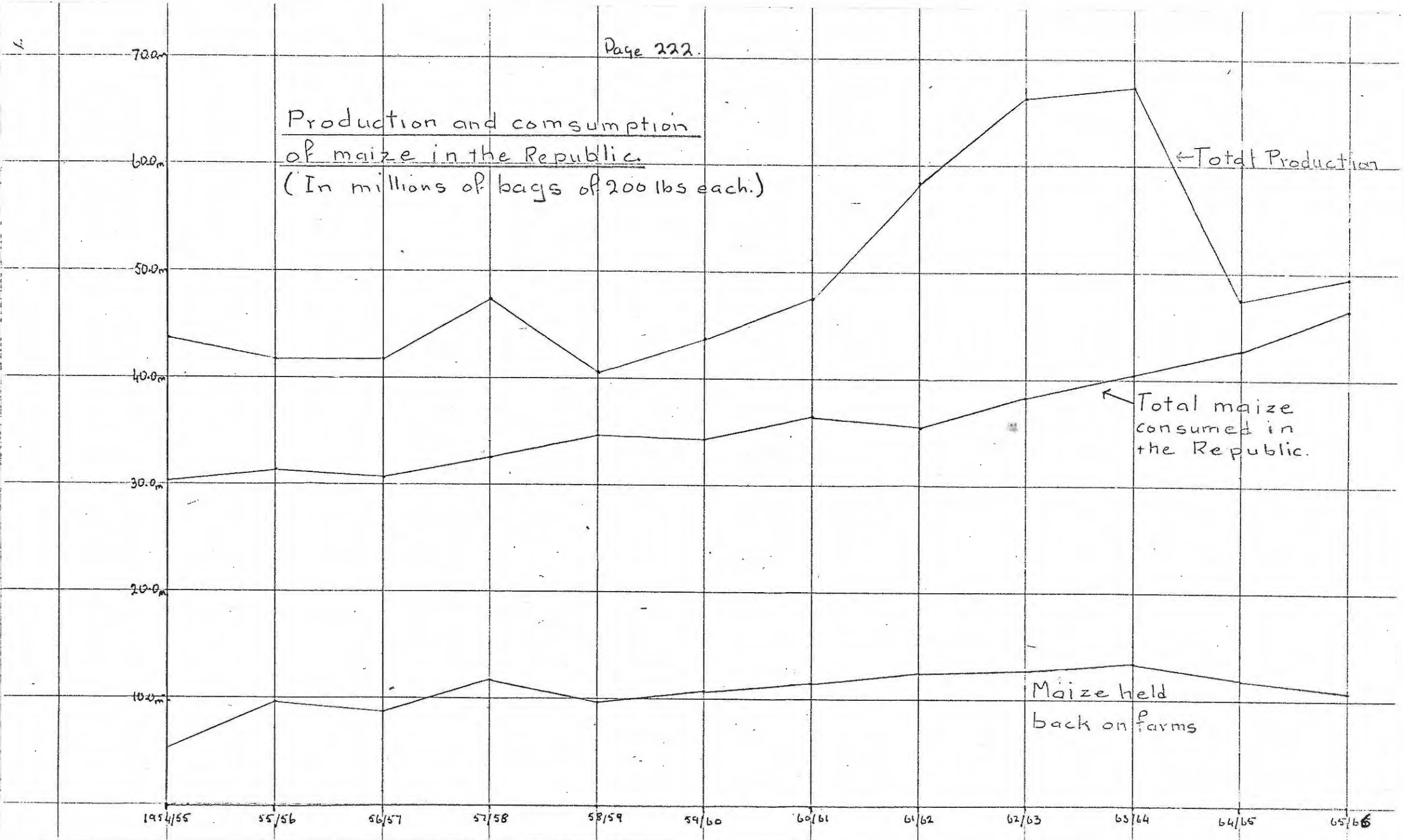
As regards the local consumption of maize, Table No. 23, Appendix A and the graphs on the following page are worth examining in some detail. Column four, the percentage of the total crop held back on farms, column six, the percentage of the total crop consumed in the Republic, and also column eight, the percentage of the total crop consumed in the Republic other than that held back by producers, were all calculated by the writer. The figures in column seven were arrived at by subtracting column three from column five.

Column three of the table shows that, in the eleven year period represented by the table, there has been an increase in the quantity of maize held back on the farms. Column four indicates that, with the exception of the year 1964/65 (which was such an exceptionally poor year for production that it is completely out of step with the production trend of the other years), the percentage of the total crop held back by producers actually declined slightly. From this it can be concluded that, in spite of the numerous occasions on which it has been suggested by various authorities that maize should be sent to the market in the form of pork, beef or poultry, maize has not been used to any increased extent to feed livestock. The reasons for this will be considered at a later stage when discussing the price of maize.

Column five indicates that there has also been an increase in the total number of bags of maize consumed in the Republic. It appears from column six, however, that, from the year 1958/59 to 1962/63, the production of maize increased at a faster pace than that by which local consumption increased.

The total maize consumed locally, excluding maize

Production and consumption
of maize in the Republic.
(In millions of bags of 200 lbs each.)



held back on the farms, as given in column seven, shows that with very minor exceptions, there has been a steady increase for the whole of the period covered by the table, but, once again column eight shows that this increase of maize sold on the local market, has not been able to keep pace with the increase in production. What is even more disturbing is that the officials of the Maize Board are not at all confident that this rate of increase in local consumption will continue. They state that, in the latter years represented in the table, the steady increase in consumption has been due to crop failures in various parts of the Republic. More maize than would normally be absorbed in these parts has therefore been consumed, than would have been the case had drought conditions not prevailed. The Mealie Industry Control Board Report for 1965 states that "In some areas the crops were at an extraordinarily low level for the second, and in some even for the third, consecutive year. For this reason it cannot be expected that the rate of disposals will be maintained once local production returns to normal." 35)

Of course, it can be argued that it is very seldom that there is ever a year in which one or more parts of the maize producing area of the Republic is not subjected to a drought, and that, therefore, it is most unlikely that the rate at which the local consumption of maize is expanding, is likely to decline. This may indeed be so, but there is always the possibility that a bigger and bigger percentage of the total maize crop will have to be exported in the years that lie ahead, particularly if new and improved hybrid maize seed is going to further encourage the production of maize in the Republic.

35) Mealie Industry Control Board Annual Report for the year ended 30th April 1965, p. 7.

2.b. The Storage of Maize

It should not be assumed that everything was in complete order from the moment the Control Board took over the stabilisation of prices from the co-operative associations. In spite of the storage facilities of the co-operative associations, together with the storage accommodation available in the grain elevators, there was still considerable concern for many years, because it was alleged that there was inadequate storage space.³⁶⁾

Table 24, Appendix A, constructed from a number of annual reports of the Mealie Industry Control Board shows how the available storage space increased until, at present, there is sufficient storage space available for a really big crop. In spite of this abundance of space, there will still not be sufficient storage for the 1966/67 crop, which is now finally estimated at 109 million bags.

The very large increase in the storage space provided by the co-operative associations should be observed, showing once again how vital their continued existence is to the successful operation of the one-channel marketing scheme, under the supervision of the Mealie Industry Control Board. Although this storage space was more or less sufficient, the following quotation shows that at any one time, in certain areas, it was not always fully utilised, while, at the same time, maize had to be stored in the open in other areas.

"The storage space of 25,911,000 bags would be adequate for a normal crop, but in practice crop failures generally occur in some parts of the producing area,

36) Report of the Marketing Act Commission (1947);
U.G. 48 - 1949, p. 43.

whilst average and above average crops are reaped in other areas. It would be uneconomical for an agent to erect sufficient storage sheds for abnormal crops, since some of those sheds would not be utilised in normal and sub-normal years. For this reason the stacking of maize in the open cannot be entirely eliminated in ideal circumstances." 37)

In connection with Table 24, Appendix A, the following points should be noted. In the case of the column headed "elevators etc.", the figure of 1.803 million bags for the year 1946/47 is the figure for elevators only. In subsequent years, however, aircraft hangars were hired by the South African Railways and operated under the elevator scheme. The heading "etc." therefore really refers to storage space in aircraft hangars, that were utilised in some of the years for which figures are given. However, for the year 1965/66, it appears from the annual report of the Control Board, that no storage space was available in aircraft hangers. 38)

In the earlier annual reports the term "Commercial agents" did not appear. Instead the phrase "Commercial Millers" was used. These commercial millers were not agents of the Maize Board.

Calculated on a percentage basis, the above figures show that the storage space provided by the co-operative associations amounted to 64.3%, 69.7% and 77.8% of the total available for the years 1946/47, 1956/57 and 1965/66 respectively.

All this storage on behalf of the Maize Board involves the payment of storage fees. To erect a modern, efficient store costs a great deal of money and somehow

37) Mealie Industry Control Board Annual Report for the year ended 30th April 1952, p. 25.

38) Mealie Industry Control Board Annual Report for the year ended 30th April 1966, Annexure XVIII, p. 31

the Maize Board must make it worth the while of those connected with the maize trade to erect suitable storage facilities. At the beginning of the 1948/49 season the Board was informed by various agents that their storage remuneration was insufficient. The Board, therefore, investigated the matter to determine exactly what costs were incurred by the different agents in the actual handling and storage of maize. As a result, the storage remuneration was fixed at 4d. (3.3c) per bag per month for the 1950/51 season, while the handling fee for the same season was 6d. (5c) per bag. This remuneration for storage was paid on maize stored for an average period of $3\frac{1}{2}$ months, because it was assumed that all fixed costs connected with storage had to be recovered during this period. If, however, the storage was for a period longer than $3\frac{1}{2}$ months, the only additional costs that would have to be considered, would be the variable costs incurred, as all fixed costs for the year had already been recovered. Adopting this basis of calculation, the charge for additional storage after the $3\frac{1}{2}$ month period amounted to 3.3d. (2.75 cents) per bag per month.

If, however, costs were calculated on the basis of an average storage period of $3\frac{1}{2}$ months, it is obvious that, should the actual storage period be less than $3\frac{1}{2}$ months for any one agent, the agent would not recover his fixed costs. The Board, therefore, decided that, if an agent had provided the minimum storage facilities (which had to be sufficient to store at least 60% of all the maize he received that season and which in any case could not be less than the storage accommodation required for 20,000 bags of maize), a remuneration sufficient to cover his fixed costs would be paid to him for that period, although this was less than the basic average storage period of

3½ months.³⁹⁾

As already pointed out previously, the handling rate was 6d. (5c) per bag. It was, however, decided by the Board that in certain cases, such as that in which the agent did not himself handle the maize, but simply re-directed it from producer to another destination, the handling fee paid to the agent would be reduced by 2d. (1.67 cents) per bag.

In the case of Commercial Millers, however, the storage remuneration was different. Like the Miller agents, their remuneration for the 1950/51 season was fixed at 4d. (3.3 cents) per bag per month on all maize they held on the first of each month for milling purposes. No allowance was made in the millers' margin for costs relating to storage. In addition to the above, the Board also agreed to pay the miller and millers' agents a special remuneration of 3d. (2.5 cents) on any stocks held by them on the first days of July and October 1951, "less in each case the average milling turnover of half a month calculated on the milling turnover of the previous six months".⁴⁰⁾ By this special fee it was hoped that millers would be encouraged to store as much maize as possible during the period when other agents, due to storage difficulties, often had to stack maize in the open. The millers and their agents did not, however, receive any handling remuneration, such as was paid to the other agents of the Board.

In spite of this incentive to millers to buy and store as much maize as possible, it was found in the years 1947 and 1948 that all their storage space was not being utilised, because they did not have the necessary

39) Mealie Industry Control Board Annual Report for the year ended 30th April 1951, p. 9.

40) Mealie Industry Control Board Annual Report for the year ended 30th April 1951, p. 10.

capital to invest in maize purchases. To overcome this difficulty, the Board decided that, as from the 1948/49 season, it would assist millers further by financing their purchases of maize, which they purchased from the Board under special storage agreements. The Board only entered into this type of storage agreement with millers, whose financial position was sound. It was also understood under the agreement, that the maize so purchased, would remain the property of the Board, and that it would be insured against loss through fire. The number of bags stored under such special agreements increased from 670,000 in 1948/49 to 1,609,200 bags by 1951/52. ⁴¹⁾

During 1949 the Board sent a mission to Australia to investigate and report on the various systems used in that country to store maize. To that date, mainly the vertical system of storage had been used in South Africa, and while it was a very efficient system, it was very expensive, the cost of construction being approximately R2-00 per bag. The main purpose of the Australian mission was, therefore, to determine the advantages and disadvantages of a horizontal system of storing. The investigation showed that the main advantage of the horizontal storage system was that it would cost only approximately R1-00 per bag. On the other hand, its disadvantages were, that it would have a comparatively high operating cost and that it would leave a large area of the grain exposed to the atmosphere, thus leaving it unprotected against moisture absorption. After much deliberation the Board decided to erect an experimental, horizontal store at Lichtenburg, Transvaal, which, if successful, it would later sell to the North Western Co-operative Association. ⁴²⁾ When the store was

41) Mealie Industry Control Board Annual Report for the year ended 30th April 1952, p. 20.

42) Ibid, p. 26.

completed in June 1953, it had cost only R178,000 or 79 cents per bag.

Since 1953 two other stores of the horizontal type have been erected for the storage of maize. The first one was erected at Clocolan in the O.F.S. This one, like the one at Lichtenburg, was expensive to operate and was, therefore, not very suitable for maize storage, in spite of its low construction costs, since the maize traffic in and out of the store was fairly heavy. However, at a later date, another horizontal store was built at Bothaville. For this store a firm of South African engineers devised a system that completely mechanised the handling process and so made the store much more economical to operate. No further maize stores of the horizontal type have, however, since been constructed.

The Government decided in March 1952 to make R10,000,000 available for loans to co-operative associations and millers for the purpose of erecting bulk storage accommodation. A circular letter, publishing this fact, was sent to all who might be interested. The first results showed that the scheme aroused much more interest amongst the millers than the co-operative associations.

As a result of increasing costs the handling and storage fees had to be increased for the 1952/53 season. The new fees were 5.3d. (4.4 cents) per bag per month for storage, and 8d. (6.67 cents) per bag for handling. Once again this was paid on maize stored for an average of $3\frac{1}{2}$ months, and it was assumed that all fixed costs would be recovered during this period. The storage fee for maize stored longer than $3\frac{1}{2}$ months was 4.28d. (3.57 cents) per bag per month, but this fee was paid only up to the 30th of June 1953. After that date, if any of the 1952/53 season's maize was still in stock, the storage fee would once again be 5.3d. (4.4 cents) per bag per month. Also,

in the case of an agent, who had provided basic minimum storage facilities, but who had not stored maize for an average of $3\frac{1}{2}$ months, the Board provided that he should be paid 3.72d. (3.1 cents) per bag for that period "by which his actual average storage period is less than the basic average storage period of $3\frac{1}{2}$ months".⁴³⁾

The handling rate of 8d. (6.67 cents) per bag was reduced by 3d. (2.5 cents) per bag in cases where the agent did not physically handle the maize which was merely directed direct from producer to consumer.

In the case of commercial millers the same conditions as stated before still applied, but they were now paid 5.3d. (4.4 cents) per bag per month storage remuneration, together with 3d. (2.5 cents) as before, this being a special remuneration on their own stocks, to encourage them to store as much as possible. Once again it was decided to pay no handling remuneration to millers.⁴⁴⁾

During the following season (1953/54) all handling and storage fees for both agents and commercial millers were again increased. Also during this season the average storage period was increased from $3\frac{1}{2}$ to $4\frac{1}{2}$ months. However, in spite of the constant increase in storage space for maize, it was still found that an alarmingly large amount of maize had to be, from time to time, stored outside. Thus by the 31st of October 1953 4,700,000 bags of maize were stacked in the open by the Board's agents, and a year later, on the 31st of October 1954, the position was much worse and these agents were stacking 9,124,000 bags outside.⁴⁵⁾ Even allowing for a substantial carry-over from the previous season, this figure of over nine million bags appears to be

43) Mealie Industry Control Board Annual Report for the year ended 30th April 1953, p. 22.

44) Ibid.

45) Ibid p. 17.

unnecessarily large. According to the annual report of the Board the total maize crop for the 1953/54 season was 33,760,000 bags,⁴⁶⁾ while Table 24 of Appendix A shows that the storage space available with the various agents of the Board was for 29,759,000 bags, for the same season. If one, further, takes into account the fact that, by the 31st of October 1954, a large portion of the current crop must already have been consumed, it can only be concluded that some of the agents must have had an abundance of storage accommodation available at that date, while others had more maize on hand than they could put under permanent cover. Evidence of this nature makes one wonder what would have been the official explanation if the maize producing areas had been subjected to unusually heavy rains and a large percentage of the maize stored outside had been lost.

This was the largest post war crop to date, but, as there had been previous crops of over 32 million bags in 1948/49, and over 30 million bags in 1951/52, it does not appear that this crop can be described as abnormally large. Maize production was increasing and therefore it should have been anticipated that a crop of 33 million or even more could be expected, provided climatic conditions were favourable and, in fact, the following season the crop exceeded 39 million bags.

The Board was aware of the inadequate storage accommodation that was available,⁴⁷⁾ but, because of the expense involved in erecting additional accommodation, it decided to investigate yet another system of storage, namely that of underground storage. For this purpose it sent a mission to the Argentine, where this system had been extensively employed. It was alleged that this

46) Mealie Industry Control Board Annual Report for the year ended 30th April 1953, p. 21.

47) Ibid, for the year ended 30th April 1955, p. 17.

method of storage was even cheaper per bag stored than the horizontal system, which was employed in the store erected at Lichtenburg. After further investigation of South African conditions, it was decided by the Board, that the soils in the maize producing areas were not suitable to provide underground storage, consequently any further attempts to develop the underground system of storage was abandoned by the Board.

It appears that the Lichtenburg store caused some concern, because it was noted, particularly in this store, that when maize was stored in bulk, there was a possibility of moisture condensing on the top layer of the maize so stored. The presence of this moisture caused crust-formation and mustiness on the surface, which in turn created conditions ideal for the development of weevils.

A mission was also sent to Kenya and Nyassaland (now Malawi), during October 1954, to inspect and report on methods used in those countries to control insect pests in bulk maize storage. Most useful information was obtained by the mission. It will be appreciated that the surface area in a horizontal store is much greater than the surface area in a vertical store and therefore the possibility of the maize becoming infected with insect pests is much greater. However, according to the Board's annual report in 1955, it was found at the Lichtenburg bulk store that regular spraying of walls and exposed areas with D.D.T. and B.H.C. preparations, added much towards controlling re-infestation.⁴⁸⁾

The Board went even further in its efforts to control insects and rodents in maize stores. In co-operation with the Departments of Agriculture and Health,

48) Mealie Industry Control Board Annual Report for the year ended 30th April 1955, p. 19.

it produced a guide in which various measures of combating insects and rodents were set out. This brochure was issued to all agents of the Board. It also obtained the services of an expert in Britain, who came out to South Africa to demonstrate and explain the technique of fumigation with methyl bromide. These demonstrations were most successful and, as a result, some of the co-operative associations now operate their own fumigation units.

Since 1956 much maize infected with weevils has been found to be quite suitable for export, after it has been treated in the elevators with Phostoxin. In fact, the Phostoxin treatment in a full elevator bin was very much more successful than the methyl bromide treatment. This latter treatment, however, still remained the best for maize stored in bags.

By 1956 fumigation had become an indispensable part of South Africa's maize export programme, and only maize that had been treated with methyl bromide could be railed to the ports for export. This step did much to improve the quality and condition of maize at the ports and at inland centres.⁴⁹⁾

It appears that by 1957 the co-operative associations had definitely decided that they preferred the vertical silo type of storage to the horizontal type, in spite of the fact that the initial outlay per bag of the vertical type was considerably more than that of the horizontal type. It was argued by them that, although the initial cost was greater, if account was also taken of the easier and cheaper handling of stocks in the vertical silo, then this was the system they should definitely adopt. This is particularly so if the turnover to be handled is large

49) Mealie Industry Control Boare Annual Report for the year ended 30th April 1956, p. 35.

and the storage space has to be filled and emptied several times during one season. The vertical storage silo was certainly the answer to speedy handling. However, where insect infestation was not a problem, the horizontal storage type was more economical.

For the 1957/58 season the storage remuneration was 5d. (4.2 cents) per bag per month for $3\frac{1}{2}$ months and the handling remuneration 10d. (8.33 cents) per bag. At the same time commercial millers were paid 5d. (4.2 cents) per bag per month for storage, plus a special additional remuneration of 3d. (2.5 cents) per bag to encourage them to store as much as possible and so prevent or reduce the storage of maize by the agents of the Board in the open.⁵⁰⁾ It can therefore safely be said that, since this question of handling and storage remuneration was first discussed, the changes which had taken place in the rates, have not been very significant. However, these rates are reviewed annually and are not likely to become unrealistic.

At the beginning of the 1958/59 season the Board introduced a scheme, which permitted a special payment to agents to encourage them to fumigate and to take precautions against infestation of maize in their stores. Research undertaken by the Board in conjunction with the Department of Agriculture, showed that the cost of fumigation was 2.5d. (2.1 cents) per bag and that the application of store hygiene cost another $\frac{1}{2}$ d. (.42 cents) per bag. However, because store hygiene is so important in combating store infestation, the Board decided to pay out 1d. (.83 cents) per bag for the application of store hygiene and a further 2d. (1.67 cents) per bag for fumigation, provided these functions were carried out to

50) Mealie Industry Control Board Annual Report for the year ended 30th April 1958, p. 14.

the satisfaction of the Board's inspectors. Unfortunately during this year most of the Board's agents did not have the necessary equipment or trained personnel available to perform these functions, consequently very few of them could be considered when compensation was paid out. The net result was that while R374,000 was set aside for this payment, eventually only R64,767-87 of the total sum was, in fact, paid out.⁵¹⁾

By 1962 it had become apparent that more and more maize was being subjected to bulk storage, and that the whole policy of maize handling and storage should be reviewed. In view of the progressive transition from bag to bulk handling and storage, a clear policy had to be evolved as regards the functions of storage, dispatch and handling of maize by the various agencies, in order to attain the highest degree of efficiency at the most economical cost.⁵²⁾

At the same time the Board was of the opinion that insect control in maize stored, was becoming more and more important, and that its decisions of 1958 in connection with this control were no longer satisfactory. It therefore decided, after it had discussed the matter with its agents and manufacturers, that, as from the 1st of May 1964, all its agents, together with millers and manufacturers, would be compelled to combat insect infestation to the satisfaction of the Board. Inspectors of the Board would regularly examine maize stored by those mentioned above, in order to determine that the necessary measures to combat insect infestation had, in fact, been taken. The storage fee henceforth paid by the Board for maize stored by agents and Commercial Millers included

51) Mealie Industry Control Board Annual Report for the year ended 30th April 1959, p. 16.

52) Ibid, year ended 30th April 1962, p. 11.

an amount to cover the costs of insect control.⁵³⁾

To co-ordinate the erection of stores capable of bulk-handling grain, the Minister of Agricultural Economics and Marketing appointed an advisory committee in 1962. The recommendations of this committee have since been accepted by both the Minister and the Maize Board and the following recommendations have already been implemented.

1. The Maize Board assumed control of the 34 inland elevators previously under the control of the South African Railways. These elevators were systematically taken over by the Board as from the 1st of May 1963, and by the 30th of April 1964 the take-over was complete. The elevators are now used by agents of the Board and play a very much more important part in the bulk storage of the country's maize than when controlled by the Railways.
2. The Board appointed a panel of engineers to advise it on certain types of bulk storage that had already been erected locally and also about other types of bulk storage which were inspected by the Maize Board's mission to the U.S.A.
3. On account of the differences in the unit costs of the various storage facilities erected throughout the country, the Maize Marketing Committee was given the task of examining possible changes that might be brought about in the remuneration of millers and agents.
4. The Advisory Committee tabled general principles, which enabled the Board to cut to a minimum, any costs involved in the utilisation of elevator facilities and in the double handling of grain. ⁵⁴⁾

It should be observed that more and more pressure is being brought to bear on agents of the Board by producers, who are clamouring for the erection of stores, where maize can be handled in bulk, so that grain bags can be eliminated as far as possible. To meet this demand for bulk storage the agents themselves are now sending representatives overseas to study the various types of bulk storage for grain that are already in use. The

53) Mealie Industry Control Board Annual Report for the year ended 30th April 1964, p. 8.

54) Ibid, p. 11.

Board itself, however, is doing all it can to develop and encourage the erection of bulk stores and has, consequently, as stated above, appointed a panel of engineers to give advice on the erection of these stores. The Government is also encouraging the erection of bulk stores, and has established a special fund, out of which loans can be made available, to finance such construction. This fund is at present being administered by the Co-ordinating Committee on Bulk Storage.

Table 24 of Appendix A, shows that, for the year 1965/66, the total storage available for grain amounted to 64,530,000 bags. Of this total the bulk storage available at the 30th of April 1966 amounted to only 15,833,000 bags or just over 24% of the total. As at this date, therefore, most of the country's maize was still being stored in bags and not in bulk. Of the total bulk storage of 15,833,000 bags the co-operative associations owned space for 11,034,000 bags or almost 70% of the total. Furthermore, of the bulk accommodation for 15,833,000 bags, a total of 8,721,000 bags' accommodation had been constructed, with the assistance of the Government Loan funds. 55)

As regards storage space, it may therefore be concluded that, while there is at present more or less sufficient available for a fairly large crop, this does not mean that more accommodation should not be provided. For example, the large bulk of the 1966/67 crop (estimated at 109 million bags), will result in large amounts of maize being stored in the open. It would be most unfortunate if maize were lost because of insufficient storage accommodation. Storage, after all, is a basic

55) Mealie Industry Control Board Annual Report for the year ended 30th April 1966, p. 14.

essential of modern marketing. It is only to be hoped that the storage to be erected in the future will all be of the bulk variety storage and that storage in bags will be eliminated. The South African maize producers, together with all those who handle the maize crop, must adapt themselves to this system of handling at the earliest possible date. At this date there still appears to be some doubt as to the economy and efficiency to be derived from bulk storage.⁵⁶⁾ The writer feels confident, however, that the fears expressed are purely growing pains of the maize industry and that the process whereby the products of various producers are pooled, will be severely hampered if bulk storage is not adopted as a general rule.

2.c. The handling of the maize crop by the various agents

Table 25 of Appendix A, has been constructed from various annual reports of the Mealie Industry Control Board to show what percentage of the maize crop has been handled by each of the various agents during the last years of World War II and the post war years. Because area B and the exempted area produce less than 5% of the total maize crop in any one year, this table takes into account the production of maize in area A only (that is the provinces of the Transvaal and the Orange Free State, together with the magisterial districts of Vryburg, Mafeking, Warrenton and Taung in the Cape Province).

Earlier in this chapter the reasons for the growth of the co-operative association movement were discussed and the facts will therefore not be repeated. Table 25 serves to show that this growth, from the handling point of view at any rate, has been mainly at the expense of

56) Mealie Industry Control Board Annual Report for the year ended 30th April 1965, p. 14.

the trader agents, who in the 1965/66 year handled only approximately one third of the percentage of maize that they handled during the year 1944/45. The position of the trader agents is not, however, as bad as it appears at first. It should be taken into account that the 1965/66 crop was almost three times as much as the 1944/45 crop. The trader agents therefore probably handled just about the same quantity of maize in the year 1965/66 as they did in 1944/45, while the amount handled by the co-operative associations increased tremendously.

It will be observed that up to and including the 1953/54 season the proportional quantities taken in by co-operative associations, miller and trader agents remained fairly constant. Since the 1954/55 season, however, the percentage handled by co-operative associations has increased appreciably. This was probably due to the fact that other classes of agents were not organised to receive maize at the higher intake rate necessitated by the increase in the Republic's crop. Co-operative associations encouraged and even compelled their members to deliver their mealies to the associations, since this enabled the associations to collect advances made to their members in respect of fertilizer, seed, etc., and at the same time to earn an income on storage and handling commission.

These factors resulted in a decline in the percentage handled by the elevators, especially during the period 1944/45 to 1958/59. The large drop since the 1954/55 season is also attributable to the fact that during the intake period, large quantities of mealies were elevated ex bag depot stocks by the Board's agents for the purpose of export, thus leaving comparatively little space available for deliveries by producers.⁵⁷⁾

57) Mealie Industry Control Board Annual Report for the year ended 30th April 1956, p. 24.

A further fact Table 25 illustrates very clearly is that, not only are the co-operative associations as a group the most important agents of the Board, but that they are now very definitely the biggest handlers of the South African maize crop and that they are no longer struggling as they were when the majority of producers by-passed them in the process of marketing their maize. In fact, it is difficult to imagine how the Mealie Industry Control Board would manage at all to fulfil its task, if it were not for the support and assistance it receives from the co-operative associations, who perform all the physical functions required.

2.d. Conditions of Sale and Dispatch of Maize by the
Maize Board to Local Buyers

The Board may sell maize of all grades and classes at its disposal to anyone who wishes to buy maize for local consumption. It reserves the right, however, to refuse to sell such maize from time to time, should the position of its maize stocks justify such a refusal.

In order to buy maize from the Board a contract of sale must be entered into between the buyer and the Board. The Board's acceptance of such a contract is indicated by the issue of a sale note by the Board. In the case of a sale, the Board assumes that the buyer is acquainted with the conditions of sale and that these conditions shall be binding on both parties, as if they were actually printed on the sale note. Furthermore, the Board naturally assumes that the buyer accepts these conditions of sale.

Once the sale note has been issued there will be prompt ralling and delivery of the maize at a specified rate. At the same time the Board does not, under any circumstances, accept liability for any losses or costs incurred by buyers or consignees of maize, if there has been a delay in the delivery of the maize. This is a

clear case where "time is not the essence of the contract" and thus the buyer or consignee shall not have the right to cancel the contract just because there has been a delay in delivery.

As regards the general conditions under which the Board sells maize, the following relevant facts should also be noted.

1. The Board will not accept any offer to buy maize, if such an offer is for less than ten bags at a time. Also, the Board will not accept responsibility for the non-viability of maize delivered by or on behalf of it.
2. The Board will not undertake to provide maize of a specific variety, and will therefore not accept any offer to purchase a specific variety. Furthermore, unless the Board makes an exception, it will not undertake to deliver standard weight bags of maize.
3. If a buyer of maize wishes to alter or cancel an order, before it has been executed, and if the Board is prepared to accept such an alteration or cancellation, the Board shall be entitled to recover from the buyer any costs that it may have incurred in connection with such an order.
4. Should the Board find that it has been given incorrect information about a buyer or consignee, and the buyer or consignee has benefited as a result of such incorrect information, the Board may demand that such benefit be returned to it. In addition, the Board may, for a period it thinks fit, refuse to acknowledge any claim by the consignee or buyer, arising from these conditions of sale.
5. If a buyer wants the Board to deliver any maize he has purchased, to any other person, he must furnish the Board with delivery instructions, together with a full postal address of such consignee and the destination to which the maize must be sent.

The Board shall, in addition to any rights that it has, have the following powers.

- a. It may withhold the undelivered balance of the maize sold and cancel the contract of sale, if the buyer fails to pay the selling price within the specified time, or fails to furnish another, or an increased guarantee should the Board demand such increased or additional guarantee.
- b. It may cancel any contract of sale completely, or in part only, if the buyer or consignee fails to take delivery of the purchased maize, when this is supplied. The Board may also

recover from the buyer any costs it has incurred in connection with such a contract on which contract the buyer has defaulted.

The following are the main conditions of payment that a buyer of maize from the Board must adhere to.

1. The payment must be made when the order for the maize is submitted to the Board. If the railage or any other transport charges are to be pre-payable, these must be included with the payment for the maize.
2. If payment for the maize is not made with the order, it can be made by sight draft. Such a sight draft is payable immediately, and must be accompanied by invoices and delivery notes, which will be regarded as proof of delivery. The buyer must first, in advance, give the Board a guarantee in a form acceptable to the Board. The Board may from time to time determine and revise the amount it requires for such a guarantee.
3. Payment to the Board can also be made in arrear within a period determined by the Board. Such payment shall be made against invoices, provided the buyer has previously furnished the Board with suitable guarantees, and provided that the following conditions are adhered to.
 - a. If the method of payment adopted, is as that outlined in paragraphs 1 and 2 above, then the full amount of the invoice shall be paid. The buyer is not permitted to deduct amounts for short-weights delivered or for any other claims that he may have against the Board. Any claim against the Board, for which it is liable, will be paid by it, once it has passed the necessary credit notes.
 - b. The Board shall at all times have the right, without giving any reason, to demand that the buyers referred to in paragraphs 2 and 3 above, supply it with a larger guarantee or with an additional guarantee, within a given period indicated to the buyer in writing.

As regards prices at which the Board will be willing to sell maize, the following relevant facts should be noted.

1. To arrive at the net weight for maize, when the maize has been packed in bags, 3 lbs. per bag may be deducted if such maize is delivered from a bag store, or, alternatively, a weight that is equal to the average weight of one

grain bag, as indicated on the dispatch documents, may be deducted if the maize is delivered from a through-tariff elevator or other bulk installation.

2. The Board is prepared to sell maize at the price that it has fixed for the season, provided that the moisture content of the maize is not in excess of $12\frac{1}{2}\%$. If, however, the moisture content is in excess of this percentage, it will make an allowance. In the calculation of such an allowance the moisture content shall be determined as set out in Government notice R632 of the 27th of April 1962 and as subsequently amended. The allowable deduction for excess moisture shall be a percentage of the weight of the maize, equal to the percentage by which the actual moisture content exceeds the allowable $12\frac{1}{2}\%$.

3. In the case of maize that is delivered on rail, sender's station, the buyer shall be liable for the railage to the consignee's station, together with railway siding charges and site rent at both the sender's railway station and the consignee's railway station. In addition, the buyer is also liable for any road motor transport charges to the destination of the maize.

Finally, if the maize is delivered from a through-tariff elevator, the buyer will be liable for the railage from the station from which the maize was originally consigned to the through-elevator as shown on the elevator receipt, and to the consignee's railway station, as well as for siding charges, both in and out, at the through-tariff elevator.

Where, however, the delivery of the maize is taken at the depot of the Board's agent,

the cost of transport to the consignee's premises shall again be for the buyer's account, but the agent himself shall be responsible for the loading of the maize onto the consignee's transport at the depot.

4. If a consignment is received at its destination and it is then found that some of the bags used in the consignment are not "class A" bags, the Board will, subject to certain provisions, be prepared to make an allowance for bags of classes B and C used instead of class A bags.

At this stage it appears necessary that an explanation should be given regarding the different classes of bags that are used in the maize trade. These are defined in Schedule B of a pamphlet on the conditions of sale of maize by the Board, published in 1966.⁵⁸⁾ Details are given in Appendix B, Section VI.

If there is any doubt about the quality of the bags that have been used, this doubt must be settled at the destination of the consignment before the bags are opened. If, however, the bags are graded after they have been accepted, then only those defects which would have been apparent, were they still sewn up, may be taken into account in determining the class of the bags.

Once it has been established that the Board has in fact sold maize in inferior bags, an allowance will be made by the Board, for the overweight of the inferior bags (overweight due to damaging and patching). At present the allowances that the Board will make for inferior

58) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet,
Page 3 of Schedule B.

bags are as follows. In the case of a class B bag, an allowance of 5 cents per bag is made. For a class C bag the allowance is 27 cents per bag, if the consignee is not a commercial miller or manufacturer, 27 cents per bag if the consignee is a commercial miller or manufacturer and he returns the bags to the Board, but 30 cents per bag if he returns the bags to the agent concerned in terms of the conditions of sale.

5. The price basis per bag assumes that the gross weight per bag will not exceed a maximum of 206 lbs. per bag. If, however, in the case of a particular consignment, it is found that, after that consignment has arrived at its destination, the average gross weight per bag is in excess of 206 lbs., before any deductions have been made for excess moisture, if indeed such a deduction is necessary, the Board will be prepared to make an allowance per 200 lb. net weight. Such an allowance according to the schedule (mentioned in 4 above) will be 27 cents per bag.

The prices at which the Board will sell maize are determined at the beginning of each season. (How the maize price is determined each season, is discussed in detail in Chapter 8). For any one type or grade of maize there is a price to commercial millers and another price to persons other than commercial millers. In this latter category the price varies according to the number of bags bought at any one time. Thus, for example, for the 1966 season the price for white Dent maize (W.D.I.) varied as follows, according to the quantity purchased: 10 to 24 bags per order, 352.5 cents per bag; 25 to 49 bags,

348.5 cents per bag; 50 to 99 bags, 346 cents per bag; 100 to 399 bags, 344.5 cents per bag; 400 to 1199 bags, 342 cents per bag; 1200 to 4799 bags, 340 cents per bag and over 4800 bags per order, 337.5 cents per bag. The larger the quantity per individual order the lower the price per bag.

The prices to buyers, other than commercial millers, laid down for the season by the Board, are applicable subject to the following provisions.

1. The buyer makes an offer in the form of a purchase note for the amount of maize which he anticipates he will require during a period of 31 days starting from the date on which the delivery note is issued. The price he pays for such maize will, therefore, in the first instance, be based on the quantity he has bought according to the purchase note. If, after the expiry of the 31 day period, it appears that the buyer has in fact not given the Board delivery instructions for the full amount referred to in the purchase note, the price he will be liable for, will be that applicable to the quantity he has actually given delivery instructions for, during the 31 day period. Under no circumstances will delivery instructions be acceptable against a purchase note if they are received after the 31 days have expired.
2. Delivery instructions that are cancelled by the buyer before they are executed by the Board shall, for purposes of price determination, be ignored by the Board.

As regards the Board's prices for maize sold to Commercial Millers for dispatch to themselves or any of their mills, the prices applicable shall be those charged to buyers other than commercial millers, who purchase at least 4800 bags at any one time. These prices shall be applicable to commercial millers irrespective of the quantity that they buy at any one time and shall remain in force for that season, unless the Board and the buyer have agreed on another price. The following conditions must be adhered to.

1. Such prices shall be determined on the basis indicated in item No. 3 of Schedule A issued by the Board on the 1st of May 1966. 59) Item No. 3 of Schedule A states that, if maize purchased by a commercial miller is received at its destination after the 1st of May 1967, the price to be charged for such maize will be the Board's selling price, applicable as from the 1st of May 1967. If, therefore, the price of maize is increased as from that date, the commercial miller will be debited with the higher price, unless he can prove to the Board, within 14 days of receiving the consignment of maize, that he, in fact, actually received his order before the 1st of May 1967. Conversely, should the price of maize actually be decreased as from the 1st of May 1967, the buyer will be given a credit note by the Board if he can prove to its satisfaction that he actually received his consignment of maize after the 30th of April 1967. The Board will accept as "Proof of Receipt" from a commercial miller, a copy of the M.A.5 dispatch note endorsed by the consignee and supported by a South African Railways delivery note, officially stamped with the delivery date.
2. If a Commercial Miller sells products manufactured from maize purchased from the Board, then, if such products are not priced in accordance with Proclamation No. R304 of 1965, as amended, and are sold at prices in excess of the prices prescribed by the Government notice, or do not comply with the colour requirements for mixed maize products, as prescribed by the Government Notice, then the price to be paid by the Commercial Miller, as discussed in (1) above, may be increased, if the Board considers that such an increase is justified, but the increase in price may not be more than that of the Government subsidy, payable on maize from time to time. All the maize purchased by the Commercial Miller from the Board is not subject to this increase in price, but, only that portion of his purchases that is used to produce products that do not comply with the grading regulations, or are sold at prices in excess of the prescribed prices, or which do not comply with the prescribed colour requirements.
3. If the portion of the Commercial Miller's purchases from the Board, so otherwise used, during any particular month, exceeds a quantity equal to $12\frac{1}{2}\%$ of his commercial milling turnover, then he shall pay to the Board the difference between the Board's selling price for 400 - 1199 bags and the price for the purchase of 4800 or more bags at a time, as indicated in item 1 of Schedule A (already discussed), on the said portion which exceeds $12\frac{1}{2}\%$ of the commercial milling turnover.

59) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
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4. If a Commercial Miller buys maize for purposes of distribution, and such maize is to be consigned to an address other than his mill, then the price he must pay for such maize, shall be the price paid by other buyers from the Board, who are not Commercial Millers.

When maize is delivered by the Board, the risk shall pass to the buyer on delivery. All maize is delivered free on rail, (or by any other transport conveying the maize), at the agent's depot or store; or on rail at the railway station or siding from which the maize is consigned by or on behalf of the Board. There are, however, the following provisions in connection with the Board's delivery.

1. The buyer cannot stipulate from where the maize must be delivered, nor will the Board undertake to make a delivery from any specific place, depot or through-tariff elevator.
2. Even after the Board has indicated in the sale note from where the maize will be delivered, it may change the point from which delivery shall be made, and will not be liable for railage or other costs caused by such a change.
3. If the buyer fails to take the necessary steps required of him and, as a result of such failure on his part, the Board or its agent is unable to complete delivery at a rate specified in the Board's sale note, or if the consignee fails to take delivery of the maize within the stated time laid down in the Board's sale note, then the Board shall be able to obtain compensation from the buyer, at the rate of 5 cents per bag undelivered, for each period of 30 days which elapses from the expiry of the period indicated, until delivery is made. However, if the period that has elapsed, is less than 30 days, the amount of compensation the Board is entitled to shall be reduced proportionately. 60)

The Board's agent, who has executed an order on its behalf must, on the same day that he has dispatched the maize, forward to the consignee, for each consignment of maize dispatched, an M.A.5 form in quadruplicate. This form contains all the required particulars concerning the consignment of maize that has been dispatched. If,

60) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet,
Pages 5 and 6 of Schedule B.

however, the buyer and the consignee are different persons, then three copies of the M.A.5 form shall go to the consignee, and only one copy to the buyer. The Board or its agent may at any time before the consignee actually unloads the consignment, amend the details appearing on the M.A.5 form, by placing in the consignee's possession such amended details. These amended details shall be just as valid as they would have been, had they appeared on the M.A.5 form for that consignment.

Once a consignment of maize has been received at its destination by the consignee, he must pay particular attention to the following details.

1. He must weigh the maize on an assized weighing machine and issue a weight certificate. If the maize has been weighed on a weighbridge, the consignee must give details about the weight of each vehicle when fully loaded with maize and when the maize has been off-loaded. If the weighing machine prints the recorded figures on dockets, then duplicates of such dockets must be submitted.
2. If the consignee wishes to lodge a claim with the Board for short-weight, he must count the number of bags of maize in the consignment and then indicate on the M.A.5 form the number of bags he actually received.
3. Should the maize appear to contain excessive moisture, and should the dispatch documents also indicate that the moisture content of the consignment is in excess of 12½%, or if they show that the moisture content is exactly 12½%, but this fact is disputed by the consignee, then he must, in order to determine the short-weight or over-weight, weigh the consignment and also definitely establish its moisture content. The short-weight or over-weight shall be represented by the difference between the dispatched weight of maize less moisture content in excess of 12½%, and the received weight less moisture content in excess of 12½%.
4. If the consignee finds that the correct number of bags of maize has not been delivered to him by the railways, or, alternatively, should it appear that the maize has been damaged in any way while in transit, he must endorse the consignment note accordingly, but he must not lodge a claim for damages or shortages with the South African Railways. 61)

61) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet,
Page 6 of Schedule B.

It does sometimes happen that an agent of the Board delivers, on its behalf, more maize than the buyer has ordered. In such a case, the buyer must not refuse to accept the over-weight of maize if it does not exceed 2% of the weight of maize referred to in the sale note.

At first sight it appears that this is indeed a strange regulation, as it is most unusual that a buyer can be compelled to accept, and therefore become liable for, payment for goods in excess of those which he has ordered. However, in the case of the maize buyer, it is not so unreasonable, if one considers that each buyer will probably buy many consignments of maize from the only seller, the Maize Board, and if he is given slightly more maize than he requires on one occasion, then all he need do, is simply to cut down on his next order from the Board.

If, however, the weight of maize delivered exceeds by more than 2% the weight referred to in the sale note, the buyer may refuse to accept such an overweight of maize. Consequently, he must immediately inform the Board of his refusal to accept the over-weight of maize. After that he must deal with the over-weight in such a manner as the Board instructs him to do.

Immediately the consignee receives the M.A.5 form, he must, on all copies of the form, insert, in the space provided, the following details in connection with the consignment - date of receipt of the consignment, the truck number, the number of bags of maize received, the gross weight of the maize, the moisture content of the maize and the grade of it. If the maize has been infected by insects, he must give particulars of such infestation and, finally, he must also record the number of class B and class C bags in the consignment.

The consignee must also, within eight working days

of having received the consignment, whether he has lodged any claim or not, ensure that a completed and signed copy of the M.A.5 form has been lodged with both the Board and its agent concerned.

If, on the receipt of a consignment, the consignee finds that there are certain differences, within the permissible limits (to be discussed later), he need not indicate these differences on the M.A.5 form. All he must do, is to insert the date of receipt, the number of bags received and endorse the M.A.5 form to the effect that the maize has been received as consigned.

Should the consignee be a Commercial Miller or a manufacturer, who is required to submit monthly returns to the Board, then he must forward to the Board an additional copy of the completed and signed M.A. form, in support of the entries on the returns in question.

In the case of a consignment of maize arriving at its destination before the consignee has received the relevant M.A.5 form, or if there is no truck label inside the maize truck, or if he has not received an amended notice, then the consignee must, within four working days (96 hours) after he has received the consignment, submit a statement to the Board containing the following details - the number of the truck, the number of bags of maize concerned, the gross weight of the maize, the moisture content of the maize if it is in excess of 12 $\frac{1}{2}$ %, the grade of the maize, particulars of insect infestation, if any, and the number of bags that are not class A bags. The consignee must also, within 8 working days after having received the maize, place the Board in possession of a weight certificate for the maize.

If the consignee is a Commercial Miller or a manufacturer, and he receives a consignment of maize without any of the documents mentioned in the previous

paragraph, he must immediately

1. refer the matter to a representative of the Board, who must immediately check the consignment or,
2. if permission has been obtained from the Board to unload the consignment before a representative of the Board has checked it, then the consignee must, within 72 hours, (excluding Sundays and holidays) of receiving the consignment, furnish the Board with a notice that indicates the number of trucks, the number of bags of maize, the gross weight of the maize, the moisture content and the grade of the maize and the number of bags in the consignment that are not up to class A standard.

When the consignee eventually does receive the M.A.5 form, it must be completed and signed by him and copies must be forwarded to the Board and the agent who dispatched the maize to the consignee in the first instance.

Where shortages in the number of bags of maize occur, or if the maize has in some manner been damaged while in transit, the Board shall not be liable provided that:

1. the agent of the Board has had the consignment checked by an official of the South African Railways, before it was dispatched, and had then by telegram on the date of dispatch informed the consignee of the number of the truck, the number of bags of maize, the weight of the maize, the date of dispatch and of the fact that the consignment had been checked by a railway official;
2. the Board's sale note is endorsed to the effect that the consignment will be checked at the sender's railway station by an official of the railways;
3. the consignment of maize was transported by the road motor transport service of the South African Railways to a railway station, from where it was railed to the consignee. 62)

If, in the above circumstances, the consignee still finds it necessary to submit a claim for shortages or damages, then such a claim shall be lodged with the South

62) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet, Page 8 of Schedule B.

African Railways.

The Board shall, furthermore, not be liable for losses resulting from shortages in the number of bags, excessive moisture, short-weights, differences in the grade of maize or in the quality of the bags, or for insect infestation, if the maize is received by the consignee at the store of an agent. In such a case where the consignee takes delivery at the agent's store, it is his duty to satisfy himself that everything is in order, in regard to the consignment, before he accepts it. If, at this stage, a dispute does arise between the Board's agent and the consignee, then a representative of the Board must be called in, before the consignee takes delivery of the maize.

Finally, the Board shall not be liable for additional or waste railage caused by the fact that the moisture content of the maize is more than $12\frac{1}{2}\%$, but does not exceed 14% .

Under certain circumstances commercial millers and manufacturers cannot claim against the Maize Board for differences and defects in consignments. These circumstances may be detailed as follows.

1. If, after a consignment has arrived at its destination, and there appear to be differences between the amounts ordered and delivered, but they are within the "permissible limits", the buyer shall have no claim against the Board. It will be observed from the discussion which follows, that the term "permissible limits" covers a wide field and that there are a number of permissible limits which contribute substantially in cutting down the number of minor claims for and against the Maize Board.

A consignment of maize, arriving at its destination, may be found to be short-weight or over-weight. If it is short-weight, but the short-weight is within the permissible limits, the buyer shall have no claim on the Board. Conversely, if it is over-weight, but the over-weight is within the permissible limits, the Board shall have no claim for extra payment against the buyer. In the case of short- and over-weight the permissible limits are:

- a. 12 ozs. per 200 lbs. of gross dispatch weight in the case of maize weighed on the consignee's tip scales;
 - b. 8 ozs. per 200 lbs. of gross dispatch weight plus 100 lbs. per scale load in the case of maize weighted by consignees over weight-bridges weighing to the nearest 50 lbs., and,
 - c. 8 ozs. per 200 lbs. of gross dispatch weight in the case of maize weighed by consignees with weighing apparatus other than those already referred to.
2. If on arrival at destination, a representative sample of the whole consignment is taken and found satisfactory for grade requirements as indicated on the dispatch documents, then it shall be considered that the whole consignment complies with these requirements, and the buyer shall have no claim in respect of individual bags, which do not comply with the requirements, unless the consignee finds that:
- a. the consignment contains bags of maize of another colour or class;
 - b. it contains bags of maize of the colour and class dispatched, but which are at least two grades lower;
 - c. consignment of a higher grade contains bags of maize of grades WF3 and YM3 and/or sample grade maize. (See footnote 63)

63) As regards the grading regulations concerning maize, much general information to buyers and consignees is contained in Government Notice No. R632, first published on the 27th of April 1962 and subsequently amended from time to time. A summary of some of the more important definitions and regulations will be found in Section VII, Appendix B.

If any of the above applies, the maize found to be different shall be kept separate and the balance of the consignment shall be graded on its own. The different maize mentioned above will therefore be graded separately and a claim may be lodged with the Board for the grade differences.

In order to determine the grade of maize by means of a representative sample, small quantities of maize shall be taken by hand or drawn from the bag by means of a maize probe. The grain must be taken from at least two levels from each bag sampled, and at least 25% of all the bags of a consignment must be sampled. If the whole consignment is 100 or less bags at least 25 bags must be sampled. The maize drawn as samples shall all be placed into one container and thoroughly mixed. The sample maize is then placed on a flat surface and mixed again. The maize is next divided into two equal portions, which are kept apart. The two halves are now each again divided equally so that there are now on the flat surface four more or less equal portions. The two diagonally opposite quarters are then removed and the two remaining portions are well mixed and again divided into four equal portions on a flat surface. This process of quartering may be repeated again and again. The remaining sample must not weigh less than 200 grammes.⁶⁴⁾

3. On arrival at its destination it may be found that a consignment of maize contains more B class bags than is stated to be the case on the dispatch documents. If, however, the actual number of B class bags does

64) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet, Page 9 of Schedule B.

not exceed the number stated on the dispatch documents by more than 5%, the buyer shall have no claim against the Board in this respect. Likewise, if the number of B class bags actually contained in the consignment is not more than 5% more than that stated on the dispatch documents, the Board shall have no claim against the buyer for an additional payment in connection with this item. Obviously, therefore, 5% is the "permissible limit" figure as regards B class bags actually used in the consignment, as compared with the number stated to be used, on the dispatch documents.

If a consignee wishes to determine whether there are possible shortages or defects in a consignment of maize that he has received, he must comply with the following regulations.

- a. He must compare the dispatch particulars on the M.A.5 form, or the amendment thereto, that he has subsequently received, with the actual facts and figures as he assesses these on the arrival of the consignment.
- b. Should he find that, for any particular consignment, the dispatch details on the M.A.5 form do not agree with those on the truck label, even if the latter has been amended, he should assume that the particulars appearing on the M.A.5 form are the correct ones.
- c. If the consignee finds that, on arrival of a consignment, he has not received the relevant M.A.5 form, he must compare the receipt particulars with the truck label details as they are, or as they are amended, if he has received any such amendment. If they disagree, and if he then finds that he has a claim, he must within 8 working days, place the Board in possession of the said truck label, together with all the necessary documents in support of his claim.
- d. If, on the receipt of a consignment, the consignee has received neither the M.A.5 form nor the truck label, nor any amendments, then he must compare the details on the M.A.5 form, when he eventually receives it, with the particulars as given in his notice to the Board.

Should a consignee, who is not a commercial miller, wish to file a claim with the Board after the receipt of a consignment, he must, within four working days of receiving the consignment, place both the agent who has dispatched the maize to him, and also the Board, in possession of such a notice, that states clearly what the differences or defects are. He must submit with his notice the number of the Board's sale note, the truck number and the number of the relevant M.A.5 form.

Reasons for which a consignee may submit such a notice are:

- a. if the number of bags of maize actually received be less than the number stated on the dispatch documents,
- b. if the gross weight of the consignment is at least 200 lbs. less than the total weight indicated by the dispatch documents, after making allowance for excess moisture content above the 12½%, but not above 14%,
- c. if the moisture content of the maize is more than that indicated on the dispatch documents, or is higher than 12½%, and this is not indicated on the dispatch documents,
- d. if the maize is of a different grade to that shown on the dispatch documents,
- e. if the maize is insect infected, or
- f. if the number of bags, that do not comply with the requirements for class A bags, exceed the number of class B bags indicated on the dispatch documents by more than 5% of the total number of bags indicated on the dispatch documents. 65)

In addition to giving notice to the Board, the consignee must also comply with the following regulations.

- a. If he has a claim for short-weight, he must submit to the Board, when he sends the relevant M.A.5 form, a weight certificate that shows separate weighings (of one or more bags at a time) of the whole consignment.

65) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet, Page 10 of Schedule B.

- b. Should he degrade or reject the consignment of maize, he must keep such maize separate from any other maize, until such time as it has been inspected by a representative of the Board, or the Board has issued the necessary instructions for the disposal of the maize.
- c. If one (or more) bags of the consignment is not of the grade ordered, and if such maize of a different grade has not been checked by a representative of the Board, the consignee must submit to the Board a representative sample taken according to the regulations laid down by the Board.
- d. If he has already dispatched a telegram to the Board and its agent, he must now submit a copy of the telegram to the Board, together with the completed and signed M.A.5 form. 66)

There are certain requirements commercial millers and manufacturers must comply with, when lodging claims for shortages and defects of consignments of maize. If a commercial miller or a manufacturer finds, on the arrival of a consignment of maize, that he has reasonable grounds for a claim against the Board, because there are differences in the consignment, which exceed the permissible limits (already discussed), or the maize is insect infested, or because more than 5% of the bags used for the consignment are class C bags, he must hold over the consignment and immediately call one of the Board's representatives to check it. Should a representative of the Board not be available for this purpose, and if the further holding over of the consignment might lead to unreasonable costs, the commercial miller or manufacturer may obtain permission from the Board to off-load the consignment, and then to file his claim for any of the defects mentioned.

Although the Board has, in the past, granted its permission to off-load a consignment before its representative has inspected it, the Board may at any time at its discretion withdraw this concession in respect of any

66) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet, page 11 of Schedule B.

millers or manufacturers. The consignee must at all times first call a representative of the Board to make the inspection, before he off-loads the consignment. He may not assume that, because he has been previously granted permission to off-load before an inspection has taken place, that he will automatically be granted this permission for all future consignments that have shortages or defects.

The commercial miller or manufacturer must grade all consignments on arrival and if, according to such grading, it becomes apparent that the maize does not comply with the particulars laid down for the grade dispatched, or is insect infected, then a representative of the Board must be called to check the maize before it is off-loaded.

In addition to the above basic requirements the commercial miller or manufacturer must also comply with the following regulations.

1. He must inform the Board and its agent of the defects for which he intends to claim, and also submit the number of the Board's sale note, as well as the M.A.5 form number or the truck number. Where the short-weight exceeds the permissible weight differences, a shortage in the number of bags must also be reported.
2. He must, within 3 working days, inform the agent of the shortages, irrespective of whether a representative of the Board has inspected the consignment or not, or, the permissible differences have been exceeded or not. Together with this information he must also supply the Board's sale note number and the M.A.5 form or the truck number. If such notice is given by telegram, the cost of the telegram will be refunded.
3. If the consignee has been granted permission to off-load before a representative of the Board has inspected the consignment, and the consignee now wishes to claim for short-weight, he must forward to the Board a weight certificate showing separate weighings of one or more bags at a time, of the whole consignment, and also submit the completed and signed M.A.5 form.

4. Should the consignee degrade the maize on arrival because it does not comply with the requirements laid down, and if such maize has not been checked by a representative of the Board, but the consignee has obtained permission from the Board to off-load, he must, within 8 working days of having received the consignment, submit to the Board a representative sample, taken in the prescribed manner, from the maize that he has degraded.
5. If the consignee finds that there are class C bags in the consignment, he must return these bags when empty to the specific agent, when he is requested to do so by the agent. They must be returned at the "empty return" rate of the South African Railways. He must then lodge a claim with the Board, which must be accompanied by a stamped consignment note, for the value of the bags in accordance with the rate laid down, together with the claim for the railage on such bags, if he has in fact prepaid the railage on them. The claim must once again be accompanied by a completed and signed M.A.5 form.
6. On the other hand, if the consignment has been checked by a representative of the Board, he must submit to the Board a copy of the grading certificate issued by the Board's representative, together with the completed and signed M.A.5 form.
7. If the consignee has sent a telegram to the agent or the Board, or both, about the shortages or defects, he must submit to the Board a copy of the relevant telegram(s) dispatched, together with the signed and completed M.A. form.

The reasons for the rejection of a consignment of maize, because it does not comply with the quality or grade ordered, may vary from one consignee to another. It will be recalled that, according to the Board's classification, there are only two types of consignees or buyers - the one type being commercial millers and manufacturers and the other type being made up of all other buyers, who are not commercial millers or manufacturers. All consignees may reject maize on the following grounds.

- a. If maize is of a class or colour other than that ordered, then only those bags that are not according to order may be rejected.
- b. If the moisture content of the maize exceeds 15%, (unless it was previously agreed by both buyer and seller that this would not be

grounds for rejection), only those bags which have a moisture content of more than 15% may be rejected.

- c. If the average moisture content of the whole consignment exceeds 14%, the whole consignment may be rejected.
- d. If consignment of a higher grade maize contains sample grade maize or maize classified as WF3 and YM3, only the bags which actually contain the sample grade or grades WF3 and YM3 may be rejected.
- e. If the whole consignment of maize is infected by insects,⁶⁷⁾ it may be rejected in toto.

Only persons other than commercial millers and manufacturers may reject a consignment of maize for the following reasons.

- a. It is of the same colour and class as that ordered, but more than 10% of the total number of bags contain maize, that is at least one or more grades lower than the grade ordered. If, however, not more than 10% of the total number of bags of maize are not more than one grade lower than the grade ordered, the consignee must take delivery of such maize, but he shall be liable to the Board only for the price applicable to the lower grades for the bags so graded.
- b. If one or more bags of maize of the same colour and class as those ordered, are two or more grades lower than the grade ordered, the consignee shall reject only the bags containing the lower grades.

A commercial miller or manufacturer may reject a consignment of maize in toto, if, after maize of another colour and class and WF3 and YM3 grades and sample grade maize have been removed from the consignment, a general sample shows that the quality of the balance of the consignment is still two or more grades lower than that ordered, or, if more than 10% of the consignment, originally specified as a higher grade, consists of WF3, YM3 and/or sample maize.

67) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
Publication of the Maize Board - Pamphlet, Page 13 of Schedule B.

If a consignment has been rejected, the consignee must immediately inform the Board why the maize has been rejected and, at the same time, must state whether delivery has been taken from the South African Railways, and at what reduction in price the consignee desires to accept the maize. If the consignee does not wish to accept the maize under any circumstances, then such maize must be stored separately by him, until the Board can issue redirection instructions.

Should any of the deficiencies for which the buyer is entitled to claim, be found in a consignment on arrival at its destination, the Board will compensate the buyer for losses incurred by him as a result of such deficiencies or for insect infestation. The Board will pay compensation up to an amount of 5 cents per bag to the buyer for maize rejected and off-loaded and then re-directed in terms of the Board's instructions. The Board shall not be liable for any loss, and may refuse to consider any claims, unless notices of deficiencies or insect infestation are filed with the Board and its agent within the given time and in the prescribed manner, and unless, in the case of commercial millers and manufacturers, the inspection by the Board's representatives has been carried out.

As regards inspection, the Board may at any time it wishes, make the necessary arrangements to have a consignment of maize inspected by one of its representatives if:

1. buyers, other than commercial millers or manufacturers, dispute the quality of the bags in which the consignment is packed, the degree of insect infestation, the grade of the maize, its moisture content or the number of bags that makes up the consignment;

2. a manufacturer or commercial miller maintains that the permissible limits have been exceeded, or the maize is insect infected, or that more than 5% of the consignment has been packed in C class bags.

If, once such an inspection has been completed, and it has become apparent that the claims of the consignee are not valid, the buyer shall be liable for an inspection fee of 2.5 cents per bag for the bags actually inspected. If, however, the buyer is not prepared to accept the findings of the inspector, he shall have the right to refer the matter for arbitration to the Secretary for Agricultural Economics and Marketing in Pretoria, whose ruling shall be final. The party against whom the ruling is given, shall be liable for both the inspection fee and the arbitration costs.

The Board may at any time instruct one of its representatives, or the representative may decide on his own initiative, to test the weighing equipment used for weighing the maize. This test is done by comparing the weight of a quantity of maize, as shown by the weighing equipment, with the weight of the same quantity of maize, according to another weighing apparatus of which the reliability has been established by means of tests with assized standard weights. If, after such a test, the representative of the Board is of the opinion that the weighing equipment used by the consignee does not register the correct weight for the maize, he may demand that the buyer weigh the maize with some other weighing equipment, or he may insist that, before any further consignments of maize are weighed with the weighing equipment in question, that the buyer must have the said weighing equipment checked and repaired by an official of a firm that specialises in doing that type of work. If, after such weighing equipment has been checked and repaired, the representative of the Board is still not satisfied with

with its performance, the maize buyer shall call in an assizer to test the equipment. If the assizer finds that the weighing equipment does not register the correct weight, the buyer shall be liable for the charges made by the assizer.

In the case where a consignment has not been checked by a representative of the Board, and the consignee decides to lodge a claim with the Board, because he believes that the maize is not of the grade that he has ordered, or that the moisture content is too high, he must take a sample of the maize at the railway station or road transportation halt before the maize is removed to the premises of the consignee. How the maize samples shall be drawn by hand or by a maize probe, and the procedure which follows, has already been explained. The samples shall be consigned to the Board in Pretoria, together with all the required details in connection with each sample. If the claim is that the moisture content of the maize is too high, the sample must be packed in an air tight container, otherwise it may lose a large percentage of its moisture content before it arrives at the Maize Board.

As it is not always possible to have consignments of maize checked by a representative of the Board, it is suggested by the Board, that it will help considerably in the settlement of disputes, if the samples that are forwarded to the Board, are taken in the presence of impartial persons. The Board will in turn inform the consignee, as soon as possible, of its findings.⁶⁸⁾

The above facts and figures make it clear that a very detailed system has been worked out, and is now in

68) "Conditions of sale of maize by the Mealie Industry Control Board to operate as from 1st May, 1966."
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Pages 14 -15 of Schedule B.

operation when the Maize Board sells maize on the local market to Commercial Millers and manufacturers of maize products (who fall into one category of maize buyers) and, all other buyers of maize who come into the second category of local maize buyers.

What has been discussed above is, however, in no way applicable when maize is sold for the purpose of exporting. In the next section, the procedure to be followed when maize is exported under the one-channel system, will be considered.

2.e. The Procedure for the Exporting of Maize under the one-channel system

During the years preceding the introduction of the present one-channel marketing system, the private grain trade performed all the services connected with the export of maize - procuring supplies in the producing areas, arranging for transportation to the ports and for shipment and overseas disposal.

While the Maize Board is the only buyer and seller of maize in the controlled area A, within the Republic, it does not itself sell any maize beyond the borders of the Republic. The amount of maize to be exported each year varies according to the stocks available, which in turn depend on the crop for the particular season under review. Provided stocks are available, both white and yellow maize is sold by the Board to local and foreign buyers for the purpose of export.

Maize cargoes, as distinct from maize parcels, (See Footnote 69) are sold on a tender basis once a week. In the past this has more often than not taken place on Wednesdays. The procedure followed is that the South

69) One maize cargo is a full shipload of maize and is approximately 11,000 tons. A maize parcel is less than a shipload.

African Grain and Produce Shippers' Association of Johannesburg is informed by telephone, usually on a Thursday, of the number of cargoes, the grades, times of shipment, ports of shipment, whether the maize will be delivered in bags or in bulk and finally, the closing date and time of the tenders. If all this information passes on to the South African Grain and Produce Shippers' Association on a Thursday, the closing date and time is usually set for the following Wednesday at 2.30 p.m. The Maize Board will, under no circumstances, accept responsibility for messages passed on incorrectly by the Association to its members, nor is it liable in any way, if any of the Association's members is not given the facts regarding the maize available for sale. Should other buyers, who are not members of the South African Grain and Produce Shippers' Association, wish to obtain the necessary information, the Board will be prepared to supply this information to them by telephone.

A buyer, who wishes to tender for cargo quantities of maize, must lodge with the Board, before the tender closes, a tender bond to the value of R1000. Such a tender bond shall be in the form of a guarantee issued by a bank, acceptable to the Board or a banker's cheque from a bank acceptable by the Board or a cash deposit.

Should the successful tenderer fail to lodge with the Board, within a stipulated time, the performance bond that is required in terms of the contract, he shall forfeit his tender bond. Furthermore, he shall be liable for any damages suffered by the Board as a result of his failure to fulfil his obligations in terms of his successful tender. The Board may also withdraw its acceptance of the offer (tender) that it accepted in the first instance. On the other hand, the Board will return

the tender bond to the successful tenderer, immediately the required performance bond has been established. The tender bonds submitted by the unsuccessful tenderers, will be returned as soon as possible after the closing date of the tender.

The basis on which prices must be submitted, is that quotations, to the nearest one hundredth of a cent, must be given for each cargo quantity on the basis of 200 lb. net weight either

1. in bulk alongside the elevator, or
2. in bags alongside ship as the case may be.

Tenders in sealed envelopes and addressed to the manager, must reach the Mealie Industry Control Board in Pretoria, not later than the closing time stipulated in the advice of tender. The envelope in which the tender is submitted, must indicate clearly to which tender it refers. Tenderers have the option of submitting a provisional tender in a sealed envelope, prior to the closing time, but such a provisional tender shall only be valid, if it is confirmed by telephone, or in some other way, prior to the closing time of the tender, without disclosing the tender price. Furthermore, such a provisional tender price may be increased or decreased by telephone, or in any other way, provided this is done before the closing time of the tender.

The Board cannot in any way be held responsible, if tenders are opened in error by an official of the Board, who is responsible for the opening of the daily mail received by the Board. To prevent tender documents from being exposed, if such an accident should occur, tenderers are advised to enclose their sealed tenders in yet another envelope accompanied by a letter which states that the sealed envelope contains a tender.

Within a few minutes after the closing date and time

of the tenders, they will be opened in the office of the management of the Maize Board, in the presence of at least two senior officers of the Board. Any organisation that has submitted a tender may have an authorised representative present at the opening of the tenders. The contents of the tenders will be disclosed to all present. After the opening of all the relevant tenders, the South African Grain and Produce Shippers' Association is immediately advised by telephone of the prices tendered. The Association may in turn advise those members, who did not have an authorised representative present at the opening of the tenders. The Board's acceptance of a tender is communicated to the successful tenderer before 4 p.m. on the same day, and thereafter the South African Grain and Produce Shippers' Association is informed of the results of the tender.

While the Board will usually accept the highest tender for a cargo of maize, it does reserve the right not to accept the highest or any tender.

It can happen that the highest price is bid by two or even more tenderers. In such a case the method known as the "Table of Random Numbers" is used to determine which shall receive preference.⁷⁰⁾

A table of random numbers can be found in most text books on statistics. Each number in the table must consist of the same number of digits. For example, a small portion of a table containing say two-digit numbers would appear as follows:

03	47	43	73	86
97	74	24	67	62
16	76	62	27	66
12	56	85	99	26
55	59	56	35	64

70) Unpublished memorandum of the Maize Board of Conditions of Sale. Applicable to maize for export. M.U. 65/108.

These numbers can be read in any methodical way: vertically, horizontally, diagonally, forwards or backwards.

If the table on the previous page is to be used to decide which one of, say, 3 tenderers, who have all tendered the highest price, is to be awarded the contract, then each one of the three would be awarded a two-digit number. Now, after it has been decided whether the table should be read horizontally or vertically or diagonally, the table or a certain portion of it, would be referred to. If the three tenderers are A, B and C and the numbers of each are, say, 43, 16 and 62 respectively, then, A would get the contract if the table is read horizontally, B would be successful if the table is read vertically, and C would get the contract if the table is read diagonally.⁷¹⁾

As already stated, a cargo of maize is considered to be 11,000 tons. It does, however, happen that the successful tenderer has chartered a vessel that will take more than 11,000 tons, and that it will therefore be uneconomical, from his point of view, if he loads it with only 11,000 tons of maize. In such a case the Board will endeavour to supply an additional quantity of maize, over and above that put out for tender, so that the exporter is able to fill completely the vessel chartered. The South African Grain and Produce Shippers' Association will, from time to time, be informed by the Board of the maximum quantity of maize the Board is prepared to sell to an exporter to fill a vessel. Exporters should, therefore, make it their business to obtain this information from their Association, or from the Board, before chartering a vessel that might take more maize than the maximum

71) G.L. Thirkettle: Weldon's Business Statistics and Statistical Method; MacDonal & Evans Ltd., London, 1957, pp. 16/17.

quantity provided for in a contract.

Subject to the limitations referred to above, the additional quantity required to fill a vessel may be acquired from the Board by purchasing a stated maximum quantity of maize of the same grade as the maize cargo before 12 a.m. on the day on which a tender for maize cargo closes, at a price equal to that realised by the Board, on that day, for a cargo of maize of the same grade. This can only be done provided the names of the vessels, or the names of alternative vessels, for which the additional quantity of maize is required, are disclosed to the Board. Also such a purchase must be effected before the loading of a vessel, for which the additional quantity is required, is actually started.

As pointed out, the Board enters into a contract with the successful tenderer, who buys maize from it. The following is a summary of the main points contained in the latest standard memorandum of agreement (issued 1/5/65), which is the contract entered into between the Board and the buyer of maize cargo for export.

Conditions of purchase of maize cargoes

1. The Board sells to the buyer for shipment, in not more than two vessels, 11,000 short tons of maize, which may be increased or decreased:
 - a. by 12½% at the option of the buyer if only one vessel is used, and provided he is not using space to export other cargo, other cargo being almost anything else with the exception of kaffircorn;
 - b. by 12½% at the option of the buyer, if only one vessel is used for lifting both the cargo covered by this contract and another cargo of maize sold by the Board to the buyer, or any other person under another contract, provided, furthermore, that the quantity of maize lifted under this contract must not be more than 50% of the total quantity of maize lifted by such a vessel in respect of the aforesaid two cargoes;
 - c. by 12½% at the option of the buyer, if shipment takes place in two vessels, lifting the cargo covered by this contract

and two other cargoes of maize sold by the Board under two other contracts, but in such a case the quantity of maize lifted under this contract shall not be more than $33\frac{1}{3}\%$ of the total quantity of maize lifted by such two vessels in respect of the aforesaid three cargoes;

- d. by 5% at the option of the Board if shipment takes place in two vessels, provided that this option shall not be exercised by the Board if a cargo or part of a cargo of kaffircorn, sold by the Board under another contract, is lifted by both these vessels.
2. The maize shall be South African maize of the current crop year or the previous crop year, at the option of the Board. The crop year and grade(s) shall be as defined in Government Notice No. R.1141 of 31st July 1964. The Board has the option, subject to certain provisions, to supply either maize with a moisture content not exceeding $12\frac{1}{2}\%$ by weight or maize with a moisture content not exceeding 14% by weight. The moisture content shall be determined as set out in the Government Notice quoted above.
 3. The price for the maize paid by the buyer shall be paid in South African currency per 200 lb. net weight of maize in bulk free alongside the grain elevator, provided the moisture content does not exceed $12\frac{1}{2}\%$. On the other hand, if the moisture content is more than $12\frac{1}{2}\%$, but does not exceed 14%, the price shall be reduced by the same percentage as that by which the moisture content of the maize exceeds $12\frac{1}{2}\%$. Therefore, if the moisture content is say $13\frac{1}{2}\%$ by weight, the price will be reduced by 1% as the moisture content is 1% above the $12\frac{1}{2}\%$ maximum laid down in the agreement.
 4. The agreement specifies alongside which port elevator of the South African Railways the maize shall be delivered, subject to certain provisions. Furthermore, the maize shall be delivered at the buyer's call between two given dates, both dates inclusive, provided that, if the vessel scheduled to load the maize is not ready during the stipulated period, the Board may, at its discretion, arrange for the loading of other vessels scheduled to lift cargo for other parties who have entered into contracts with the Board for the export of maize or kaffircorn. The Board will do everything possible to ensure that the maize is released on time for shipment but, in the event of a delay in such a release, from any cause whatsoever, the risk shall, subject to what is stated in the next paragraph, be with the buyer.

The Board shall arrange for the release of maize alongside the elevator at an average rate of not less than 1,500 long tons per working day, weather permitting, always provided that the vessel concerned is capable

of being loaded at this rate, and provided further that, in respect of vessels taking cargo other than maize, the only loading time for maize that will be taken into account, is when the vessel is in the loading berth, or waiting while another vessel is being loaded with maize or kaffir-corn not covered by this contract. The calculation of the loading time shall commence to run 24 hours after the vessel is in an elevator berth or awaiting berth, while another vessel is being loaded with maize or kaffir-corn for another contract. The vessel so waiting must be ready for loading and must have given notice, during the business hours of 9 a.m. and 5 p.m. or up to 2 p.m. on Saturdays, that she is ready for loading.

Should the maize not be released within the stipulated time, the Board shall be liable to pay the buyer damages in lieu of demurrage. Such damages shall be calculated at the rate of R500 per running day of 24 hours or pro rata for part of 24 hours, plus interest at the rate of 6% p.a. on the price of the contract, calculated from the day on which damages in lieu of demurrage commence, to run to the day of completion of loading, including both the said days.

The Board shall, however, not be liable for any other damages that the buyer may suffer as a result of a delay in the release of the maize. Should there be such a delay in the release of the maize, the final date of shipment shall be extended by the period of duration of such a delay in release. There shall, however, not be any additional liability to the buyer.

As conclusive proof of the weight and grade(s) of maize delivered by the Board to the buyer, the weight certificates that are issued and certified by the South African Railways, and the inspection certificates issued by the Department of Agricultural Economics and Marketing, shall be acceptable.

5. Prior to the commencement of the loading of maize, a representative of the Department of Agricultural Economics and Marketing has the right to inspect the holds of a vessel into which the maize is to be loaded. Also, while loading is taking place, and after it has been completed, he may again inspect the maize in the holds of the vessel. If he should find, during his inspection, that the holds are insect infected, he must advise the buyer's agent and also the marine surveyor, employed by the buyer, of this fact. In such a case the buyer shall refuse to accept notice of readiness for the loading of the vessel, until such time as the representative of the Department of Agricultural Economics and Marketing certifies that, on further inspection, he has found no live insects in the holds of the vessel. The Board has the right to refuse to release the maize for loading, until the holds of the vessel have been declared free from live insects.

6. The buyer must give the Board at least seven days notice in writing of the approximate quantity, the name of the vessel and the expected date of loading of the vessel. The date of loading given by the buyer shall not be before the first date of the stipulated period, within which loading must take place and which is stated in the contract.
7. Railage to the elevator at the port of shipment, grading charges at normal rates and elevator and storage charges, according to the tariff charges of the South African Railways, up to the actual date of completion of shipment are, subject to certain provisions, for the account of the Board. The buyer, however, shall be liable for clearing, forwarding, wharfage, stevedoring and for any other charges not specifically stated to be for the account of the Board.
8. If the maize is to be exported in bags, the buyer must make the necessary arrangements for the bags to be available when required. All costs involved in supplying these bags will be for the account of the buyer.
9. Payment for maize purchased shall be made in cash or by bank guaranteed cheque at the Board's offices in Pretoria and shall be made not later than 12 a.m. on the seller's last business day, prior to the commencement of shipment.

The Board will be under no obligation to authorise the release of the maize earlier than six business hours prior to the commencement of shipment. The Board will, however, be obliged to release maize that must be bagged before shipment, at an earlier date, provided payment in cash or by bank guaranteed cheque, for that quantity of maize to be released for bagging, has been made to the Board, prior to the release of the maize.

If, however, the Board releases maize for which it receives payment at a later date than that specified in the contract, the buyer shall also be liable for interest on the purchase price, and shall pay the Board such interest not later than 14 days after the completion of shipment. Interest at 6% p.a. is to be calculated on the purchase price for the period dating from the date on which payment should have been made, according to the contract, and runs to the date of commencement of shipment.

The buyer may, subject to the provisions already mentioned, elect to pay the purchase price at any time after entering into a contract with the Board. The following regulations concerning payment must be adhered to.

- a. The buyer undertakes to pay the Board interest within 14 days of completion of shipment. This is calculated at a daily

rate, varying at the option of the Board, between the rate applicable on such days to deposits at call with the National Finance Corporation, and the rate of interest, which would have been applicable, had the Board's account been overdrawn with the South African Reserve Bank. Interest shall be on the purchase price of the maize shipped, and so prepaid and held by the Board from the date of receipt, to the day before the last day on which payment should have been made, according to the contract. (If the buyer, however, has paid the purchase price, but cannot start loading before the last date stipulated, because the berth is occupied by another vessel loading maize or kaffircorn, the Board shall pay the buyer interest at the rate of 6% p.a. on the purchase price, calculated from the date of payment of the purchase price to the day immediately preceding the Board's last day of business, prior to the commencement of shipment.)

- b. The purchase price prepaid, shall be refunded with interest, if the contract is cancelled as a result of a breach by the Board.
 - c. The purchase price prepaid, together with interest to the date of settlement of the Board's claim for damages, shall be credited to the buyer's account, but may be returned by the Board, pending such settlement, where the contract is cancelled as a result of a breach by the buyer.
 - d. The Board may, at its discretion, refund in full or in part the prepaid amount, without interest, if the buyer requests a refund, pending the arrival of the date prescribed in the contract for payment.
10. Provided the buyer submits to the Board a completed application form, the Board will obtain a permit for the export of the quantity of maize stated in the contract. Such a permit shall be valid only for a specific contract and for the maize dealt with in that contract. If the buyer uses the permit obtained for him by the Board, in any other way, he will have to pay to the Board an amount equal to the difference between the highest price at which the Board could have sold maize of the same grade(s) for export during the time, between the date of this contract and the date of shipment, and the price at which the Board could have sold that quantity of maize, at the time of incorrect shipment, for local consumption at the port of loading.
11. Within seventeen business hours after the Board has accepted the buyer's offer to purchase maize, the buyer must deposit with the Board cash or provide bank or insurance guarantee, (in a form acceptable to the Board, and which shall be valid for at least 30 days after the last day of shipment), equal to 5% of the total purchase price that will be due from the buyer under

this contract. This is known as the Performance Bond. Should the price of maize for subsequent contracts vary greatly, before shipment of the maize purchased in the first contract, the Board may, at its discretion, require the buyer to lodge an additional Performance Bond. This additional sum deposited will, however, be returned to the buyer, if payment of the purchase price has been made.

If it becomes apparent to the Board or the buyer that the shipment of maize will commence at a later date than that stipulated, the buyer must have the date of validity of his guarantees extended by the number of days by which the shipment of maize has been delayed.

The full amount of the Performance Bond(s) shall be forfeited at the Board's option, if the buyer fails to carry out the terms of the contract entered into. Furthermore, the buyer shall be liable for any damages suffered by the Board, as a result of the buyer's failure to fulfil the terms of the contract. If the buyer does not deposit the Performance Bond(s), he has defaulted in terms of the contract, and the Board shall have the right to cancel the contract and recover from the buyer any damages it has suffered. When the contract has finally been fulfilled, the Board shall release the Performance Bond(s) to the buyer.

12. If shipment of maize does not commence by the last day, by which it should commence according to the terms of the contract, the buyer shall be in default, unless he has applied in writing or by telephone for an extension of the loading period. In case of such a default, the Board shall be entitled to cancel the contract and claim damages and costs.

If the buyer is in default, because shipment has not commenced within the stipulated period, the Board may, at its discretion, allow an extension of the time for loading, provided that the following conditions are adhered to.

- a. The buyer shall pay the Board interest at the rate of 6% p.a. on the full price of the maize, such interest being calculated from the last day of business of the Board, immediately preceding the last permissible date of shipment up to and including the date of payment. In addition, the buyer must pay the Board:
- i) a charge of .1 cent per 200 lb. per day, as from the day immediately following the last permissible date, until the day on which shipment commences, provided that it does commence within 10 days of the last permissible day;
 - ii) after the expiry of the 10 days mentioned in (i) above, a charge increased to .2 cent per 200 lb. per day, until commencement of shipment, provided that shipment

does commence within 20 days after the last permissible date;

- iii) If the shipment commences more than 20 days after the last permissible date, a charge increased to .3 cent per 200 lb. per day, as from the 21st day until the commencement of shipment.
- b. In addition to any other costs incurred by the Board, the buyer shall pay to the Board, on demand, any costs and charges, which the Board has incurred, as a result of the fact that shipment did not commence on or before the last permissible date of shipment. These costs shall include demurrage on trucks, cost of outside stacking at the port, fumigation, redirection of trucks, etc.
- c. If shipment does not commence on or before the last day permissible, the buyer shall pay to the Board all losses of dispatch money or demurrage incurred, and any other proved losses suffered by other parties, who had entered into contracts with the Board to export maize or kaffircorn or both.
- d. At least 16 business hours of the Board before the last permissible date of shipment stated in the contract, the buyer shall furnish to the Board an additional performance bond for an amount to be determined by the Board, having due regard to the probable costs and damages, which the Board expects to incur and suffer.
- e. The Board shall, at its discretion, arrange for the delivery of such quantity of cargo, and at such times as it may consider equitable for the loading of vessels, which are scheduled to lift cargo for other parties who have entered into contracts with the Board for the export of maize or kaffircorn or both.

Should shipment not take place within the time allowed in the contract, the Board may at any time cancel the contract and sell out against the buyer and so recover from the buyer damages agreed to on the following basis.

- i) The Board shall put out on tender in the usual way, the maize concerned in the contract, which has been cancelled. If the Board obtains a lower price at the second attempt, the first buyer shall be liable for the difference between the first and second prices. The date for shipment once the cargo of maize has been sold for the second time, will be within 3 calendar months after the date of cancellation of the first contract.
- ii) The Board shall also be able to claim for storage charges at the rate of .1c per 200 lb. per day, from the first day immediately following the expiry date of the extension allowed, to the actual

date of shipment, but not later than 3 calendar months after the date of cancellation of the first contract. However, should the Board find that the actual storage charges it has incurred are higher than those calculated above, it can claim these higher storage charges from the first buyer of the maize.

- iii. The Board may also claim interest at the rate of 6% p.a. on the full price of the contract. Such interest shall be calculated from the day immediately following the date of expiry of the extension allowed, up to the date immediately prior to the commencement of shipment by the new buyer, provided that such date shall not be later than three calendar months after the date of cancellation.
13. Should it be impossible to fulfil this contract, due to such factors as prohibition of export, blockade or hostilities, then the whole contract, or the part of it which cannot be fulfilled, shall be cancelled.
14. On the other hand, should the fulfilment of this contract be unavoidably delayed because of riots, strikes, lockouts or a breakdown in the South African Railways' system at the port(s) of loading, the final date of shipment that is laid down in the contract shall be extended by the duration of such outside occurrences, without any additional liability to the Board or the buyer.
15. According to the contract, the buyer must agree not to sell the maize purchased under the contract to an importer of maize in the United Kingdom at a price lower than the minimum price for imported maize, fixed by the authorities in the United Kingdom from time to time.
16. The contract concludes by stipulating that the Supreme Court of the Republic of South Africa, Transvaal Provincial Division, Pretoria, shall have jurisdiction to deal with any dispute arising out of the contract and that the buyer agrees to accept the judgement of this court. 72)

Purchase of Maize Parcels

When considering maize that is bought and sold for export under the term "maize parcels", it must be appreciated that these parcels are individually much smaller than the maize cargo previously discussed.

72) Unpublished memorandum of agreement between the Maize Board and buyers of maize cargoes - 1st May, 1965

The Maize Board will, on any working day after 9 a.m., with the exception of the days on which a tender for maize cargo closes, be prepared to sell maize parcels at prices which are fixed from day to day. The Board is prepared to make these sales provided that:

- a. shipment of the maize parcel will be made within eight weeks of the sale taking place;
- b. there is a maximum quantity that will be sold to any one person during any one week;
- c. that the quantity of maize required by the buyer can, without inconvenience, be railed to the relevant port in time for shipment at the date required;
- d. a variable, maximum total quantity will be sold by the Board in any one week, and information about the maximum quantity that it is prepared to sell, is available and can be obtained by anyone interested, either from the Board or from the South African Grain and Produce Shippers' Association.

The Board will also consider selling a maize parcel for any quantity less than a cargo lot, on a day on which a tender for maize cargo closes, against a firm bid, submitted to the Maize Board before the closing time of tenders for maize cargoes.

Once the Board has accepted a firm offer from a buyer to purchase maize for export, it shall be considered that the buyer has entered into a contract with the Board, on the conditions of sale applicable to maize cargoes or maize parcels that are sold for delivery at a port. The buyer of cargo or parcel maize must sign a contract for such a purchase, and then lodge the contract with the Board, within eight days of the Board having accepted his offer. If the buyer, after he has been informed that his tender has been successful, should fail to sign the contract within the period prescribed, or such an extension of the period as may be necessary, the Board shall be entitled, either to accept any less favourable tender of those received with that of the

original buyer, or, if the Board so wishes, to call for fresh tenders. The original buyer, who has not signed the contract, will then have to pay to the Board any additional expenses incurred by it having adopted any of the courses set out above. He will also be liable for the difference between the price he had originally tendered and any lower price, which the Board subsequently had to accept.

The contract entered into between the Board and a buyer of a maize parcel is in many respects the same as that signed by the Board and the buyer of maize cargo. For this reason a complete summary will not be given of the standard maize parcel contract, but the main points of difference of a maize parcel contract as compared with a maize cargo contract are here summarised.

1. The quantity of maize purchased in a maize parcel may be increased by 5% at the option of the buyer, or by 10% at the option of the buyer, if shipment is effected of at least 1,000 long tons in bulk in one vessel.
2. No provision is made for damages to the buyer, if the maize is not released within the stipulated time by the Board. In the maize cargo contract the buyer is entitled to damages in lieu of demurrage at the rate of R500 per running day of 24 hours.
3. A representative of the Department of Agricultural Economics need not inspect the holds of the vessel into which the maize is loaded, as must be done in the case of maize cargo.
4. Shipment shall be effected by the buyer in grain bags at the port mentioned in the contract but, if quantities of 1,000 long tons or more per vessel are involved, then the maize may be shipped in bulk and this also

applies to quantities of less than 1,000 long tons, if lifted by a vessel loading a full cargo of maize.

5. The Board shall, at its discretion, arrange for the delivery of such quantity of cargo at such times as it considers equitable for the loading of vessels (which have to load cargo for other buyers, who have entered into contracts with the Board for the export of maize or kaffircorn), but this shall not apply to a parcel of maize that has to be loaded into a liner vessel, which is already anchored at the elevator berth.

Generally speaking, the standardised contract governing the sale of maize parcels is not nearly so involved as the one which is entered into between the Board and a buyer of maize cargo. The main reason for this is probably that, in the case of maize parcels, the transactions are for much smaller amounts, and therefore the losses, that can be suffered on both sides, are much less in the case of default.⁷³⁾

2.f. The Financing of the Maize Trade

One of the problems encountered in financing the maize trade is that production is concentrated only in a specific part of the year, while the consumption of maize takes on a more or less even pattern throughout the year. It thus means that huge stocks of maize have to be stored immediately after the harvest, which, of course, involves a large amount of capital. Towards the end of the season the stocks have run down and the capital tied up is, therefore, very much less. It is obvious that, if the total capital required at the peak period is acquired on a long term basis, some of that

73) Unpublished memorandum of agreement between the Maize Board and buyers of maize parcels - 1st May, 1965.

capital will be idle once the peak has passed. The net result will, therefore, be that the effective rate of interest on the capital for the period, when the capital is actually being utilised, will be much higher than the actual rate at which the money was borrowed. Therefore, if it is at all possible, some of the capital required to finance the maize trade should be obtained on a short-term basis.

It is, however, not only the financing of additional stocks that increases capital requirements. Storage facilities are seldom provided on a large scale by third parties, and it is therefore the Board itself or its agents that must find the capital for these facilities.

Yet another factor that plays an important part is that prices of agricultural products tend to show greater instability than those of manufactured goods. This has the effect of causing the provider of capital to look upon the financing of agricultural products as a proposition that contains greater risks than one appertaining to manufactured goods. It is the opinion of Dr. A.P. Scholtz, assistant manager of the Maize Board, that this risk factor associated with agricultural finance, has led to considerable reluctance on the part of financiers to provide capital for any venture connected with agriculture. To substantiate his argument he states that there was a time when the Land Bank loans to co-operative associations were limited to a maximum of 60% of the total estimated value of the delivered product. It may, therefore, be concluded that the capital requirements for a certain turnover of agricultural products is not only higher than for a similar turnover of manufactured goods, but that the cost of the capital is also more.

The State itself has done a great deal to help in the financing of agricultural products, both in their

production and their marketing. Its assistance has been mainly, although not exclusively, through such action as its help to the agricultural co-operative movement, the introduction of the Control Boards and Marketing Schemes for the more important agricultural products, and the advancement of price stability for agricultural products that has resulted from these Control Boards and Marketing Schemes. The co-operative associations would not be such a force amongst maize farmers if they were not the agents of the Maize Board.

The role of the Land Bank as the financier of agricultural co-operative activity has grown very fast. Not only has its volume of business in this direction grown, but today the Land Bank will give a 100% advance on the value of all controlled products delivered to co-operative associations.

As the price of South African produced maize is now fixed from season to season by the Maize Board, the marketing risk from the producer's point of view has virtually disappeared. The producer of maize, therefore, no longer requires a specialised knowledge of the maize market to guide him to obtaining a better price for his maize. Over the short period (one season) price fluctuations have been completely eliminated by the Maize Board.

The producer is not the only one to benefit from the fixing of maize prices for the season. The large maize buyer is now in a good position to determine his financial commitments in connection with his purchases. The growth of the co-operative association movement can also in no small way be ascribed to the stabilisation of maize prices. It must have been very difficult for the management of a co-operative association in the early pre-control days, to determine exactly when the best

moment was to dispose of his stocks. With maize prices fluctuating from month to month, the co-operative association management must have been perpetually faced with a number of irate members, who alleged that they could have done much better financially if they had only taken care of the marketing of their maize themselves. Today, however, the co-operative association, as an agent of the Maize Board, is no longer burdened with such problems.

The buyers of maize, from producers in the O.F.S., Transvaal and the four districts of the Cape Province, where the Board has direct control over the marketing of maize, are, of course, the agents of the Board. These agents must buy maize out of their own funds, store it and dispatch consignments of maize to wherever the Board instructs them to send it. Once the maize has been railed to its new destination, the agent is paid by the Board for the grade and quantity of maize he has dispatched, together with the payment he is entitled to for storing and handling the maize.

Co-operative associations obtain most of their working capital from the Land Bank. In a season with a good crop these advances from the Land Bank total well over R100 million. In cases where the loan is for 100% of the crop value, the Maize Board must furnish the Land Bank with a guarantee amounting to 10% of the money advanced, which is another way of saying that the Board actually participates in the risk. This 100% loan is, however, of considerable benefit to the co-operative associations as it enables them to give their members certain credit facilities, which they need for production purposes. In addition to these crop loans to the co-operative associations, the Land Bank also advances considerable sums to them for the erection of storage facilities.

The merchants and commercial millers, who are agents of the Board, obtain any financial assistance they may require, mainly from the commercial banks. Through storage contracts, the Board does, however, in cases of need, assist the merchants and commercial millers with a certain amount of direct finance.

In the case of distributors and processors of maize, the Board provides only a limited amount of financial facilities. Payment is usually made against invoice, provided a suitable guarantee has been given to the Board. The time it takes to present an invoice depends, of course, on postal facilities, and can amount to a few days. These buyers therefore operate mainly on their own funds, together with the facilities they may obtain from Commercial Banks.

In the last few years the Board has, however, sold maize to distributors and wholesale buyers on a 60 days' basis, provided that the Board holds a suitable guarantee from such a buyer. Surprising though it may seem, very little use has been made of this facility.

Trade credit appears to be fairly freely available from distributors and millers to any merchants who buy their maize and maize products. At this stage in the distribution process, any additional financial requirements that are not taken care of by credit facilities, are met out of the buyers' own funds or out of facilities from Commercial Banks.

For its own financial requirements the Board makes use of the funds it has available in its reserves. If necessary, the Board can also obtain an advance from the South African Reserve Bank. It is, however, very rarely that it makes use of this facility.

In connection with the export trade, the sales of maize are financed by the Board for only a very short period. The whole purchase price of such maize being due

to the Board from the buyer before the maize is actually loaded on board ship. Financing by the Board is thus limited to the period between the time when the Board has paid its agent for the maize supplied and the date on which the Board receives payment from the exporter.

It should be pointed out that the financing of the export maize trade involves a considerable amount of financial burden and risk. Shipping is usually done per ship load, which means that \pm 125,000 bags at \pm R3-50 each, representing \pm R437,000, are concerned in each consignment. If the exporter has a number of ship loads of maize in transit at the same time, the finance he requires can amount to several million rand. It is therefore not surprising that the international grain trade is in the hands of only a limited number of large organisations.⁷⁴⁾

It is therefore certain that the State, through the Marketing Act and Control Board, has, in no small way, been responsible for considerably easing the problem of finance connected with the sale of maize. The stability of the maize price, which has resulted, has made it much easier for everyone concerned with the internal distribution of maize and maize products to arrange for such necessary financial assistance as they may require.

While the tender system is the method at present being used by the Maize Board to sell maize for the export market, there are other methods by which the maize could be sold. It therefore appears right that some attention should at this stage be given to these other possibilities.

74) A.P. Scholtz: Finansiering van die Landbou-afset. Paper read by Dr. Scholtz and subsequently published by the Maize Board.

Much information on the financing of the maize trade was also obtained during discussions with officials of the Maize Board.

2.g. Other possible methods of Maize Sales in the
Foreign Market

The efficiency of the current tender system employed to sell maize on the world market has on more than one occasion been questioned. It has often been stated, especially by those who do not really appreciate the virtues of the tender system, that the Maize Board, and the producer in the end, would do better if some other system for selling maize abroad were employed.

If a better method is to be found, it would have to provide for the following improvements.

1. It should increase the Board's net receipts per bag sold, for after all, if an alternative method is technically more efficient, but causes the export loss per bag sold to increase, it is still not a proposition worth considering.
2. It should increase the volume of foreign maize sales for the Board, without having a detrimental effect on the net realisation per bag exported.

Taking the second point mentioned above first, the Board is convinced that the total volume of exports could not be increased by simply changing to another method of sale. During the years when the Republic had an enormous surplus of maize, there was some difficulty experienced by the South African Railways in shifting such a huge volume of maize from the interior to the ports of the Republic, but in the end the Railways did manage to do what was required of them. At no time, however, did the Board experience any difficulty in finding buyers for this surplus of maize. Buyers were always available for all the maize that was offered.

The question of other methods of sale must therefore be viewed only from the point of view of the first

point mentioned above, namely whether any of the other methods would yield a higher net price to the Board and the producer.

Various other methods have been suggested for the overseas sale of maize. This discussion will, however, be limited to the three methods most often suggested.

a. The appointment of Overseas Agents

Overseas Agents, operating on a commission basis, could be appointed to sell maize on behalf of the Board at predetermined prices, or at prices to be negotiated. There are, however, a number of disadvantages attached to such an arrangement, the main ones being as follows.

1. It would be exceedingly difficult to find a really good and reliable agent who was prepared to specialise only in South African maize.
2. If, on the other hand, the agent is also dealing in maize from other sources or in other cereals, it would be almost impossible to assess whether the agent is doing his best to promote the sale of South African maize over and above the sales of his other interests.
3. When an agent is appointed to operate on behalf of a principal, it will still require a limited amount of direct contact between buyer and seller. It is therefore by no means certain that marketing costs will be reduced and that the Board's net realisation will be greater than it is at present under the tender system.
4. For a proper pricing policy to be applied, the Board would probably have to sell on a cost,

insurance freight basis, or alternatively on a cost and freight basis. This would involve the Board in full scale operations in the freight market, which would mean increased professional staff who were experts in this field. Such additional staff must in the end result in increased overheads. Therefore, unless the Board can be sure that such overseas agents will do everything in their power to promote the sales of South African maize, it is more than likely that the appointment of overseas agents would increase the Board's costs per bag sold, and so reduce its net price realised.

It is well worth noting that the Rhodesian Grain Marketing Board once employed an agent in London to dispose of all its surplus grain. The result was that the net price realised by the Rhodesian Board through the agent was considerably less than that realised by the South African Maize Board operating under the tender system. The Rhodesian Board has since switched back to the tender system and a Commission of Inquiry in 1962/3 recommended that "the existing arrangements for disposing of exports should be maintained". 75)

b. Setting up the Board's own overseas sales organisation

As pointed out previously, competition on the world grain market is very keen indeed. Not only must South African maize compete with maize from the Argentine and U.S.A., but it must also compete with

75) Report of the Commission of enquiry into the Maize and Small Grain Industry of Northern and Southern Rhodesia, 1962/3, Paragraph 140.

other feedstuffs, such as barley, oats, sorghums, feed wheat and non-grain fodder. The broad level of prices for all these is governed by the general levels of supply and demand over which the South African Maize Board obviously has no control. Whether it will be to the benefit of the Maize Board to set up an overseas sales organisation of its own, therefore really depends on whether such an organisation will be able to perform all the marketing services more cheaply than is at present being done by the various grain traders. Naturally, if the Board has to accept the price as given, it can only increase its net realisation per bag sold in the foreign market by cutting down on its marketing costs.

The Board is of the opinion that it will not be able to achieve the same coverage of markets as is being achieved at present at costs lower than the margin on which the exporters are operating.

The Board bases this view on the following consideration.

1. On account of political considerations, the Board would not at present be able to cover markets in certain countries that are at the moment being taken care of by the international grain traders. The total number of markets effectively covered would therefore be reduced if the Board sets up its own sales organisation. Another fact that must be taken into account, is that it would take a considerable period of time before the Board can effectively establish the world wide network of contacts, which is at present available to it through the international grain traders.
2. The overheads of the Board per bag of maize sold would be in excess of the corresponding costs to

the exporters. With its own selling organisation the Board would be in direct competition with the present exporters and would need the services of highly specialised personnel, who can only be had at very high salaries. The sales organisation would therefore involve the Board in considerable expense, and as all the costs can be recovered only by the sales of South African maize, which would be fairly small in respect of the individual sales areas, the cost of the organisation per bag of maize sold must be higher than that of the exporters.

3. To meet the needs of overseas buyers, the Board would be required to review the market as it was at that time, and then to make sales for delivery six or more months ahead. As the sales organisation would be restricted to dealing only in South African maize, the Board would be more vulnerable than exporters in such instances. Current exporters do "hedge" such transactions in the established and recognised futures markets overseas. The Board, however, would not be able to go in for hedging, with the result that it would have to take far more risk than the exporters at present do, alternatively, it would have to forego such forward sales.
4. Because the present tender system provides for competition, it ensures that the Board shares in the exporters correct anticipations of prices. If on the other hand the exporter wrongly interprets the foreign markets and quotes too high a price, he only is the loser, the Board has made its sale and is never called upon to share losses with an exporter who has incorrectly anticipated the market. "If an exporter sold short in anticipation of a decrease in prices and the market does go down, the exporter has an advantage

over his competitors at the time when maize in that shipping position is put up to tender by the Board. The particular exporter, in order to ensure that he would cover his requirements, would utilise the 'reserve' to outbid his competitors and the Board would thus receive a higher price than would otherwise have been the case."⁷⁶⁾

On the other hand, if the price does not decline as anticipated by the exporter, his competitors would in any case be selling at prices higher than he anticipated. The important point is that the Board would not be worse off, but, because bids would be guided by market levels, the exporter who sold short would be compelled to outbid his competitors if he does not want to be faced with defaulting on his contract. In such a case the Board would be the benefactor as a result of the wrong anticipations of the exporter.

If, however, the Board itself took all these risks, the best it could ever hope for would be, in the long run, to break even while it maintained its turnover. It is therefore clear that the Board is, in fact, under the tender system, better off than would be the case if it established its own overseas selling organisation.

c. The Fixing of prices at which the Board would deliver
Maize at the ports for export

If the Board adopted this procedure, it could succeed only if it operated a perfect pricing policy which, while theoretically possible, is seldom achieved in practice.

If the Board sets the price too low, it would be the loser, because it would receive less than would have been the case if it had given buyers an opportunity to compete

76) "The South African Export Trade in Maize." Part II, Mielienus, Official Journal of the Maize Board, Pretoria, September 1963.

with each other for the maize offered.

Conversely, if it sets the price too high, it would still be the loser, because it would not sell any maize at all. Needless to say, this would result in an accumulation of stocks, which could create a serious problem.

Bearing the above two possibilities in mind, it would therefore appear that the Board would have no option but always to fix the price too low - even if just a little below that attainable.

It would therefore appear that this would be a most unsatisfactory method of selling, especially if supplies on the world market are plentiful and the Board consequently has to be a keen seller in order to avoid the accumulation of stocks and the expense involved in the storing of such stocks.

As regards the most suitable method for the sale of maize on foreign markets, the Board's point of view can be summarised as follows.

1. The volume of sales of South African maize on foreign markets would not be increased above that achieved by the tender system. In fact, the Board is convinced that as a body the exporters provide all the cover of foreign markets that is needed for South African maize.
2. Because considerable competition exists amongst exporters at present participating in the tender system, the Board is certain that this competition provides it with the necessary protection it requires against any malpractices or excessive margins of profit to the trade.
3. The Board is convinced that no other known method of marketing will provide it with a higher net realisation per bag than it at present obtains under the tender system. It is therefore sure that the

necessary marketing service required to sell South African maize in foreign countries cannot be performed more efficiently than is being done at present.

The Board is therefore of the opinion that the present tender system is the most suitable for its requirements and will continue to remain so, provided there is always effective competition amongst the tenderers participating. It will therefore do everything it can to ensure that such competition is maintained, and will guard against any attempt to undermine the competitive element. 77)

77) "The South African Export Trade in Maize",
Part II. Mielienus , September 1963