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THE

AGRICULTURAL CRISIS

VOLUME II



GENEVA, 1931.

LEAGUE OF NATIONS

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[Distributed to the Council
and the Members of the League.]

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Geneva, November 20th, 1931.

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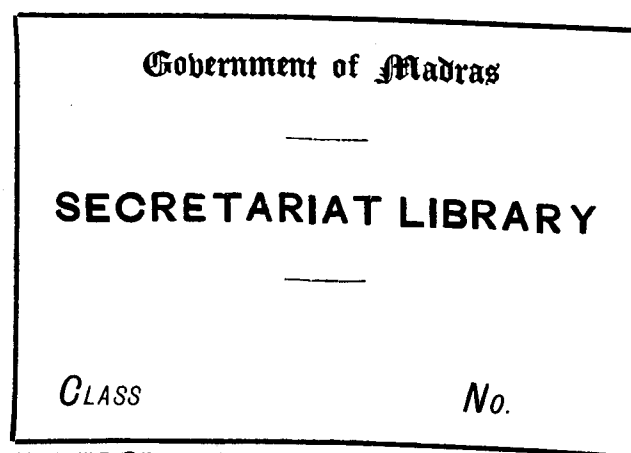
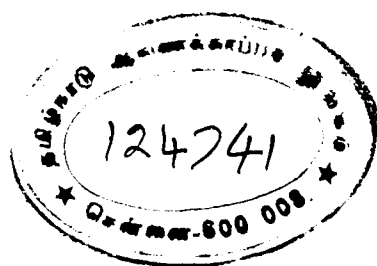
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THE AGRICULTURAL CRISIS

VOLUME II

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TABLE OF CONTENTS.

	Page
Introduction. — Note by the Secretariat.	5

Part I.

THE POSITION OF AGRICULTURE IN VARIOUS COUNTRIES.

Canada	9
China	25
Colombia	35
Egypt	44
Portugal	48
Turkey	55
Union of Socialist Soviet Republics	59

Part II.

THE SPREAD BETWEEN THE PRICES PAID TO THE PRODUCERS AND THE PRICES PAID BY THE CONSUMERS.

General Remarks	73
Austria	75
Finland	80
Germany	82
Hungary	87
Netherlands	92
Norway	93
Poland	97
Roumania	99
Spain	105
Switzerland	106
United States of America	110

INTRODUCTION.

Note by the Secretariat.

The present volume is a sequel to Vol. I on the *Agricultural Crisis* (document C.239.M.105.1931.II.B.), which contains the report of the Economic Committee on the Agricultural Crisis and a series of studies by experts of the position of agriculture in a number of countries — viz., Argentine, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Cuba, Czechoslovakia, Denmark, Estonia, Finland, France and Algeria, Germany, Great Britain, Greece, Hungary, India, Irish Free State, Italy, Japan, Latvia, Lithuania, Mexico, Netherlands, Netherlands Indies, New Zealand, Norway, Persia, Poland, Roumania, South Africa, Spain, Sweden, Switzerland, United States of America, Uruguay and Yugoslavia.

Vol. II on the agricultural crisis consists of two parts. Part I contains studies on the position of agriculture in Canada, China, Colombia, Egypt, Portugal, Turkey and the Union of Socialist Soviet Republics.

Part II contains reports submitted by experts on the spread between the prices paid to the agricultural produce and the prices paid by the consumer. The reports relate to the following countries : Austria, Finland, Germany, Hungary, Netherlands, Norway, Poland, Roumania, Spain, Switzerland, United States of America *. The Economic Committee devoted a chapter to this important question in its general report (Vol. I, pages 68-72).

* The figures relating to Denmark were published in the first volume on the *Agricultural Crisis* — pages 145-147.

Part I

THE POSITION OF AGRICULTURE IN VARIOUS COUNTRIES

low-grade grain, but this has been greatly narrowed by the fall in the purchasing power of Eastern countries, owing to the depreciation of silver.

The above are some of the factors which have combined to bring about the drastic fall in prices of wheat, basis Fort William and Port Arthur, from 1.68 dollar per bushel for No. 1 Northern on August 3rd, 1929, to 51 cents on December 22nd, 1930, in spite of the fact that the world crop of 1929 was considerably smaller than that of 1928.

3. THE DEPRESSION : ITS EFFECTS.

Canada, as an exporting country dependent on a world market, has been particularly affected by the depression. As might be expected in a year of low prices, there is more grain than usual being held on farms for higher prices, feed, or milling for farm consumption. The favourable balance of trade was transformed into an adverse balance. This has had an adverse effect upon Canadian exchanges abroad. Furthermore, all the transportation interests, both land and water, had to face a heavy decline in traffic and earnings as the result of the decreased movement of grain. The shipping companies operating both on the St. Lawrence route and the inland waterways have never had a less prosperous year, and grain exports from the port of Montreal fell from 211 to 90 million bushels. Millions of dollars of bank funds have been tied up in the unsold wheat. Manufacturers, too, and merchants who cater for the prairie trade, have found that the normal stream of orders has undergone an ominous shrinkage, and industrial operations have had to be curtailed by many firms, particularly by the farm implement and motor plants.

4. PRICES.

The tragedy lies in the present low exchange value of wheat. Wheat recently touched the lowest price for many years. It approached those that prevailed during the calamitous days of the great agricultural depression of the 'nineties. In June 1930, when wheat fell below a dollar a bushel for the first time in six years, great concern was felt throughout Canada; and, by November of the same year, when the very modest gross income of over fifty per cent of the population was cut in two, a situation arose that could not safely be ignored.

The downward trend of prices is illustrated by the following quotations for No. 1 Northern at Fort William :

Crop season	Average price per bushel Dollars	Crop season	Average price per bushel Dollars
1913-14	0.89	1928-29	1.27
1914-15	1.33	1929-30	1.24
1915-16	1.14	1930 : January	1.30
1916-17	2.07	February	1.17
1917-18	2.21	March	1.06
1918-19	2.24	April	1.09
1919-20	2.73	May	1.08
1920-21	1.99	June	1.03
1921-22	1.29	July	0.95
1922-23	1.06	August	0.92
1923-24	1.07	September	0.78
1924-25	1.71	October	0.72
1925-26	1.50	November	0.64
1926-27	1.47	December	0.55
1927-28	1.43	1931 : January	0.53

Analysing the above figures, it will be observed that prices reached their peak during the war, and just after in 1919. They fell rapidly thereafter, reaching a very low level in 1923, but recovered considerably in later years. The decline was resumed in 1929, and from that time the price gradually sank until it reached the low level of 50 5/8 cents on December 26th, 1930.

The average price realised during the war years was 1.80 dollar per bushel. At that time, Canada's average exports were 159 million bushels, against the average production of 248 million bushels annually. Between the crop years 1919-20 and 1928-29, total exports averaged 272 million bushels, and prices averaged 1.14 dollar per bushel.

The average prices per units as received by growers at the point of production for the 1930 crop are estimated as follows, the prices for 1929 and for the five-year average 1925-29 being given in parentheses :

Fall wheat	68 cents per bushel (124 ; 122)
Spring wheat	43 cents per bushel (104 ; 100)
All wheat	44 cents per bushel (105 ; 101)

The total value of the 1930 wheat crop is estimated at 174,792,000 dollars (319,715,000; 435,739,540).

As might be expected, the value of farm lands in Canada in 1930 showed a considerable decline in consequence of the fall in the price of agricultural products. The average value of the occupied farm lands of Canada as a whole, including both improved and unimproved land, as well as dwelling-houses, barns, stables and other farm buildings, is shown at 32 dollars per acre as compared with 37 dollars per acre in the previous year.

Wages of both male and female help on farms also declined in 1930. The ability of farmers to pay for labour is lower, and it is increasingly necessary to do as much as possible with family labour. For the whole of Canada, the average wages per month of farm help during the summer season of 1930 were for men 34 dollars, as against 40 dollars in 1929, and for women 20 dollars, as against 23 dollars. The value of board is placed at 22 dollars for men, as compared with 23 dollars in 1929, and for women at 18 dollars, as against 20 dollars. The total wages and board thus amounted to 56 dollars for men, as against 63 dollars, and 38 dollars for women, as against 43 dollars. By the year, the total value of wages and board was 559 dollars for men, as compared with 627 dollars in 1929, and 409 dollars for women, as compared with 465 dollars. The value of the yearly board is given for men as 233 dollars (254 dollars in 1929) and for women as 199 dollars (223 dollars in 1929).

There does not appear to be any doubt that the farmers are finding it difficult to make a decent living on their farms. During most of the past ten years, farm products have sold at a decided disadvantage in relation to the things which farmers have to buy. This fact is brought out by a study of the price indexes appearing on the accompanying chart (index numbers of wholesale prices : 1926 = 100) :

Year	Vegetable products	Consumers' goods	Producers' goods
1919	136.1	118.7	130.0
1920	167.0	140.0	163.1
1921	103.5	108.0	112.8
1922	86.2	95.1	99.1
1923	83.7	93.7	97.8
1924	89.2	93.2	99.5
1925	100.6	97.2	104.9
1926	100.0	100.0	100.0
1927	98.8	95.7	98.5
1928	93.0	95.6	96.7
1929	91.6	94.7	96.3

CANADA

Dr. W. A. RIDDELL,

Canadian Advisory Officer accredited to the League of Nations.

I. CANADA'S AGRICULTURAL WEALTH.

Canada is fundamentally an agricultural country, and the cultivation of the soil, with the closely related activities of dairying, stock-raising, fruit-farming and horticulture, is the chief source of wealth of the people. It employs, according to the last census (1921), over 38 per cent of the gainfully occupied male population and furnishes by far the largest part of Canadian exports. The estimated gross agricultural wealth of Canada is 8 billion dollars. Annual estimates of the total gross value of agricultural production show a total of over 1,667,000,000 dollars in 1929.

No single commodity or industrial undertaking can be compared with wheat as a wealth-creating and wealth-distributing agency in Canada. The wheat production of Canada is exceeded only by that of the United States and of Russia, and in volume of wheat exported Canada has taken first place in recent years.

More than 90 per cent of the wheat produced in Canada is grown in the provinces of Manitoba, Saskatchewan, and Alberta, commonly known as the " West " or the " Prairie Provinces ". The net income from the production of wheat in these provinces -- where the percentage of rural population, as shown by the census of 1921, was 57, 71 and 62 respectively -- is the index of prosperity for Western Canada and, in fact, to a large extent for the Dominion as a whole.

The importance of this crop, not only to farmers, but to the people of Canada generally, insures to the producers of wheat the sympathetic consideration of all classes whenever the prosperity of the wheat farmer is threatened. This fact explains the great interest taken in matters affecting the production and marketing of the grain crop of Canada, not only by legislatures, both Dominion and provincial, but also by organisations and individuals not directly concerned with agriculture.

2. THE DEPRESSION : ITS CAUSES.

Since the beginning of the present century, the wheat crop of the prairie provinces has been the greatest single factor in the national economy of Canada, but never has its importance been so evident as in the last months, during which the situation in relation to its marketing has occupied the attention of the whole country.

Canada is passing through a severe depression. The immediate causes of this depression are so well understood as not to call for extended comment. The European crop of wheat and coarse grains, in 1929, was above the average in both quantity and quality. The yields of potatoes, turnips, beets and other root crops were exceptionally large, and these products were offered so cheaply that they partly replaced grain for human food and for the feeding of live-stock in countries such as Germany, France and Italy, where a tariff maintained the internal prices of wheat at a high level.

The curtailment of export trade with these countries, the marketing by Argentine in the last five months of 1929, just before that country's new crop was harvested, of a large surplus of wheat which is estimated to have been well over 100 million bushels, and, in the latter half of 1930, the unexpected reappearance of Soviet Russia as an exporter of wheat, aggravated a situation that was already serious. Still another factor was the oriental grain trade. In the normal course, the Far East provides an outlet for

Year	Vegetable products	Consumers' Goods	Producers' Goods
1930 January	92.3	95.4	94.6
February	88.8	95.0	92.2
March	85.0	93.5	89.7
April	86.5	92.6	89.0
May	85.3	91.3	87.1
June	82.9	89.8	85.0
July	78.5	88.1	81.7
August	75.5	86.6	80.0
September	70.4	86.4	76.8
October	67.4	86.4	74.7
November	62.0	84.5	73.4
December	59.8	83.1	71.6

The latest federal index number of commodity prices shows that, during the deflation period of the last 17 months, the prices for farm products have fallen about 46 per cent, while the index number for manufactured goods has fallen only 15½ per cent.

This, of course, reduces the current buying power, but the effect which it has on the settlement of debts is even more serious. In 1927 or 1928, the returns from 1,000 bushels of No. 1 Northern wheat at farm prices in Saskatchewan would make a payment of 1,200 dollars on a combine and tractor or pay that much on a bank account or mortgage. At prices prevailing for the past few months it would take over 3,000 bushels of the same grade of wheat to discharge the same obligation. Debtors are very seriously affected by declining prices and farmers as a group are in this class.

From 1913 to 1920, the comparison favoured agriculture, but the opportunity of building reserves for less favourable years was lost in many farming areas, particularly in the prairie provinces, by reason of the fact that settlement and necessary expansion were still in progress. The agriculture of Western Canada is a development of recent years and, because of this fact, farms were established during a period of high-cost-commercialised agriculture. Farmers in this area had no opportunity of "growing into" farming, as is so frequently the case in older settled regions. They missed the advantage of gradual transition from earlier agricultural methods to modern farming. Because of this they approached 1920 with a heavier accumulation of indebtedness and less experience than would have been the case had the accident of settlement not occurred in the manner and at the time that it did. The problem of meeting these obligations is a more serious one than that of meeting current operating costs. Due to this combination of circumstances, the disparity in prices existing during much of the time since 1920 is being felt more keenly on the prairies of Western Canada and in other areas where agriculture is a recent development, than in older settled regions.

Complaints have been general throughout the Dominion that bread prices in 1930 were too high in relation to wheat prices. Bread prices did not come down proportionately in the early months of 1930, and that fact doubtless gave rise to most of the protests. But, by December 1930, they came to bear the same relationship to wheat prices as in January 1929, the same indeed as in the first six months of 1929. Assuming that a bushel or 60 pounds of wheat is used in making 60 pounds of bread — to maintain the same relationship, a decline of 65 cents in wheat from the January 1929 average of 1.21 dollar to the December 1930 average of 56 cents should have been followed by a decline in bread prices of 1.1 cent. That is exactly the decline which did take place in bread prices: in January 1929, bread sold for 7.7 cents; in December 1930, the average was 6.6 cents in sixty-nine localities.

5. PRODUCTION.

From 1890 to 1929, the area under field crops in Canada grew from about 15.6 million acres to over 61 million acres, an increase of 291 per cent during forty years. This was largely due to the opening of the West, but the war also stimulated production, for, within the period 1913 to 1919 alone, the area under field crops grew by about 50 per cent, notwithstanding the decline of immigration and the absence of a large proportion of Canadian manhood overseas.

The marked increase between 1925 and 1930 was due largely to an actual increase in the acreage sown in wheat, as is shown by the following figures:

Year	Acres
1925	20,789,790
1926	22,895,649
1927	22,460,154
1928	24,119,140
1929	25,255,002
1930	24,897,900
1925-29 average	23,103,947

Primary reasons for the Western farmer's choice of the wheat crop include: First, the natural adaptation of the crop to climatic and soil conditions; secondly, its excellent adaptation to frontier conditions characterised by scarcity of labour and capital; and, thirdly, the great abundance and cheapness of unforested, fertile land and the liberal manner in which it was distributed. Among the secondary or continuing causes must be considered the transportation situation, the number and type of new marketing facilities, governmental and institutional help in production, the improvement in machinery suitable for large-scale production, war and post-war prices, the great fertility of the soil, continued low land values, and conformance with Canada's fiscal policy.

For fall wheat, the average yield per acre in 1930 was 25.8 bushels, as compared with 24.6 bushels in 1929 and 26.2 bushels, the five-year average. For spring wheat the average yield for 1930 was 15.6 bushels, as compared with 11.6 bushels in 1929 and 18.4 bushels, the five-year average.

The average weights in pounds per measured bushel for all Canada in 1930 are reported as follows, the averages for 1929 and for the five years 1925-29 being given in parentheses:

Fall wheat	60.39	(60.36 ; 59.78)
Spring wheat	60.26	(60.80 ; 59.71)
All wheat	60.27	(60.77 ; 59.72)

The Canadian wheat crop of 1930 is now estimated at 397,872,000 bushels (304,520,000; 430,704,340).

The total for 1930 comprises 21,022,000 bushels from 815,000 acres of fall wheat and 376,850,000 bushels from 24,082,000 acres of spring wheat.

The first year in which wheat production exceeded 100 million bushels was 1905. Six years later there were yields well over 200 million bushels. These were followed in 1915 by the phenomenal record of 393½ million bushels, the average yield per acre being 26 bushels — a rate never before or since reached. During six of the seven years 1922 to 1928, the total of 1915 was exceeded — in 1922 (nearly 400 million bushels); in 1923 (474 million bushels); in 1925 (395 million bushels); in 1926 (407 million bushels); in 1927 (480 million bushels); and in 1928 (567 million bushels). The 1929 crop was short, being 304½ million bushels.

As we have seen, the present value of the best grade wheat at Fort William or Port Arthur is now about 53 cents. It is not easy to determine the cost of production. The Canadian Department of Agriculture stated that the average cost of the 1924 crop was

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As we have seen, the present value of the best grade wheat at Fort William or Port Arthur is now about 53 cents. It is not easy to determine the cost of production. The Canadian Department of Agriculture stated that the average cost of the 1924 crop was

1.22 dollar per bushel. In 1928, the Dominion Experimental Farms published some figures for the years 1921 to 1925. They give the cost of production for these five years as one dollar per bushel; and that was on a high yield per acre. In a book written by a professor at one of the Canadian universities, the cost in Saskatchewan is given as 78 cents a bushel, but the yield per acre on the selected farms was much above the average. Below is given the average cost of production for wheat on a number of the dominion experimental farms in the prairie provinces for the period 1926 to 1929 inclusive. In the production of wheat, the general practice is to summer-fallow the land in one season and to grow two crops of wheat before again fallowing this land. Thus the cost of production for wheat is given for both the first and second crops after fallow.

	Cost per bushel (Weighted average)	Cost per acre	Yield per acre Bushels
Wheat on Summer-fallow :			
Average of six stations . . .	0.73	19.52	28.01
Highest station	1.02	15.32	15.00
Lowest station	0.56	20.20	36.20
Wheat after Wheat :			
Average of six stations . . .	0.76	16.00	21.70
Highest station	0.93	14.40	15.50
Lowest station	0.47	13.41	28.70

Data collected by the Canadian Wheat Pool, concerning the movement of wheat from Australia, Argentina and Canada to European markets, make it possible to compare the net returns to the farmer in each of these countries. Prices as on March 31st, 1931, are used. The table on Canadian wheat gives the Liverpool price, for No. 2 Northern, at 74 cents per bushel, and total costs of handling the wheat from country points to Liverpool at 36.25 cents per bushel, leaving a net return to the grower at country elevator of 37.75 cents per bushel. Argentine Rosafe wheat at Liverpool is given at 58.75 cents per bushel, and costs of handling to Liverpool are placed at 35.1 cents per bushel, leaving a net return to the grower on the farm of 23.65 cents per bushel, leaving given at 63 cents per bushel at Liverpool, being for fair average quality wheat. Australian wheat is costs are placed at 24.73 cents per bushel, leaving 38.27 cents per bushel the net return to grower for wheat in bags at country station.

It is unavoidable that, with the continued cultivation of wheat, the attendant expenses of production should increase. Weeds multiply, plant diseases and insect pests threaten, soils become lighter and less rich in organic matter and fibre, and finally blow, and even the western soil, originally so fertile, must gradually yield less.

The lower yields, tending to increased expenses per bushel harvested, have been offset by a great improvement in the machinery of large-scale production. A bulletin of the Federal Department of Agriculture furnishes the following figures, based on the experience of individual farmers, on ploughing costs in Eastern Canada :

Horse-team	Per acre Dollars	Plough-tractor	Per acre Dollars
Two	3.33	Two	1.65
Three	3.00	Three	1.52
Four	2.33		

A man with four horses ploughed on the average three acres per day, while with a three-plough tractor he did twice as much, covering 6.7 acres per day.

With economies so real, and even more pronounced in the West than in the East, the tractor has come into widespread use on the prairie farms since the war. The census of 1921 reported some 47,000 tractors within the Dominion, the majority being in the West. The more recent data of 1929, which include only the three prairie provinces, gave the number in these provinces alone at 85,000.

Auxiliary to the tractor are automobiles and motor-trucks, which also demonstrate the value of oil-power in saving labour on the farm. In 1926, 5,640 motor-trucks were in use on farms in the prairie provinces.

Even more spectacular in its effect than the tractor is the combine, a machine that cuts and threshes the grain in one process. It is not difficult to illustrate its great economy of labour. As recently as the 'fifties of last century the cradle was the principal instrument in cutting the grain crops of North America, necessitating the employment each year of a vast army of harvesters. McCormick's binder came into use during the succeeding decades, and by the 'eighties the automatic reaper and binder had begun its conquest of the wheat fields, with considerable saving in the expenditure of human labour. An expert man with a cradle might cut as much as four acres of grain a day, while one man with a binder could cover from eight to sixteen acres. The next advance in mechanisation was the combine, which as early as the 'nineties of last century was introduced for use in the dry wheat areas of the United States — Oregon, Washington and California — and the similarly dry areas of Australia. Not until after the war did these combines, in any real sense, enter the spring wheat territories of Western Canada. Indeed, 1925 was the first year in which combines of the modern type made their appearance in considerable numbers. In 1928, there were 4,341 combines in use throughout the prairie provinces, representing an investment of 11,000,000 dollars and harvesting each an average of 616 acres, or a total of over 2½ million acres. The costs, estimated on the basis of one machine harvesting 600 acres, each acre yielding twenty bushels, were 9½ cents per bushel for the whole operation as against 17½ cents per bushel by the old method of binder followed by thresher. A difference of 8 or 9 cents on each bushel of wheat may easily, as many farmers have discovered, transfer the balance to the right side of the ledger. Another way of expressing the economy thus effected is by pointing out that two men with a combine may reap and thresh from thirty to fifty acres of wheat per day. To-day there are 7,726 combines in the prairie provinces.

It would appear that, in 1930, some 5,879,720 acres, or 15.42 per cent of the total acreage in grain crops, were threshed with the combine in the prairie provinces.

The tractor and the combine are the two principal agents in the mechanisation of agriculture, but the use of power machinery in other forms is rapidly extending.

The effects of this development are manifold. The most immediate is a reduction in the number of farm labourers needed, a fact that must necessarily influence Canada's immigration requirements. Future population needs, so far as the development of agriculture is concerned, will be satisfied by only a slight annual addition of new immigrants, even if the settlement of the Peace River valley proceeds rapidly.

The tendency to mechanisation has made farming a much more capitalistic enterprise and at the same time is gradually increasing the area of the farms. This latter result is already evident in Saskatchewan and Alberta, where between 1921 and 1926 the average farm has increased in size by 22 acres in Saskatchewan and 17 acres in Alberta.

In addition, there was a decrease in the number of farms in the prairie provinces during this period, while the total acreage had been increased.

Apart from expansion of area and increase of volume, the production of better varieties of grain and improvement in the methods of cultivation under the scientific and educational activities of the dominion and provincial Departments of Agriculture have

also been of great importance. The work of the dominion experimental farms, begun in 1886, at the present time includes 26 experimental farms and stations, with a total of 12,818 acres. It would be impossible to enumerate, much less describe, these operations here; but one outstanding achievement deserves special mention. Wheat of the prairie provinces is favoured for its hard, dry, glutinous quality. Apart from the effects of climate and soil, its success has been largely due to the excellence of the "Red Fife" variety, which was discovered accidentally in 1842 by an Ontario farmer named David Fife. In 1903, however, an improved variety known as "Marquis" was produced by the Central Experimental Farm at Ottawa. During the past years, the success of this variety has been such that it has now almost entirely superseded the Red Fife. The use of this new variety of wheat has increased by millions of dollars annually the revenue derived from wheat-growing by the farmers of Western Canada. Still more recent improvements are varieties called "Garnet" and "Reward".

In 1929, 67 plants were engaged in marketing fertilisers to Canadian consumers. Fertilisers marketed during that year amounted to 359,600 tons. Materials including superphosphate constituted more than half of the fertiliser sold. Muriate of potash, basic slag and nitrate of soda followed.

In Saskatchewan, it was found that the use of fertilisers tended to produce more even crops, as it neutralised soil variation. Earlier maturity, another characteristic of the fertilised crops, will be extremely valuable in the northern areas of the arable section of the province, as well as in the neighbourhoods where grain is normally liable to rust and frost, and where early maturity will, therefore, materially reduce loss. Advances of as much as twelve days in the time of ripening have been recorded, while in the majority of tests the improvement in this respect varied between five and ten days. Increased yields on fertilised lands have been fifteen bushels per acre more than on unfertilised fields, the grain being higher in some cases. Increases of seven bushels per acre have been numerous, and only a comparatively small proportion of the tests failed to show an increase.

6. MARKETING.

Since 1911, although the population of Canada has increased rapidly (28.5 per cent), the production of wheat has increased still more rapidly (48.5 per cent), so that our exportable surplus has steadily become larger.

As a consequence of a very good crop in 1928, Canada began the new crop year, on August 1st, 1929, with an abnormally large carry-over of wheat, amounting to 109,033,039 bushels. How much larger it was than the average carry-over can be gathered from the following figures:

End of July	Bushels of grain in store
1924	31,852,871
1925	21,505,981
1926	30,761,214
1927	42,671,483
1928	70,879,439
1929	109,033,039

The estimated carry-over of wheat at the beginning of the 1930 crop year was 112 million bushels and the final estimate of the 1930 crop was 398 million bushels, making a total of 510 million bushels. Deducting 110 million bushels as an allowance for seed, home consumption and unmerchantable grain, it is calculated that 400 million bushels were then available for export — about 100 million bushels more than for the same period of 1929. The quantities available for export or carry-over at the end of February of this year were estimated at 232 million bushels.

Certain authorities consider that the rapid increase in stocks in certain producing countries is largely due to a fundamental change in the practice of the wheat trade. They maintain that stocks that were formerly stored and carried in consuming countries are now, because of the improved marketing organisation in certain exporting countries, stored and carried in the latter. How far this is so, it is difficult at present to ascertain.

Along with the development of production, increasing efforts have been made to market efficiently and expeditiously the ever-increasing volume of the prairie-grown wheat, the chief market for which is distant about 5,000 miles over land and ocean from the points of production. In no country of the world are the arrangements for the inspection and grading of grain more thorough and complete, the certificates of the government inspectors being accepted everywhere as *prima facie* evidence of the quality of the grain. Since 1874, legislation has been continuously improved. In 1912, provision was first made for the appointment of the Board of Grain Commissioners, charged with the management and control of the grain trade for the whole of Canada. The Canada Grain Act (which was extensively amended in 1929) governs the operation of the licensed grain elevators, the growth in number and capacity of which alone affords striking evidence of the development of the trade. Thus, at the end of the last century, the total number of grain elevators and warehouses in Canada was 523 with a capacity of 18,329,352 bushels; in 1929, the number was 5,481 and the capacity 358,255,000 bushels.

In the production of wheat for export, Canada has made great progress; the development of the Canadian grain trade, especially during the present century, has been phenomenally rapid. The total exports of wheat and wheat flour grew from 5,279,898 bushels in 1870 to 309,587,418 bushels in 1924 and 421,785,327 bushels in 1929, but fell to 208,582,209 bushels in 1930.¹ As a wheat-exporting country, Canada has been first six times and second three times during the nine crop years ended July 31st, 1929. The Canadian record for volume of wheat exports (crop year basis) was in 1928-29 when 407,564,187 bushels were exported in the form of grain and flour.

The following table gives the exports of wheat from Canada for 1913, and for 1920 to 1929:

Crop year	Wheat	Wheat Flour	Percentage of crop exported
	Bushels	Barrels	
1912-13	114,902,121	4,596,739	—
1919-20	136,968,832	6,521,469	—
1920-21	150,935,359	7,740,961	—
1921-22	229,849,411	11,003,460	—
1922-23	292,425,153	12,051,424	—
1923-24	146,958,158	10,169,692	—
1924-25	275,557,078	10,896,654	82.07
1925-26	251,265,788	9,247,824	71.94
1926-27	288,567,390	9,865,754	69.41
1927-28	354,424,699	11,808,775	71.91
1928-29	155,766,106	6,778,023	69.10

Note. — For the above table, wheat flour has been converted into bushels of wheat at the uniform average of $4\frac{1}{2}$ bushels to the barrel of 196 lb. of flour.

At present, Canada ships wheat to no less than thirty-seven countries, among which are the United Kingdom, Belgium, China, Denmark, France, Germany, Greece, Italy,

¹ These figures are for the fiscal year ending March 31st.

Japan, the Netherlands, Portugal and Spain. The United Kingdom has always been the largest market for Canadian wheat. According to the Canadian returns, which allocate exports among "countries of consignment", within the past decade, average exportations to Great Britain approximated 153 million bushels. During the crop year 1928-29, wheat shipped to the United Kingdom amounted to 209,571,743 bushels against 140,573,748 to other countries.

Canada's total exports in 1930 show a decrease of 468,876,000 dollars compared with 1928 and of 302,968,000 dollars compared with 1929. The decrease, though general to a considerable extent, is quite marked in certain lines of products, especially wheat and wheat flour, the decreases in the exports of these products being due not only to decrease in the quantity exported but also to lower average export prices. The falling off in the exports of these products in 1930 accounts in a large measure for the decrease in the exports, not only to certain European countries, but to the British West Indies and China. Of the total decrease in the exports to the United Kingdom of 55,083,000 dollars, the decrease in the exports of wheat accounted for 34,449,000 dollars; in the case of Germany it accounted for 6,070,000 dollars of the total decrease of 17,502,000 dollars; in the case of Belgium 6,650,000 dollars of the total decrease of 8,628,000 dollars; in the case of the Netherlands 4,411,000 dollars of the total decrease of 10,117,000 dollars; while in the case of China the decrease in the exports of wheat of 4,765,000 dollars, and wheat flour of 11,791,000 dollars, accounted for 16,556,000 dollars of the total decrease of 18,748,000 dollars.

7. POOLS.

Since the war ended, there has been no more remarkable phenomenon in the economic life of Canada than the evolution of the co-operative wheat pool movement in the three prairie provinces.

The war, improving as it did by higher prices the economic position of the Western farmers, also brought into operation a system of Government control and price-fixing for Canadian grain, and, towards its close, the food necessities of the Allies gave the Western farmers their first practical experience of a centralised marketing system, when the Canada Wheat Board, endowed with monopolistic powers, was established and marketed the whole crop. For the very satisfactory prices secured under the new dispensation, the farmers probably gave too little credit to the special conditions produced by the economic dislocation of the war, and too much to the system itself. In any case, and when, in 1920, the influence of the grain trade at Ottawa brought about its abolition, the Western farmers expressed deep resentment and maintained steady pressure upon the Federal Government for the reconstitution of the Wheat Board or the adoption of some alternative scheme of centralised marketing. After two marketing schemes which had received legislative sanction were rejected as inadequate by the farmers' leaders, they decided, in the summer of 1923, to institute a campaign in the three prairie provinces for the organisation of a voluntary wheat pool. In Manitoba and Saskatchewan, the pool advocates found progress difficult in face of the hostility of the grain trade, but in Alberta the response was enthusiastic, and on October 29th, 1923, the Alberta pool, which had secured the signature of contracts covering 2,602,797 acres or 46 per cent of the total wheat acreage of the province, accepted delivery of its first car-load of wheat. Since that date, the movement has grown rapidly, and it is now an established factor in the national economy of the Dominion.

The success of the first year's operations of the Alberta pool, to which very propitious market conditions contributed, impressed the hesitating farmers of the other two prairie provinces, and a more intensive campaign of propaganda and canvassing resulted in the

organisation of wheat pools in Saskatchewan and Manitoba in time to handle the crop of 1924. Thereafter the three pools joined forces to establish a central selling agency, which operates under a Federal charter with the title of Canadian Co-operative Wheat Producers Limited.

The main objects of the central selling agency, as defined in its charter, are : To serve as the central marketing organisation for the three provincial pools only ; to improve methods and reduce costs of marketing grain ; to reduce speculation, manipulation, waste, and all unnecessary transactions in the marketing of grain ; to increase consumption, build up new markets, and develop new uses for grain ; to market grain directly and with regularity so as to furnish it economically to the consumers and to preserve for the growers their proper profits.

The question of when grain should be marketed has been the subject of much discussion in Canada as elsewhere. Whether the sale of the Canadian crop should be distributed more or less evenly throughout the year, or whether the bulk of it should be moved to market before the crop of the southern hemisphere comes into competition with it, has been the subject of much debate. Canadian farmers have for years been led to believe that the so-called "dumping" of 70 per cent of their crop on the market in three or four months depressed prices unduly.

The objectives of the organisers of the wheat pools of Canada, briefly stated, were : (1) to obtain control of a large proportion of the available crop by means of long-term contracts signed by the growers of such crops ; and (2) by means of the volume control thus acquired, to market the crop to better advantage than could be done by smaller competing agencies, whether private or co-operative in nature. Later, other objectives were sought, such as the operation of country and terminal elevator facilities with a distribution of profits to growers on a patronage basis. During the organisation campaign, however, emphasis was placed on the ability of the pooling method to change the existing method of marketing and, through control of large volume, to bargain for better prices. It is to be noted that not many farmers and very few agricultural leaders believed it to be within the power of such an organisation to control the price of wheat. The great majority disclaimed any possibility of control, but believed that such a pool would have a stabilising effect on the market.

The organisation of the pools is comparatively simple. Membership in them is open to all who are directly engaged in the production of wheat. Every member on joining the pool pays a fee of two dollars, which is allocated to organisation expenses, and also pays an additional dollar for a nominal share in the corporation to ensure compliance with provincial company laws. He likewise signs a five-year contract, binding himself to deliver all the wheat which he produces, directly or indirectly, to his pool. The form and provisions of the contracts used by the three provincial wheat pools are similar. In brief, the more important features are : The association to take title to the grain and to make an advance payment at time of delivery, the balance, if any, to be paid as interim and/or final payment ; all grain of like grade to be pooled and producers thereof to receive the same base price ; provision of a clause entitling the association to collect a per-bushel charge from the grower for breach of contract on his part ; the association to make all contracts for the receiving, handling, and sale of grain ; and the contract to run for a period of five years without provision for withdrawal during that time.

For a time, there existed some doubt whether these pool contracts could be legally enforced, but authoritative judicial decisions have now pronounced their complete validity, and the signer of a pool contract, who delivers his grain to private traders, can be sued and made to pay a penalty of 35 cents per bushel.

The contracts, indeed, form the basis of the organisation, and for administrative purposes there exists a thoroughly democratic system, which enables the rank and file of the members to exercise close supervision and effective control over the policies of the pool.

The three provincial pools are completely autonomous, but, while there are certain divergencies in points of detail, all three have the same form of organisation, the same terms and contract, and the same methods of business. Each provincial pool has complete control of its members' wheat from the time of delivery at the country point of shipment until it enters the terminal elevators at Thunder Bay, Vancouver, or Prince Rupert, as the case may be. At these points, the grain comes under the control of the central selling agency.

The central selling agency for the provincial pools is incorporated as a capital stock co-operative under a dominion charter. The authorised capital is divided equally among the three provincial associations. Working capital is obtained from banks and from the provincial pools out of reserves which the latter have established. The central selling agency is managed by a board of nine directors, of whom each provincial board nominates three. Each representative has one vote. An executive committee consisting of three members, one from each province, is chosen by the board of directors from among their number. The provincial pools confer upon the central selling agency all the powers, rights, and privileges which they enjoy under their contracts with growers. In return, the central agrees to take delivery of the grain and to sell it. The central selling agency only functions for the marketing and distribution of the wheat, but naturally by far the greatest responsibility rests with its officials.

The growth of the pool movement is shown very clearly by statistics. In the crop year 1923-24 there were 25,600 pool members, all in Alberta. In succeeding years the membership rose first to 97,000, then to 128,000, and is now in the vicinity of 140,000, or about 60% of the wheat growers in the prairie provinces.

The figures of the marketing operations of the three wheat pools are as follows :

Crop year	Million bushels
1923-24 (Alberta pool only)	34
1924-25	81
1925-26	187
1926-27	179
1927-28	235
1928-29	253
1929-30	121

During the last four crop years, over 50 per cent of all the wheat marketed in Western Canada has been handled by the pool's central selling agency. As about 40 per cent of the wheat in international commerce comes from Canada, it will be seen that the Canadian pool controls about one-fifth of the world's supply.

The marketing operations of the central selling agency involved a turn-over in the crop year 1929-30 of 195,783,778 dollars and, in 1928-29, of 288,097,071 dollars.

The plan of payment is that the pool member receives, on the delivery of his wheat to the elevator, a substantial sum in cash and participation certificates which entitle him to further payments at intervals, when the treasury of the pools is in a position to make further disbursements. For example, in 1926, the pool payments, which are calculated on the basis of the price of No. 1 Northern wheat at Fort William, were as follows :

Initial payment on delivery	Dollars
In March	1.00
In August	0.15
In October	0.15
Total	0.12
	1.42

Payments have gone down year after year. In 1924-25, payments to members totalled 1.66 dollar per bushel ; in 1925-26, 1.48 dollar ; 1926-27 and 1927-28, 1.42 dollar ; 1928-29, 1.18 dollar ; 1929-30, 1.00 dollar, which latter, as events have proved, was an overpayment. The initial payment in the case of the 1930 crop was 60 cents ; later reduced to 50 cents.

The pools have been criticised on the ground that the fixing of an initial payment considerably below the market price tends to have a depressing effect on the price. Some people go so far as to say that inevitably the price of wheat comes down to the pool's initial payment, and certainly the history of the last few months appears on the face of it to give support to this view. Those who argue thus maintain that the fact that the initial price is merely an instalment of the final price is ignored by most people, and that even if it were not ignored it is regarded as evidence that the initial payment was the highest price which the pool felt it safe to pay, and therefore was, in effect, their estimate of the true price. The fact that subsequent payments have frequently approximated to fifty per cent of the initial payment would seem to disprove this.

The pools have also been accused of being rather tactless in their dealings with the organised grain trade. In the early years, they made use of the established selling agencies in Great Britain and elsewhere for marketing Canadian wheat. In 1929, however, the managers of the pool came to the conclusion that they could save the middleman's commission by selling directly themselves, and these agencies were notified that their services were no longer required.

The directors realised that, until they had secured equipment of their own, they could not reap the full benefits of their experiment, and their policy has been to acquire gradually a system of terminal and country elevators. The pools now operate over 1,600 country elevators. They control, in addition, terminal elevators with a total capacity of 32 million bushels. In this way, they have been able to control, from the point of delivery to the point of export shipment, the greater part of their grain.

The central selling agency has membership in the Winnipeg Grain Exchange, but sells the bulk of the pool wheat — approximately 75 per cent — directly to importers.

Such is the story of the organisation under which the Western wheat pools operate, and it remains to offer some observations upon their results.

Their main purpose is to effect economies in marketing and secure better prices for the producer. Instead of thousands of individual farmers selling their wheat in competition with one another and trusting to their own, often doubtful, skill in marketing, they now entrust the disposal of their grain to a common agency. This agency, employing the most competent experts available, is able to follow the fluctuating trends of the grain markets of the world, and by studying the needs of importing countries can regulate the outflow of grain. Formerly, every autumn, a tremendous flood of Western grain came flowing down through Winnipeg to the lake ports. Many of the farmers were being pressed by their creditors and had no alternative but to sell their crop at once. The result was often a severe temporary fall in prices, and the grain and elevator interests, which were able to buy and hold it, reaped the profits when prices mounted at a later date. Now the pool officials contend that by an orderly plan of marketing which equates, as far as is possible, supply and demand, they can prevent violent fluctuations in price and assure to their members the season's average price for their grain.

Proof exists that the preponderating majority of the pool members are well satisfied with the system.

In February last, the Saskatchewan Legislature, by a vote of forty-eight to five, passed a Bill providing for the holding of a referendum to determine the attitude of farmers toward compulsory control of wheat marketing.

Agitation for a " hundred per cent pool " had its origin in Saskatchewan several years ago, and during the past year the suggestion has attracted attention in both Manitoba

and Alberta. The Saskatchewan Wheat Pool consulted its members during the past year, and found a large majority in favour of requesting the Government to take action looking toward such a referendum as is now proposed. The Manitoba and Alberta pools have also given the matter consideration.

The arguments back of this demand for legislation are briefly summarised under two general headings : First, the feeling that prompted the organisation of the wheat pools in the first place — namely, the desire to have all of the grain marketed through one central agency. The farmers of the prairie provinces have favoured the centralised control of the entire grain crop for some years past. The inability of the wheat pool to attain more than 50 to 55 per cent control during its six years of operation has undoubtedly been responsible for some feeling that legislation is necessary to compel farmers to market through a central agency if complete control is to be attained. The second argument, and one which is really closely associated with the first, is that non-pool farmers who, as already stated, market nearly 50 per cent of the crop, have received whatever benefits the pool has brought without having made any contribution toward the development and expense of maintaining the organisation. It is pointed out that because of price fluctuations non-pool farmers on occasions have done better than pool members who are obliged to accept the average of the season's returns.

There is no doubt that the success of the Canadian Wheat Board of 1919 still lingers in the memory of a large percentage of Western farmers, and they feel that complete control of the marketing of the crop such as prevailed in 1919 will again be desirable. This idea is further encouraged by compulsory marketing legislation, which has been in existence in Australia for a number of years and about which Canadian producers have heard a good deal recently. Another argument for compulsory legislation is that tariff and other restrictions of importing countries suggest the need of greater control of supply.

8. CONCLUSIONS.

So much for the history of the present troubles in agriculture. Now what are the remedies ? Two methods of meeting the situation are commonly under discussion, rationalisation and stabilisation. Stabilisation of prices is being advocated as a method of protecting grain producers from the adverse effects of the depression. Rationalisation refers to a process by which producers may adjust the internal management of the farm to present circumstances and safeguard their farm business against similar occurrences in future. The former is a temporary expedient but an immediate relief, the latter a change calculated to secure permanent stability for agriculture. Both methods require financing and reliable information.

It is generally contended that, to meet the situation, reduction of producing costs is essential. Cheaper production should have the dual effect of expanding the market for wheat on the one hand and, on the other, of turning back to other uses land which was sown with wheat only because of high post-war prices. Cheaper production will come in two ways : by the increase of efficiency in the growing of wheat itself, and by lessening the cost of machinery, supplies and provisions, which the farmers have to buy.

The growing trend towards mechanisation is inevitable. Mechanisation saves time and labour, reduces losses and increases the production of better quality products, and thus secures increased returns to the farmer. At present, two processes are at work. First, the adaptation of the individually owned family farm to machine methods either by the co-operative use of the large machines or by increasing the acreage of the farms. Second, there has been an increased interest in the industrialisation of agriculture and the organisation of farms on a factory basis. There are some who predict that the enlarging of farms will continue until the maximum acreage that can be operated from one point is reached. My own opinion is that the family farm has still a fair future before it.

Many consider that the present low price of wheat will result in decreasing the area sown to this cereal in Canada. Such a result would seem probable, more especially if our farmers believe that prevailing low prices are likely to continue for a considerable period. The adaptability of wheat growing to the development of new lands on the Canadian prairies, coupled with the natural advantages which Canada has in producing wheat of a superior quality, however, is likely under normal conditions to encourage her to maintain, if not to increase, her wheat acreage for some time to come.

There is little doubt that wheat will continue as the premier product of Western Canada, and probably the quantity produced will increase rather than decrease. Farmers will no doubt continue to supplement their operations by raising sufficient live-stock to ensure a measure of stability to their income. The soundness of this programme has already been recognised, and it has been adopted by a large number of Western producers. The prairie provinces have now more than three times as many cattle, more than four times as many sheep, and nearly eight times as many hogs, as there were in 1901, and at present cheap feed has made live-stock more attractive than ever. Comparative figures for the year 1901 and 1929 are as follows :

Year	Cattle	Sheep	Swine
1901	1,066,627	215,996	241,794
1929	3,554,040	1,114,143	1,728,608

In a period of ten years, exports of animal products from Canada decreased from 156,000,000 to 55,000,000 dollars. It would be gathered from these figures that live-stock production in Canada was decreasing, but this was not the case. Since 1911, Canada's consuming population increased by 28.5 per cent ; in the same period, cattle increased 28.1 per cent, hogs 33 per cent. Inasmuch as the increase in live-stock is very little more than the increase in population, and in view of the highly developed tourist trade, home consumption of animal products has gradually crept up on our production so as to reduce materially export surpluses in these commodities. In fact, in certain lines, Canada has become an importer.

In 1921, the total British imports of bacon from Canada were 636 million pounds. In 1928, they reached nearly 1,000,000,000 pounds, an increase in eight years of over 55 per cent. Since that period, the Canadian share of the total British trade has slipped back from 14 per cent to less than 2 per cent, while that of Denmark increased from 12 per cent to 60 per cent. This trade was not lost on a basis of quality but on account of the high cost of food at that time.

The rationalisation of production is an important factor in improving the lot of the farmer, but of itself it is not sufficient to bring about agricultural prosperity. The orderly marketing of farm products, especially on an international basis, is of equal importance, and both are necessary for establishing an equilibrium between the prices of agricultural products and manufactured goods.

The idea of a compulsory pool has many supporters in the Canadian West, who argue that, without a plan of compulsion which would bring every grain-grower into the pool, the full benefits of the system cannot be realised, but the courts have ruled that compulsory pools cannot be brought about in Canada by provincial legislation.

Marketing boards are regarded with great doubt or even dismay by some experts in the matter of buying and selling. They feel that no human agency, whether an individual or a group, has sufficient wisdom to buy or sell primary products such as wheat on a large scale, since its judgment cannot be compared with that of competitors, as is the case in ordinary business. Supporters of this view point to the failure of similar attempts in the past. Meanwhile the Federal Government has decided that it is advisable that the question whether the sale of grain futures operates adversely to the interests of grain

growers should be authoritatively determined. One member of the Commission charged with this duty has been nominated by the three prairie province Governments and another by the grain-growers and grain-trading interests. As an impartial chairman, the Federal Government has secured the services of a well-known British economist.

Another proposal is to secure a guarantee of a fixed price for wheat from either the provincial or the Federal Governments, and it is said that some leaders of the pool movement would prefer this course. Before prorogation, the Legislature of Alberta passed a resolution asking the Federal Government to establish a pegged price of 70 cents a bushel on No. 1 Northern wheat. Similar demands for a pegged price at least equal to the cost of production have also come from the legislatures of the provinces of Saskatchewan and Manitoba. But very recently the Prime Minister of Canada pointed out the dangers involved by the adoption of the policy of price pegging and declared that no Government of which he was the head would ever peg the price of wheat.

Two schemes of international co-operation have been tentatively suggested. One is the formation of a world wheat committee to control the selling of wheat outside the country of origin; the other is an agreement on a schedule of quotas restricting the amount each country would be allowed to export. Both schemes present difficulties. It would appear possible, however, to obtain effective results by combining them.

The introduction of better methods of production and marketing are dependent upon adequate and cheap credit on reasonable terms. Throughout the prairie provinces, 76 per cent of the loans by the banks bear a rate of 7 per cent or under, and 20 per cent of the loans from 7 to 8 per cent. Canada has felt the need of improving rural credits. Efforts have been made from time to time by voluntary associations, by municipal authorities and by provincial Governments to improve the position of farmers in this respect. The Canadian Farm Loan Act, passed by the Dominion Government in 1927, established a system of long-term mortgage credit for farmers through loans from a fund constituted partly by the Dominion and provincial Governments and the borrowers, and partly through the sale of farm loan debentures to the public. It is believed that this system will materially improve the rural credit situation.

As the decline of prices proceeded, the Canadian banks, which had advanced considerable sums to the pools and to private grain firms, began to show nervousness as to the margin of security for their loans, and, in the early days of February, a real crisis arose. Negotiations at once took place between the banks and the Governments of the three prairie provinces, and the latter agreed to guarantee the loans made by the banks to the wheat pools.

According to a recent statement of the President of the Canadian Pacific Railway Company, the Canadian railways will join with banks, trust, mortgage and loan companies and other large corporations with extensive business interests in Western Canada, in subscribing 5,000,000 dollars for the capitalisation of the new Dominion Agricultural Credit Corporation. This new credit organisation was recently incorporated with the object of making loans to Western farmers desirous of purchasing live-stock. He considered it desirable that every effort should be made to establish credit facilities at a rate of interest not exceeding 6 per cent. A large number of relatively small loans, not exceeding 1,000 dollars he thought, would offer the greatest degree of safety.

Progress in both production and marketing must be based upon knowledge, and it is here that such institutions as the Economic Organisation of the League and the International Institute of Agriculture can be of service. Orderly marketing for export can attain its greatest success only if adequate information is available regarding production, stocks on hand and present and probable consumption. Such statistics must be world-embracing and as complete as possible. A good beginning has been made, but much remains to be done.

CHINA

M. TCHANG TSOEN-TSY.

China has been an agricultural country from time immemorial. Her economic structure has always been based on agriculture. Throughout the course of her history, peace has gone hand in hand with agricultural prosperity and internal disorder with its decline. Industry is still very undeveloped and agriculture occupies a predominant place in the national economy.

The Chinese peasants have many very good qualities; they are hard working and economical. Although their methods are not very up to date, they have so far been able to make good any deficiencies in this respect by dint of hard work.

For some years past, however, poverty, want and famine have prevailed in country districts. Alarming cries in regard to "the ruin of cultivators" and "the decay of agriculture" have repeatedly been heard in China. What are the causes of the peasants' poverty? What measures have been taken to alleviate it? What are the new tendencies of agriculture in China?

The answers to these questions will be found in the present report.

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Let us first consider the total population and the peasant population of China.

There is no general census of the Chinese population. The statistics compiled either by the Postal and Customs Services or by Chinese or foreign specialists are merely based on estimates. We must therefore make express reservations as to the absolute accuracy of these statistics and of any other figures mentioned in this report.

M. Cheng Tchan-Heng, a Chinese demographic specialist, has carefully studied all the statistics relating to the Chinese population, correcting obvious errors and contradictions and has calculated the rate of increase of the Chinese population during the Manchu dynasty. According to his findings, the total population of China is about 473,100,000 inhabitants.

This figure is confirmed by the statistics published in 1931 by the Ministry of the Interior of the Chinese National Government, which, after making direct investigations in certain provinces and taking approximate figures for others, estimates that the Chinese population is at present 474,787,386 inhabitants.

As regards the proportion of the peasant population to this total population, the figures do not tally. According to the official statistics published in 1918 by the Ministry of Agriculture and Commerce, which have been supplemented and revised, the number of agriculturists' families in the whole of China is 70,266,000. According to investigations in 1924 by MM. Buck and Tsiao Tsi-Ming, professors at Nankin University, and in 1928 by the Statistical Office of the Legislative Yuan in certain provinces, each family of agriculturists consisted on an average of 5.2 members.

This total of 70,266,000 agriculturists' families multiplied by 5.2 makes 365,383,200 agriculturists — i.e., 77 per cent of the total population.

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As regards the cultivable area and the area actually under cultivation in China, the statistics are not concordant. M. Lio Ta Kouin, Director of the Statistical Office of the Legislative Yuan, has examined this question. His high qualifications vouch for the reliability of the figures which he gives. These are reproduced below :

- (1) Total area of the 22 provinces and Inner Mongolia (not including Tibet and Outer Mongolia) : 2,360,035 square miles — *i.e.*, 10,965,658,000 Chinese mow¹ ;
- (2) Area of cultivable land : 3,180,040,820 mow — *i.e.*, 29 per cent of the total area ;
- (3) Area under cultivation : 1,687,300,000 mow — *i.e.*, 15.4 per cent of the total area ;
- (4) Average quantity of land possessed by each inhabitant : 3.4 mow (according to M. Lio, the total population of China is about 485,508,000 inhabitants).

China is a country of smallholders. The rudimentary technique of production does not permit of cultivation on a large scale. As regards the agricultural structure of the country, the following data furnished by the Ministry of Agriculture and Commerce appear to be fairly accurate :

DISTRIBUTION OF THE NUMBER OF AGRICULTURISTS' FAMILIES ACCORDING TO THE SIZE OF THEIR HOLDINGS IN 1917 AND 1918.

Size of holding	1917 ²		1918 ³	
	Number of families	Percentage of total number	Number of families	Percentage of total number
Under 10 mow	17,805,125	36.1	17,914,231	42.3
From 10 to 30 mow	13,248,477	26.9	11,303,570	26.6
From 30 to 50 mow	10,122,214	20.5	6,712,366	15.8
From 50 to 100 mow	5,348,314	10.8	4,137,136	9.7
Over 100 mow	2,835,464	5.7	2,273,355	5.6
Total	49,359,591	100.0	42,345,658	100.0

The form of tenure of the holdings varies with the province, according to the degree of fertility and the density of the population. In Northern China, where the land is less fertile and the population sparser, working owners are more numerous than farmers, while

¹ One mow is equivalent to 0.06144 hectare.

² Figures for the four south-western provinces (Szechwan, Kwang Si, Yunnan, Kweichow) are not available.

³ Figures for the six provinces, Kwangtung, Hunan, Szechwan, Kwang Si, Yunnan, Kweichow are missing.

in the provinces south of the Yangtze-Kiang farmers are more numerous than owners. The two sets of statistics published by the Ministry of Agriculture and Commerce of the Chinese Government for 1917 and 1918 are given below :

	1917		1918	
	Number of families	Percentage of total number	Number of families	Percentage of total number
Working owners	24,587,585	50	23,381,203	53.2
Farmers	13,825,546	28	11,307,432	25.7
Persons who are both farmers and owners	10,494,722 ²	22	9,246,843	21.1
Total	48,907,853 ¹	100	43,935,478 ¹	100.0

The social structure of China is fairly sound, since her economic system is based on the existence of a large mass of small peasant proprietors — more than 50 per cent of the total number of peasants ; while 22 per cent of peasants are both proprietors and farmers.

* *

Owing to her immense area and variety of climate, the agricultural products of China are of many different kinds. Among the most important foodstuffs we would mention rice, wheat, maize, sorghum, soya (yellow beans) and tea ; among raw materials, cotton, silk, sugar-cane, vegetable oils, etc.

Rice is grown in China in districts south of latitude 31° — that is to say, in the provinces of the Yangtze-Kiang and Chow-Kiang basins. It is also grown in certain parts of the Kansu and Shensi provinces, which are easy to irrigate, and in the western part of Manchuria. The total annual production of rice in China is estimated at 3 million tang².

Wheat is grown on a large scale in Manchuria, in the Yellow River valley and central districts of the Yangtze-Kiang basin. The total annual production is estimated at 400 million tang.

The development of soya-bean cultivation in Manchuria is a new feature of Chinese agriculture ; the total annual production is estimated at 175,929,000 tang, of which a large quantity is exported.

China tea is famed in all parts of the world. The annual output is estimated at a total of 730,000,000 pounds, of which 198,000,000 pounds are exported (average exports since 1915).

Cotton is produced in nearly all parts of China. According to the statistics published by the Ministry of Agriculture and Commerce, the area under cotton is 50 million mow ; the total output, according to the statistics published by the Chinese Spinning Mills' Association, was 9,339,818 tang in 1919 and 6,696,612 tang in 1920.

¹ It will be seen that these figures differ somewhat from those in the previous table, and reservations are necessary in regard to them.

² A Chinese tang is equivalent to 60.453 kilogrammes.

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Silk is a product of Chinese origin, and larger or smaller quantities are produced in all the provinces.

The following statistics relating to the area devoted to the principal agricultural products have been furnished by the Ministry of Agriculture and Commerce :

AREA SOWN WITH THE PRINCIPAL AGRICULTURAL PRODUCTS FROM 1914 TO 1920.
(Unit: 1,000 mow.)

Agricultural product	1914	1915	1916	1917	1918	1919	1920
Rice	579,224	406,136	247,139	239,578	181,670	73,795	671,467
Wheat	374,762	367,114	514,707	456,565	660,659	593,234	574,724
Beans	179,309	125,232	212,276	204,566	231,907	184,443	180,484
Sorghum	120,454	108,965	116,723	108,769	239,820	213,006	201,597
Ground-nuts	24,541	23,368	12,951	12,806	20,596	19,143	15,228
Cotton	28,416	33,253	40,172	47,609	51,687	45,635	29,695

AREA GIVEN UP TO MULBERRY TREES AND TEA PLANTS FROM 1914 TO 1918.
(Unit: 1 mow.)

	1914	1915	1916	1917	1918
Mulberry trees . . .	4,290,535	5,393,543	13,642,436	13,519,000	4,276,919
Tea plants	5,353,167	4,761,770	3,973,810	3,122,822	2,567,666

* *

Notwithstanding the extent and fertility of the land under cultivation and the arduous efforts of the Chinese peasants, agriculture is no longer able to support a population which

is steadily increasing. A striking proof of this is furnished by the enormous excess of imports of the principal cereals. The Customs statistics are as follows :

CHINESE IMPORTS AND EXPORTS OF THE PRINCIPAL CEREALS FROM 1917 TO 1928.
(Quantity, piculs ; value, Haikwan taels.)

Year	RICE				WHEAT	
	Imports		Exports		Imports	
	Quantity	Value	Quantity	Value	Quantity	Value
1917	9,837,181	—	37,912	—	36,169	—
1918	6,984,005	—	33,281	—	16	—
1919	1,809,949	—	1,228,692	—	20	—
1920	1,151,752	—	311,834	—	5,435	—
1921	11,629,245	—	34,714	—	81,346	—
1922	19,156,182	—	45,117	—	873,142	—
1923	22,434,962	—	63,089	—	2,595,190	—
1924	13,198,054	63,248,721	41,935	226,828	5,145,367	17,689,749
1925	12,634,624	61,041,505	35,250	209,736	700,117	2,654,747
1926	18,700,797	89,844,423	29,139	203,627	4,156,378	17,905,194
1927	21,091,386	107,323,244	86,286	547,905	1,690,159	7,055,667
1928	12,656,254	65,039,232	29,769	191,006	903,088	3,338,886

Year	WHEAT		FLOUR			
	Exports		Imports		Exports	
	Quantity	Value	Quantity	Value	Quantity	Value
1917	1,557,601	—	678,849	—	789,031	—
1918	1,815,461	—	4,553	—	2,011,899	—
1919	4,453,471	—	271,283	—	2,694,271	—
1920	8,431,520	—	510,665	—	3,960,779	—
1921	5,194,022	—	747,375	—	2,047,004	—
1922	1,151,014	—	3,645,592	—	593,255	—
1923	630,919	—	6,053,152	—	131,553	—
1924	140,185	541,089	6,657,167	30,097,693	157,285	713,963
1925	207,403	824,829	2,811,500	14,904,833	288,060	1,303,191
1926	4,971	20,467	4,285,124	23,712,503	118,421	533,377
1927	495,982	2,181,248	3,824,674	21,306,338	118,099	558,329
1928	1,801,402	7,057,689	598,490	31,464,402	85,333	422,929

China is thus dependent on other countries even for her national food supplies. The excess of imports over exports has increased rapidly, particularly since 1922 and 1923. An essentially agricultural country is obliged to import each year an average of 15,000,000 piculs (tang) of rice, 2,000,000 piculs of wheat and 5,000,000 piculs of flour !

Not only is the upward movement in the excess of imports very marked in the case of the principal cereals, but the exports of cotton, tea and silk, which formerly had a practical monopoly of the world market, have not kept pace with the increased requirements of consumption and international trade.

PRODUCTION OF TEA IN CHINA AS COMPARED WITH THAT OF OTHER PRODUCING COUNTRIES FROM 1889 TO 1925.

	China	India	Ceylon	Japan	Java
Percentage of increase in production . . .		239	190		1,313
Percentage of decrease in production . . .	345			59	

COMPARISON OF THE TRADE IN CHINA AND INDIAN TEA IN THE INTERNATIONAL MARKET IN 1896 AND 1925.
(Unit : 1 pound.)

Exporting country	Quantity exported in 1896	Percentage	Quantity exported in 1925	Percentage
China	228,321,805	42.1	89,000,000	10.8
India and Ceylon	260,516,439	48.0	569,200,000	69

SILK EXPORTS AS COMPARED WITH THE TOTAL EXPORTS OF CHINA FROM 1876 TO 1926.
(Unit : 1,000 Haikwan taels.¹⁾)

Year	Total exports	Silk exports	Percentage
1876	80,850	31,653	39
1886	77,206	21,832	28
1896	131,086	31,671	24
1906	236,456	60,436	25
1912	370,520	79,544	21
1921	601,255	121,287	20
1926	864,294	159,024	18

¹ The Haikwan tael was, in 1925, worth 0.84 American dollar and, in 1926, 0.76 dollar.

Tea and silk exports appear to have remained stationary or even to have increased ; in reality, they have fallen off, since they can no longer keep pace with the increased requirements of consumption and international trade.

The decline in Chinese agriculture, as shown by the lower exports and higher imports of agricultural products, is partly explained by famine and poverty among the peasants in all parts of the country and by the internal disturbances.

Mr. Taylor, of the China International Relief Commissions, has made enquiries into the living conditions of the peasants in several provinces. He found that, as regards agriculturists' families, 80 per cent in the north of China and from 52 to 64 per cent in the centre were living on an annual income of less than 150 Chinese dollars (*i.e.*, 900 French francs at the present rate of exchange).

Famine has prevailed in the north-west districts of China for a long time past. During the last few years, it has caused millions of deaths in the Kangsu and Shensi provinces.

* * *

What are the causes of the decay of Chinese agriculture ? They include : over-population, rudimentary technique of production, political instability, rural usury, exorbitant taxes and other charges, the crushing burden of rent, etc. In our opinion, however, the principal cause is the penetration of Western economy, which is upsetting the equilibrium of Chinese economy. Hand-made products are giving way before the progressive advance of machine-made articles. The looms and spinning-wheels of old China have gradually ceased to operate in the villages owing to the introduction of cotton goods by Western countries. Agriculturists have thus lost an accessory source of income. Moreover, as a result of contact with Western economy, the cost of living has risen and new needs have been created. Expenses increase while receipts decrease. How, then, is it possible for agriculture to hold its own ? *The depression in agriculture and Chinese economy as a whole is due to the difficulties of adaptation to new conditions.*

In attempting to remedy this situation, it is useless for China to think of reverting to a close-shut economic system ; not only would that be absurd and impossible, but it would be contrary to progress. She must endeavour to adapt herself to the new conditions, to improve and modernise her technique of production and to divert her surplus population to Manchuria, Mongolia and the north-west provinces. The agricultural policy of the Chinese National Government is being directed to these objects.

The Government represents the Kuomintang, or People's Party. Its mandate is to carry out the doctrines of Dr. Sun Yat Sen, the founder of the Kuomintang and the creator of the Chinese Republic.

In the field of agriculture, Dr. Sun Yat Sen advocated a series of measures designed to encourage agricultural production, to ensure a better distribution of the land and to improve the living conditions of agriculturists.

With a view to increasing the yield of crops, he proposed seven measures : (1) the introduction of machinery ; (2) the use of chemical fertilisers ; (3) the rotation of crops ; (4) a scientific campaign against harmful insects and diseases of plants ; (5) the preservation of foodstuffs by scientific methods ; (6) improved transport ; (7) a campaign against natural scourges, such as drought, floods, etc.

For the purpose of ensuring the better distribution of land, Dr. Sun Yat Sen suggested as a policy the equalisation of landed property rights and the appropriation of the land by the cultivators. The Government should accordingly limit the area or fix a maximum area of land which may be owned by individuals and should grant long-term credits to cultivators desirous of purchasing land. When the land is surveyed, the owner must declare its value. The Government may, at any time, purchase land for the value

declared by its owner. Any increase in the value of the land due to its social and economic development will be for the benefit of the Government.

Lastly, in order to improve the precarious situation of cultivators, Dr. Sun Yat Sen proposed that rents should be reduced and limited.

All these measures were adopted and sanctioned by the National Congresses of representatives of the Kuomintang.

The land law recently promulgated by the National Government, while recognising the private ownership of the land, allows (under Article 14) the local governments, in agreement with the central agrarian administration, to fix, according to local requirements, the kind and quality of land and the maximum quantity which may be owned by individuals or corporations.

A special article (Article 34, Chapter IV) of the provisional Constitution, adopted by the National Convention in May 1931 and promulgated on June 1st of that year, deals with the agrarian policy to be applied by the Government. This article reads as follows :

“ In order to develop rural economy, to improve the living conditions of the peasants and to protect growers' interests, the Government shall adopt the following measures. It shall : (1) cultivate fallow land and undertake irrigation work ; (2) establish agricultural credit institutions and encourage agricultural co-operative societies ; (3) organise the formation of reserve stocks of foodstuffs so as to prevent want and famine and to ensure domestic supplies ; (4) promote agricultural education based on scientific experience ; extend the area under cultivation so as to increase production ; (5) promote the construction of roads in country districts to facilitate the movement of agricultural produce.”

Article 45 of the provisional Constitution also deals with agrarian policy and reads as follows :

“ Excessive rates of interest on loans and unduly high rents on immovable property shall be prohibited by law.”

* *

Chinese agriculture is progressing, not only on paper, but also in practice.

The Kuomintang, as soon as it assumed office, ordered farmers' rents to be reduced by 25 per cent. This measure has been successfully enforced in the provinces of Kwangtung and Chekiang. In August 1929, the Permanent Central Committee of the Kuomintang adopted provisional regulations as to the rent reduction of 25 per cent for the province of Chekiang. These provisional regulations fixed the rent payable to the owner of the land at 37.5 per cent of the principal crop (rice in the case of Chekiang), while the accessory products were retained by the farmers. Should the rate charged before the promulgation of the new regulations have been lower than the official rate, the old rate was to be maintained and could not be increased.

This measure, which protects the farmers' interests, is to be gradually extended to all the provinces.

* *

Chinese agriculturists formerly worked exclusively by hand, with the use of rudimentary implements ; but, for some years past, agricultural machinery is to be found in the Customs returns of imports.

Year	Value of agricultural machinery imported (Haikwan taels)
1923	304,232
1924	279,977
1925	161,288
1926	511,540

The importation of mechanical suction pumps also represents an improvement in equipment :

Year	Value of pumps imported (Haikwan taels)
1923	404,349
1924	381,927
1925	642,982
1926	534,594

Several factories at Shanghai now make these new model pumps.

Though this is but a small step towards the reform of agricultural technique in China, these timid attempts at modernisation represent a real progress. Schools of agriculture and experimental farms have been established in all provinces, and the students whom they have trained will soon be able to render great service.

The organisation of emigration to Manchuria and the cultivation of this part of China have given satisfactory and encouraging results, and reveal a new tendency in Chinese economy.

In the three eastern provinces (Manchuria), Chinese immigration was forbidden under the first emperors of the Manchu dynasty. This immigration began in 1900. At the present time, 90 per cent of the inhabitants of this region are Chinese. The following figures show the extremely rapid increase of the population in Manchuria :

Year	Inhabitants
1906	13,265,882
1916	19,639,671
1929	25,239,147

The area under cultivation is likewise increasing :

Year	Mow
1662 ¹	69,933
1887 ²	34,065,740
1921 ³	170,530,137

Agricultural production is increasing year by year. The special product of Manchuria, the soya (yellow bean), now takes first place among the exports for the whole of China, and has ousted tea and silk from that position.

Total figures of the import and export trade of Manchuria with foreign countries and other parts of China from 1858 to 1926 are as follows :

Year	Piculs
1858	5,371,000
1905	55,173,000
1908	95,812,000
1918	267,203,000
1926	447,356,000

¹ Eighteenth year of the reign of the Emperor Shonin Tche ; see “ Houang Tchao Tong Kao ”.

² See “ Ta Tsing Houei Tien Che Lei ”.

³ See statistics of the Ministry of Agriculture and Commerce.

In the space of sixty-eight years, Manchuria's foreign trade has increased more than eighty-fold.

Manchuria has now become the corner-stone of China's economic system. The proportion of Manchurian foreign trade to the total trade of China from 1872 to 1926 was as follows :

Year	Percentage
1872	0.5
1888	4.6
1898	8.7
1908	14.5
1918	11.5
1926	22.3

The successful exploitation of Manchuria shows the tendency of the inner provinces to expand towards the further parts of China. The Yangtze basin is no longer the only wealthy part of the country : China has built up a second important economic centre in Manchuria.

In conclusion, we can take an optimistic view of the future of Chinese agriculture. We are convinced that the combined efforts of the people and the Government to modernise agriculture will lead to its recovery in the near future, and hence to a recovery in the whole economic system of China, for the benefit, not only of the country itself, but also of the world's economic situation.

COLOMBIA

RAFAEL R. CAMACHO, Agricultural Engineer.

CLIMATE, THE PREDOMINANT FACTOR.

Colombia, in spite of her distinctly tropical situation, possesses a great variety of climates which constitute the predominant factor of her agricultural production.

On entering Colombia, the Andes, running from south to north, break up into three great chains, forming a series of valleys, plateaus and mountains, so that the country possesses many very noticeable varieties of climate in a relatively restricted area — from the torrid heat of the coasts and deep valleys to the icy temperatures of the snowclad peaks.

Economically speaking, there are three varieties of climate — the hot climate, from 24° to 32° C., obtaining from sea-level up to 1,200 metres ; the temperate climate (from about 16° to 18° C.), between 1,200 and 2,000 metres, and the cold climate (from 16° to 8° C.), at altitudes of from 2,000 to 3,000 metres. These climates remain practically the same throughout the year in each region.

As regards rainfall, there are practically no arid or desert areas. The rainfall throughout most of Colombia varies between 1 and 3 metres.

Tropical crops are cultivated in the low-lying or hot regions and crops of the temperate zone in the high or cold parts of the country. In the intermediate zone, the main crop is coffee ; but certain crops of the other two zones are also grown. Until recently, the more or less flat regions in the hot and cold zones were used almost exclusively for cattle-raising. Since the introduction of machinery, the farmers have found that only the flat or slightly undulating country is suitable for mechanical farming. In time, according to the principle of agricultural industrialisation, which is gradually coming into favour, these regions will be preferred for annual crops. The mountain slopes will be reserved exclusively for permanent crops, pasturage and reafforestation — a natural and logical consequence of the configuration of the country.

THE SOIL.

Only one-third of Colombia is inhabited. Land is only cultivated to meet the needs of the local population. Great progress has been achieved during the last five years, owing to the development of public works, railways, telegraphs, roads and carriage-ways which have connected up a large number of the producing regions with important centres of consumption. The different crops, including grassland and artificial pasturages, hardly cover one-fifth of the total area of the country.

Farming Methods.

Generally speaking, Colombian farmers employ primitive methods. In the hot and virgin regions the inhabitants merely clear away the bush or forest and, after burning the wood, sow maize, bananas or sugar-cane in holes or sow forage plants broadcast. After two or three crops have been gathered in the same place, the peasant begins again further afield, keeping the cleared land for grass or allowing the natural vegetation to sprout up again.

In more populated regions, some of the inhabitants, after gathering crops for one or two years, allow the land to remain fallow for four or six years. Others, after two years of crops, turn the land into pasturage for a period varying from two to four years. A few farmers cultivate the land annually, sowing different crops each year.

Very rarely, modern ploughing methods are followed in certain hot regions, — for instance, in the industrialised sugar-cane or rice plantations. The hoe is the implement most commonly used in Colombian agriculture.

The value of agricultural machinery imported rose from \$46,153 in 1926 to \$378,844 in 1930.

Fertilisers.

Only the most progressive farmers engaged in the intensive culture of plots near towns are beginning to use natural fertilisers.

Most farmers know nothing about the use of fertilisers. Efforts have been made in the last two years, and nearly a thousand tons of strongly concentrated fertilisers have been imported. The use of these fertilisers has been recommended by several official institutions and agricultural societies.

Irrigation.

This important factor in agricultural production has been neglected.

There is, however, a good system of irrigation on the Atlantic coast in the Santamarta zone, where there are about 50,000 hectares of banana plantations. Congress is studying a new set of water laws, which will be more in keeping with the requirements of modern agriculture.

Ownership of Land.

A large amount of still uncultivated land belongs to the State ; the State distributes this land to farmers who are prepared to settle and cultivate it.

As, however, every Colombian aspires to become a landowner, the land is pretty well divided up, particularly near the great centres of consumption. Although there is a law under which the Government can expropriate any part of an estate exceeding 1,000 hectares which remains undeveloped near the centres of consumption, the law has never yet been applied, because no estates of this kind exist.

Anyone aspiring to acquire land can do so ; he simply has to start stock-raising or farming in the uncultivated or national land, and then, not merely the area he cultivates, but double that area becomes his. At 100 kilometres from the capital there are some very fertile lands which the Government is now distributing.

Though the allocation of land does not cause any serious difficulty, the actual utilisation of the land by the owner presents a very grave problem.

Generally speaking, the owner does not direct his estate personally ; he either entrusts it to an agent, who in some cases is both ignorant and over-conservative, or else he sublets the estate to a person who farms it and pays him a rent enabling him to live in the town or village. In other districts, the prevailing custom is to sublet the estate to small tenants, who pay an annual rent according to the area they cultivate ; these tenants are allowed to build shelters on the spot.

Not only do owners fail to display the necessary interest — quite apart from the fact that they have no idea of farming — but they have no incentive to improve their estates, introduce new systems of farming, react against blights and disease, etc.

The subletting to tenants, which is the natural consequence of absentee ownership, and the lack of all co-operation between the tenant and the owner, has already in certain districts led to difficulties which, cleverly exploited by agitators, have caused serious trouble.

LABOUR.

During the last two years, the carrying out of a large number of public works for the State, the abundance of money and the development of industries have had a certain effect on the labour market. Labour, which had always been amenable and more than adequate (as regards supply) for all the needs of agriculture, has become scarce, costly and easily dissatisfied. Now that money is again scarce and public works have been interrupted, there is an abundance of agricultural labour available, but the labourers have been rather spoilt by contact with town workers and by the conditions accorded them when working for the State.

The daily wages vary according to regions and, in particular, according to the climate and kind of farming ; the average wage varies between 0.25 dollar and 0.80 dollar, the daily worker having to provide his own food. In the coffee industry, the workers are generally remunerated on the piece-work system. The same system is also followed in the sugar-cane-growing industry and other more industrialised branches of farming.

The working day also varies, but the agricultural worker generally works ten hours a day.

We have given a general idea of the agricultural situation of the country. This survey would not, however, be complete without a few details regarding the main crops and their importance.

COFFEE.

Coffee-growing, which dates from the second half of the nineteenth century, has only acquired importance during the last thirty years. From 1906 to 1930, exports have risen from 38,000,000 kilogrammes to 190,000,000 kilogrammes.

Coffee is grown in temperate regions at altitudes varying from 1,000 to 1,800 metres above sea-level. The relatively permeable and deep soil of the foothills of the Cordilleras has been selected for its cultivation.

It is therefore a very widespread crop which constitutes the basis of national economy. When prices are favourable, money and prosperity abound. When prices are low, the whole country suffers, because coffee is the principal article of foreign trade.

There are various qualities of Colombian coffee, according to the way in which the berries are prepared for export. The qualities correspond to the various zones of production. Colombian coffee owes its superior quality to its aroma and delicacy.

According to the 1930 statistics, coffee exports represent 60 per cent of the total exports of the country ; 90 per cent of this coffee is exported to the United States of North America.

The number of coffee plants in Colombia has been estimated to be more than 350 millions ; another 25 million coffee plants will be producing shortly. The area under coffee may be estimated at about 234,000 hectares.

Coffee is grown in virgin soil, which, after having been cleared by burning, is first sown with maize. In the meantime, the young plants are being prepared in the shade ; they are then transplanted into wooden boxes or directly into the soil in which they are to remain, in holes prepared beforehand in line, from 2 to 2½ metres apart. When the coffee plant has attained a height of from 1.2 to 1.5 metre it is topped.

After three years, the coffee plant produces a small crop, which increases up to the seventh year, and thereafter remains stationary until the twelfth or fourteenth year, according to the soil. At about the thirtieth year, production has considerably diminished, and plantations of this age are only profitable if energetic means of regeneration are employed.

The coffee grower must plant new bushes as the yield of his plantation decreases, if he wants to ensure an unvarying yield over a number of years.

When the plantation is producing its full yield, the main work is weeding once or twice a year and pruning the plants every year by cutting off the secondary branches.

A few growers on a large scale export their crop direct, but most of the Colombian crop is sold in the interior to buyers who are mainly agents of and buy for foreign firms. The head offices of these firms are at New York, the main market for Colombian coffee.

Generally, the producer borrows money from the banks for harvesting, or obtains advances from the buyers, interest being charged in either case ; but, when credits are very tight, as at present, producers cannot count on any large sums for developing their trade.

Colombian coffee plantations are not, as a rule, very extensive ; few have more than a million plants. The average for most plantations is from five to twenty thousand plants.

Work on the coffee plantations is organised on the piece-work system, particularly weeding and gathering, payment for which varies according to the supply of labour and the price of the beans. On the large plantations, labourers live with their families in small houses and have definite work allotted to them by the owner.

Owing to the difficulties which have arisen in recent times between labourers and owners, some plantations are now operated by sharing the produce between the two classes, the owner then buying the labourers' or farmers' shares.

Coffee plantations are rarely subject to any plant diseases. In Colombia serious diseases have not yet assumed the acute character observed in other countries.

For the last four years there has been in existence a semi-official organisation known as the " Federation of Colombian Coffee Growers," with headquarters at Bogotá, which has branches, departmental committees and municipal associations in the principal coffee-growing districts. The aim of the Federation is to encourage production, improve coffee, and safeguard the coffee growers' interests at home and abroad. To help the Federation, Congress has voted a law for the levying of an export duty of 0.1 gold dollar per sack of 60 kilogrammes net exported. The yield of this tax, which is collected by Government Customs officials, is handed over to the Federation, whose budget is approved by a number of delegates from the departmental committees. These Committees are in turn appointed by the municipal associations. The Federation thus obtains about \$300,000 per annum, a sum which is used for maintaining the departmental committees, the central bureau, paying trade agents in the principal foreign markets, and importing fertilisers, which are sold to the growers at cost price. This subsidy also makes it possible to maintain two training farms for coffee growers.

The internal consumption of coffee is rapidly increasing, and, though no reliable data are available, it may be estimated at about 400,000 sacks per annum.

BANANAS.

In practically all the temperate or hot regions of the country various varieties of bananas are grown and form a staple food for the local population. Bananas for export are only grown near the Atlantic coast on some 50,000 well-cultivated hectares of land, half of which belong to the United Fruit Company and the other half to individuals, financed by the company, which buys their produce for export to various American and European countries. Last year, 226,078,087 kilogrammes of bananas were exported, to a value of \$8,740,666.

Many other coastal regions could produce good-quality bananas. Up to the present, however, there has been no organised production, owing to lack of transport and a distributing organisation.

Banana palms are grown at Santamarta in the well-irrigated flat country with sandy clay soil. The small banana plants are planted out in rows five or six metres apart,

After a year and a half, the plantation begins to be productive, and the plants throw out shoots, of which only three are left on each plant. One of these bears the bunches of fruit, the second follows shortly after, while the third is growing. The palms are irrigated once a fortnight, according to the season, and the plantations are carefully tended.

The banana-growing zone has an excellent central railway, with branches which reach the furthest points of the plantations. Each bunch, when gathered, is sent by rail to the port of Santamarta, where the fruit is finally selected and the other necessary operations are performed before loading in a cold storage vessel.

COTTON.

Cotton is not grown in sufficient quantities to meet local needs. Colombia still imports about 800,000 kilogrammes of cotton and a large quantity of yarn for weaving.

Colombian cotton is of fairly good quality, but is unfortunately unsuitable for the kind of cloth manufactured in the country. The ordinary factories use inferior qualities. Colombian cotton might profitably be exchanged for inferior qualities ; but for this a central organisation would be required that could count on the support of all growers. Owing, moreover, to inadequate selection of seed, the cotton grown is of very varying quality and length.

Cotton is generally grown in two ways. On the Atlantic coast, the perennial variety is sown one metre and a half apart in rows from two to two and a half metres apart. The ground is mainly prepared by burning before the seed is sown. If the season is wet and the brushwood very thick, the latter is cleared by axe. The pods are gathered by hand under a contract concluded with the owner of the crop. When the pods have been gathered, the stalks are laid, and for several years these stalks continue to produce pods, though each year the crop becomes smaller.

The second method, followed in the interior, in which the annual variety is grown, is as follows : the ground is hoed over and cotton is sown in between rows of maize.

After the pods have been gathered, the cotton is taken to the stripping sheds, the owners of which generally finance the farmers by buying the crop in advance at a very low price. These stripping sheds often belong to thread and cloth factories ; if not, the cotton is sold to the factories in bales of from 100 to 125 kilogrammes. Colombia produces 7,400 tons.

There exists a special law for the encouragement of cotton-growing ; but, as it was promulgated before the recent inflation, it has become inoperative owing to speculation. The measures provided for in this law were suggested by a mission from the Manchester International Weavers' Federation as a result of the industrial situation in the country.

Many of the difficulties encountered by this industry in the districts most suitable for cotton-growing (like the Cauca valley) are due to diseases which decimate the crop.

TOBACCO.

Another important crop of the temperate and hot zones of Colombia is tobacco, which farmers grow in small quantities in a very primitive manner. The natural quality of the soil and the climate have greatly helped to maintain this crop, which has had to struggle against the ruinous control of production and consumption exercised by the various administrations. Each department levies any duty it likes on tobacco, has its own system of control and charges different duties on prepared tobacco imported from other departments. In departments in which the regulations are less severe, tobacco-growing has developed more extensively, while its quality has gradually improved.

In 1930, Colombia produced 8,474 tons, of which 955 tons, to the value of \$200,000, were exported.

Imports are decreasing. In 1930, only 148,000 kilogrammes of tobacco in leaf, cut or in the form of cigarettes, were imported, to a value of \$272,000,

The quality of Colombian tobacco is, in general, good. If a judicious selection were made, great progress could be achieved.

Each farmer sows generally from 10,000 to 20,000 plants. He and his family sow the tobacco, transplant the seedlings, tend the plants, weed and gather the crop. The preparation of the ground is very rudimentary and consists simply in digging a hole for each plant. When the seedlings have been planted, women and children clean them by hand, morning and evening, to destroy the insects as soon as they appear. After the crop has been gathered, the tobacco is taken into sheds, where the leaves are threaded on strings and left to dry.

In spite of the obstacles and difficulties encountered by the trade in tobacco-leaves and prepared tobacco, a company has been formed known as the Colombian Tobacco Company, which, with considerable capital and good organisation, has gradually concentrated the tobacco trade and industry in its own hands. At present, it controls almost 90 per cent of the total production of cigarettes, and is also endeavouring to extend its control over the production of good-quality cigars. This company is of very great help to the tobacco industry in Colombia, and has in certain districts erected modern sheds in which some of the tobacco it uses in its factories is dried, under excellent conditions. It also subsidises small producers.

Exports, though not very extensive, demonstrate the quality of the leaf and the possibility of developing an international trade in Colombian tobacco.

RICE.

During the war of 1914-1918, the country itself produced all the rice it required. Higher wages, the cheapness of foreign rice, habit and the absence of all scientific farming have dealt a severe blow to this branch of agriculture. In 1929, Colombia imported more than \$4,000,000 worth of rice. Changes in the Customs tariff have, however, revived this branch of agriculture. Colombian rice is grown in the hot regions with alternating irrigation and drought, or in mountain lands. It is of excellent quality. The system of always been cultivated without any selection or appropriate preparation of the soil. Ordinarily, four to six successive crops are obtained from the same plantation. The crop is always gathered by hand. Harvester-binders and a modern system of irrigation have only been introduced within the last few years and are still very rare.

An experimental station has acclimatised foreign varieties, which promise to give good results. This station is endeavouring to promote rice-growing on economic lines.

In 1930, the quantity of rice produced in Colombia was estimated at about 21,000 tons; 50,000 tons were imported to a value of \$4,000,000.

SUGAR-CANE.

In almost all the hot and temperate regions of the country, sugar-canes are grown. Large undertakings transform the canes into granulated sugar and by-products; lesser undertakings manufacture molasses and obtain by evaporation a solid product known as "panela" or "panelon", in which crystallised sugar is mixed with the glucose and impurities due to inadequate refining.

There are in Colombia at present seven large sugar refineries in various regions, which, in 1930, manufactured 21,500 tons of sugar. As the large refineries are set up, they gradually oust the small producer of molasses and panela. These two products form a staple food of the Colombian labourers and peasants, and it is highly unlikely that their consumption will ever be entirely superseded. The total production of these two products may be estimated at 100,000 tons per annum.

The sugar-canes are generally grown in an old-fashioned and costly manner. The large undertakings are endeavouring to introduce agricultural machinery, selected seeds and varieties of fertilisers. In several places, sugar-canes are perennial, the only labour involved being to weed the plants two or three times a year.

Since the visit of some engineers from Porto Rico, great interest has been shown in improving the methods of growing, and various varieties have been tried which have given the best results in the West Indies and in Java.

MAIZE.

Maize is also a staple food in Colombia. It is very widely grown throughout the whole country, because it adapts itself wonderfully to all climates, from the hottest up to the coldest on the Andes plateaus. According to the altitude (and consequently the average temperature of the locality), the period of growth varies from ninety days to ten months.

The crop has been estimated at 300,000 tons per annum, all of which is consumed in the country in many and various ways.

Ordinarily, maize is the first crop to be sown on newly cleared land, because it is so vigorous and abundant.

In the hot regions, nothing more is required than to drop one or two seeds into little holes made with a dibble, for satisfactory crops to be obtained. In the temperate climate the ground is prepared with a hoe. In the cold and undulating or flat regions the old-fashioned plough is mainly used.

There are a number of varieties, and no attempt has been made to produce selected seeds.

Ordinarily, maize is sown in the same ground as other crops, such as bananas, sugar-canes, etc., so that the main crop remains after the maize has been gathered.

Most of the maize is consumed by the population; a relatively small quantity is used for feeding pigs and cattle.

COCOA.

This sought-after product, which, owing to its superior quality, was for a time a great favourite on the international market, has been constantly decreasing in value as a result of insect plagues and diseases peculiar to the cocoa-tree. The situation, indeed, has become so bad that imports are increasing every year.

WHEAT.

Wheat is grown in the Andes at altitudes varying between 2,000 and 3,000 metres. Efforts to popularise modern agricultural machinery and more rational methods have been concentrated on this branch of agriculture. Sufficient wheat is not yet grown to meet the needs of the population. In 1930, 32,675 tons of wheat were imported, to a value of \$1,462,000. In the same year, flour imports amounted to 11,000 tons, to a value of \$800,000.

Colombia produces about 30,000 tons of wheat per annum; production is increasing as a result of higher duties on foreign wheat.

PAPA.¹

A native of the Andes, this tuber forms an important item in the Colombian diet. It is grown solely in the cold districts. The annual crop may be estimated at 150,000 tons.

Owing to the good prices obtainable for this plant in the last few years, there has been a tendency to modernise the methods of its cultivation.

¹ A kind of potato.

BARLEY, YUCCA, ARRACACHE, FRENCH BEANS, LENTILS AND OTHER PRODUCTS.

These products are all grown to a certain extent in Colombia. Yucca and French beans, particularly, are grown almost throughout the temperate and hot zones ; they are consumed in fairly large quantities. Vegetables are being grown on an ever-increasing scale.

FRUIT.

Each district grows its own fruit, but on a very small scale. Oranges, lemons, pineapples, abogado-pears and grapes flourish in the warm and temperate regions ; duracines, various kinds of apples, plums, pears, etc., grow in the colder upland regions. Suggestions have been made for developing a fruit industry by selecting and importing new varieties. In a few years, perhaps, the fruit trade will increase sufficiently to enable a surplus to be exported.

STOCK-RAISING.

Stock-raising has played a very important part in the economic development of Colombia, owing to the vast and excellent natural grassland on the Atlantic coast, in the Cauca and Magdalena valleys, and in the eastern plains. Live-stock is estimated at about 6,500,000 head, and the annual consumption about 800,000 head.

The quality of Colombian horned cattle varies according to the districts of origin. In the cold regions of the Andes Cordillera, the climate and quality of the soil and the absence of parasites has permitted the acclimatisation and cross-breeding of thoroughbred stock imported from abroad.

In all parts of the country, stock is raised on natural pasturages or in artificial meadows, — never in stables. The knowledge of the breeders as regards the feeding of animals is elementary ; they have only a vague notion of what constitutes an adequate food ration. Nevertheless, in the cold climates, animals are frequently seen which could successfully vie with any foreign stock, thanks to the excellent pasturage afforded by the natural grassland.

Colombian live-stock, owing to the conditions under which it lives, is free from many of the diseases existing in Europe. Thanks to the absence of communications and of rapid means of transport, epizootics are not as virulent or serious as they are in other countries, where transport facilities afford a sure means for the propagation of disease.

Live-stock from the cold regions, in which there are no ticks, cannot be taken into temperate or hot regions, in which ticks abound, owing to the danger of contagion from the *Piroplasma vexillum*, of which ticks are the vehicle and which constitute a very great danger for healthy live-stock. This situation will continue for a number of years, in spite of the Government's efforts to destroy this parasite.

Formerly, the Colombian live-stock was exported to Peru, Panama and Cuba. At present, owing to the good prices obtained and the increase of home consumption, Colombia has imported, on an average, fifty to seventy thousand young bulls per annum, mostly from Venezuela. Possibly, this quantity may diminish considerably in the future, owing to the greatly reduced consumption, the fall of prices for live-stock in the interior, and the high Customs duties levied on foreign animals.

There is, strictly speaking, no dairy industry ; breeders simply obtain from cows the milk these produce naturally. In the neighbourhood of the capital, however, milch cows of good breeds are being acclimatised. These cows are carefully tended and their feeding is being improved. Oxen are exclusively used as draught animals both in the cold and hot climates.

Horses and Mules.

Until latterly, horses and mules were employed on a large scale for transport and labour. The construction of main roads and railways has gradually diminished their value ; but, unless and until modern ploughing apparatus (for animal or mechanical traction) comes to be used on a wider scale, a large number of horses and mules will still be most usefully employed.

Pigs.

Near each farm, pigs are fed on farm refuse. Pork is an appreciated item of diet. There is, strictly speaking, no pig-breeding industry, but the installation of a " packing " factory on the Atlantic coast near Cartagena will encourage the development of this industry in the country, at any rate in the districts which can send their meat to the factory.

Ordinarily, breeders only fatten pigs for sale to merchants, who forward them to centres of consumption.

The recent increase of Customs duties on foreign lard will help to encourage this and similar industries, since there is a fairly large demand for fat in the country. In 1930, about \$4,000,000 worth of fat was imported.

CONCLUSION.

Much has still to be done to raise Colombian agriculture to the level attained in other more advanced countries. Farmers using modern methods have a great future before them.

In addition to favourable natural conditions should be mentioned the recent steps taken by the Government. The heavy duties imposed on imports from abroad of agricultural products and luxury articles has led to a greater consumption of home products, which are now protected from every kind of foreign dumping. A Ministry of Agriculture has been established, together with an Agricultural Credit Bank. The future of agriculture in Colombia should be very bright ; much remains to be done in the country, which can count on a very important home market. At the same time, the geographical position of Colombia enables her to compete advantageously on foreign markets.

EGYPT

The present agricultural crisis in Egypt is due in part to local causes which are accentuated by the universal financial crisis.

The fact that increased output, or supply, has surpassed the demand, is the almost unanimously accepted reason of the world crisis, the needs of the individual having been reduced to the absolute minimum and a policy of economy adopted throughout the world. This has reduced the demand for the raw materials of *de luxe* products, of which Egyptian cotton is one. An effort towards decrease in the cost of production in order to produce cheaper and more saleable articles seemed to be the best line of action, but against that were the strong attempts of socialistic and labour concerns to enforce their policy of "keeping up the unnaturally high wages until the cost of living has been reduced to pre-war level".

It is important to realise that, in any article of consumption, the actual cost of raw material constitutes but a small fraction in the total cost of production compared to the cost of labour spent in producing the article itself, as well as the charges on all machines, tools and materials used for its production and on the capital employed.

Thus, lack of faith in trade, over-production and the consequent existence of great stocks in the world's markets, together with the direction of effort to producing cheaper articles without any real decrease in the wages (which constitute the important item in the cost of production) are the main factors causing the world's crisis.

In Egypt, however, the whole story is quite a different one. In the first place, it is not an industrial country and secondly the labour question is, so far, of minor importance. It might be thought that the disastrous consequences of the universal crisis, which in other countries have led to over-production, both of raw material and manufactured articles, ought really to be of benefit to Egypt as a country exporting cotton and importing a considerable part of its requirements and even foodstuffs. This, however, is not the case.

* *

Egypt is an agricultural country and mainly a cotton-producing one. Its cotton amounts to 43 per cent of its total agricultural revenue, and 92 per cent of the total exports of the country.

Although Egyptian cotton is unique in its quality, yet it has been partly substituted by other cheaper raw materials. The competition of artificial silk has increased, but, luckily for Egypt, not to an extent that seriously affects the future use of cotton. Thanks to the better durability and strength of the cotton fibres, the displacement is only partial. The increasing skill of manufacturers is enabling better use to be made of cotton. Take, as an instance, the specialised use of Egyptian cotton in the tyre manufactory, where it was thought, only a few years ago, that special fabrics for tyres could only be made of long-staple Egyptian cotton. Yet Egyptian-Uppers (which is a shorter-staple cotton) is at present being used with success, and Egyptian cotton can now be substituted in this industry by cheaper cottons — namely, American.

In addition to this evolution in the cotton trade, there are other countries competing with Egypt in producing its fine cotton, which have, to a certain extent, been able to supply the world's markets with this material.

This and other factors assisted the slump in cotton prices during the last few years. Egypt produces 7 to 8 million kantars (one kantar = 100 lb.) annually, which is not far

above pre-war production. According to the statistics of the International Institute of Agriculture, the present world production of cotton shows an increase of 29 per cent over pre-war figures, while, in Egypt, the increase is estimated at only 10 per cent (United States 34, India 12, and Russia 63). The crops of both 1929 and 1930 were, however, record-breaking. This, together with the heavy carry-over, tended to place Egyptian cotton in a weaker position than American.

The difficulties of the cotton industry in Lancashire are of great concern to Egypt, because a considerable proportion of Egyptian cotton is exported to England, as can be seen from the following table :

Year	Quantity exported to England	Total	Percentage of total
	(Kantars)	(Kantars)	
1926	3,064,000	7,652,190	40
1927	2,848,000	6,087,188	47
1928	2,897,000	8,067,942	36
1929	2,607,000	8,329,454	31
1930	2,119,000	8,190,285	26

The conditions in Lancashire, however, were usually better among the Egyptian spinners than among the spinners of American cotton. The former exhibited greater strength and prosperity.

Such were the facts which menaced the situation of Egyptian cotton. Moreover, the yield per acre has been tending to fall off, except in the last three or four years, when it started gradually rising. This fall is partly due to the displacement of higher yielding varieties of medium quality by a low yielder of good quality ; it paid to cultivate the low yielder in the past because of the excellent prices it fetched in the markets, owing to its use in special articles.

The policy generally accepted at present as being the best to adopt is one of mass production. Time will elapse before it is fully executed, but it is very hopeful because, with high yields of cotton per acre and the comparatively low wages, Egypt will not be equalled in the world as a cotton-producing country.

This new policy is laid down in the decision of the Council of Ministers dated October 18th, 1930. It aims at the following objects.

- (1) Reducing the cost of production to make it harmonise with the new trend of prices ;
- (2) Increasing the yield per feddan¹ by adopting better methods and applying scientific research to the different branches of production ;
- (3) Adopting mass production for the kinds of cotton which are easily saleable and yet are better than ordinary cotton ;
- (4) Restricting the cultivation of sakel to the northern districts of the delta, this being done in order to produce the best qualities and to protect the crop against wilt disease (fusarium).

Any extension of a monoculture policy is proven undesirable, since it was in full swing when the low-yielding cotton was spreading, with its existence depending on its quality and not quantity. Cotton having been the best-paying crop to grow was the only crop the farmer cared for and it received all his attention. When it was not profitable to grow, as was the case last year on account of the low prices, bad moral effect was created and a feeling of depression was general.

¹ 1 feddan = 1.03 acre.

The total supply of Egyptian cotton can be adjusted to world demand by growing other crops. In fact, the diversification of agriculture is a solution recommended of old, but it has not been adopted, owing partly to little progress having been made in farming methods with other crops, and partly to the rigid character of the old Egyptian tariff system, which came to an end only in February 1930.

But the crisis has brought the question of diversification to the forefront. The Government adopted the policy of encouraging wheat-growing and is trying to introduce better methods in that branch of agriculture with a view to increasing the yield and diminishing the cost. The area under cereals has been usually about 4 million acres. Of this area, only 1,400,000 acres are given to wheat, the average yield of which is 4.75 ardebs (26 bushels) per feddan, which is very low considering the fertility of the soil.

Egypt, which was one of the granaries of Europe, is now not self-sufficing. It imports yearly not less than 260,000 tons of wheat and flour and a sum £E.3,200,000 was spent in 1929 on those commodities. The new protective tariff applied since February 1931 will also encourage the cultivation of wheat, because prices will be stabilised, and it is hoped that this policy will render Egypt self-sufficing in its requirements for wheat.

A similar policy has been decided upon as regards the cultivation of sugar-cane. On February 11th, 1931, a convention was entered upon between the Egyptian Government and the Société des Sucreries et de la Raffinerie d'Égypte according to which the Government undertakes not to allow foreign sugar to compete with the local product in the Egyptian market, while the company on its part undertakes not to import any sugar from abroad unless a deficiency of the local product could be proved to the Government. This undoubtedly will encourage sugar-cane plantation.

Thus, the mass production of cotton at a cheaper price and the encouragement of wheat and of sugar-cane plantations will put the farmer in a better situation to meet future crises, should they occur.

It would not be irrelevant to note also the following causes of the crisis which are peculiar and of a local nature :

(a) Some of the landowners are extravagant and not resident on their farms. Thus, a good deal of the land is receiving less care in its farming than necessary. The prosperous years encouraged such landowners in their extravagance, and their feeling that they were being forced to give up a life of prosperity and had to content themselves with a life of less expenditure accentuated the effect of the crisis, because no provision has been made by such farmers to safeguard themselves in bad years.

(b) Another factor which made the crisis more noticeable this year was the fact that, when cotton prices dropped down to a minimum, many cultivators could not pay their debts to the banks, because their total revenue did not cover the expenses entailed by cultivation together with living expenses.

(c) Although the cost of labour is not much higher than in pre-war times, yet labourers are tempted to work in big towns where they earn better wages, and those still working on the land are not as zealous as before in turning out good work. Moreover, time is less, while its quality is not as good as it used to be.

(d) The high rents left no margin for the tenant to better his earnings to meet the advance of the standard of living. The landowners reaped all the profit and spent their money in big towns and abroad. Had the small farmer earned more, he would have lived better and that might have caused more money to circulate in the villages.

(e) A very important factor contributing to the present crisis was the intervention of Governments in the cotton market. That intervention resulted in the existence of great stocks of cotton in the country, which disturbed the morale of the cotton trade, and sales were consequently restricted to the immediate demands of the spinners.

(f) There has been a steady fall in the fertility of the soil due to many factors, of which the most important are over-cropping and lack of proper drainage. Farmyard manure, which is the basis of all rational farming in Europe and elsewhere, is used as fuel, thus reducing the amount of organic matter in the soil.

(g) The produce is sold generally by the grower at the lowest current prices, because the farmer, being in need of money, sells his crop as soon as it has been harvested, or even sooner.

* * *

Having outlined the present agricultural situation in Egypt, it remains to indicate the policy which is being adopted to better it.

In the first place, series of experimental stations are being established in the different parts of the country with a view to demonstrate the benefits that can be attained from improved use of the land, thus inducing farmers to give greater care to their land.

With this aim in view, experiments are being made with the export of fruit and vegetables to foreign countries, and the manufacture of preserves, perfumes, etc., and no effort is spared to interest the trade and private capital in these products. With regard to the export of fruit and vegetables, one great advantage to Egypt lies in the seasons when these are most in demand in foreign parts, which, as a rule, fit wonderfully well with the periods of the Egyptian harvests.

In order to overcome the financial difficulties of the farmers, co-operative societies have been started and it is hoped that before long they will become general, thus making a great change for the better in the financial situation of the farmer.

The State Agricultural Bank, which is being created, will also serve as a nucleus for reorganising the credit system in this country. Through this new system of financing the cotton crop, much could be achieved, and a better equipment will be available for the field of competition.

Efforts have been started to better the situation of the labourers with a view to securing the maximum amount of good work in a given time, while the use of machinery and modern appliances for better farming will have to be extended.

With regard to the cotton stock remaining in the country, the Government has decided to dispose of it by small quantities not exceeding half a million kantars annually, in order to satisfy the demand for it without affecting the market. Further, a policy of non-intervention for the future has been adopted. By these means, it is hoped to restore faith in the Egyptian cotton trade, leaving prices to be regulated by the normal factors tending to stabilisation.

The charting and investigating of the nature of the soil particularly as to its suitability for different kinds of crops, its content of natural elements of plant food, and the making of these available for different kinds of crops, the requirements of the crops as to the kind and amount of the several sorts of manure, the special adaptation of particular varieties of seed to certain kinds of soils will have to be carried out on an increasingly extensive scale.

It must be born in mind that Egypt is a country in which the best has not been attained, and that, even with the antiquated and careless forms of cultivation employed, comparatively good results are often obtained from its soil. These results, however, are far below what could be produced with the exercise of more care and the use of modern agricultural machinery.

It is hoped that the agricultural policy of the future will open the way to intelligent applications of science to agriculture for the general benefit of the whole of Egypt.

PORTUGAL

JOSÉ DE PENHA GARCIA,

Delegate of the Central Association of Portuguese Agriculture on the Produce Exchange.

A short account of agrarian conditions in Portugal and of the general lines of Portugal's development will help to explain the various phenomena which may be conveniently summed up as the "agricultural crisis".

Portugal occupies a strip of territory 89,625.31 square kilometres in extent, forming the western portion of the Iberian Peninsula. Of her total frontier of 2,143 kilometres, 845 kilometres consist of the Atlantic sea-board. The influence of the Atlantic upon the climate is thus very marked. From north to south every geological period is represented. The country is divided by the Tagus into two main zones—the northern zone wooded, mountainous and thickly populated, and the southern, characterised by wide plains, less richly wooded and more sparsely populated. There is, however, no monotony in either of these two main divisions. The various forms of cultivation encroach upon one another in the most surprising way; dry and barren ground is found in close proximity to flourishing orchards.

In these characteristics lies the difference between Portugal and Spain. The mountain torrents of the neighbouring country become broad and peaceful rivers whose waters reflect a smiling countryside.

This wide variety of soil and of crops makes it impossible to speak of one general agricultural crisis; the crisis has many different aspects. Portuguese agriculture possesses no abundant reserves which would enable it to struggle through periods of depression. At the same time, self-supporting economic units are still found in full vigour in certain regions. The farmer's family supplies its own needs and depends but little on the outside world. Whole districts can, if necessary, fall back upon their own resources at times of economic stress.

WHEAT.

Since 1899, wheat has enjoyed special protection with a view to ensuring a fair price and increasing production. Mills have to pay a price, fixed by law, which varies from year to year. Customs duties have been correspondingly increased, to avoid competition. Wheat consumption (about 150 kilogrammes per head) is more or less confined to roughly half the population, chiefly in the large towns. The rest eat maize and rye bread. Wheat is grown mainly in the south, while maize is cultivated chiefly in the north.

In the north, the average production for 1926-27 was 498 million litres of maize and 145 million litres of wheat, the corresponding figures in the south being 10 million and 256 million litres, respectively.

Despite the protection of wheat, production remains low; indeed, far below that of other countries. Modern methods of cultivation and chemical fertilisers are only slowly being adopted. Climatic variations and an uncertain rainfall are an obstacle in many districts. Steady progress is, however, being made.

The average area sown is 431,003.41 hectares (1922-1926). The yield per acre is small, in spite of the progress already made.

More than one-half of the amount is grown in the Alentejo district. The results so far achieved justify the hope that it will be possible to produce sufficient wheat for the country's own needs.

This state of affairs, however, is possible only with the assistance of special legislation. The main obstacles are transport difficulties, high railway rates, insufficient technical assistance for farmers, seed selection—a problem still unsolved—and inadequate facilities for agricultural credit at a low rate of interest.

The colony of Angola may perhaps be useful in supplementing home production. Wheat-growing there is still in its infancy, but has made appreciable progress since 1926.

There cannot be said to be a wheat crisis in Portugal; wheat-growing is, indeed, the only branch in which the farmer is sure of a fair return. The position is that production is still below the requirements of the country.

The Government has instituted a bonus of 100 escudos per hectare (80 escudos for 1932) of fallow land or land under vines that is brought under wheat (1). The bonus for rye is 50 escudos (31st July 1930). The Central Credit Bank is prepared to grant fairly large credits for wheat-growing (October 25th, 1929).

Unfortunately, these credits have not produced all the results that were hoped for. The general fall in the prices of agricultural products made it necessary to grant a considerable extension of the period for repayment. Efforts are now being made to develop agricultural credit by increasing available resources. The country has been divided into twenty districts, each under a team of agricultural experts (September 23rd, 1930). Some progress has been made in seed selection, and a bonus is granted to farmers who work on these lines (20 centavos per kilogramme, September 1st, 1929). The original body set up solely to encourage wheat-growing has been replaced by a *Junta Central de Campanha de Produção Agrícola*, which has been given wider powers and deals with other branches of production.

MAIZE.

A large number of farmers are interested in maize-growing, chiefly in the north.

The area sown in 1922-1926 (307,597.87 hectares) shows a marked increase, the figures for 1930 being 364,386.24 hectares, with a yield of 4,158,000 quintals.

The maize crop is very important, as part of the population eats maize bread; it is, moreover, of value from the standpoint of the cattle-breeding industry. Maize-growing is very suitable for communities of small landholders, such as are found in the north. The world crisis has had a serious effect, home prices for this product having fallen rapidly, while the prices for colonial maize reflect the same downward tendency. Maize-growing in Angola dates from just after the war, and steady progress has been made.

Quotations for Loanda and Beira grades on arrival ranged from 37 to 55 centavos per kilog. Such rates presuppose very low prices for maize in the colony. The average price appears to be 16.9 to 20 centavos, being as low as 10 centavos for districts at a distance from the railway. The general view is that prices, to make maize-growing remunerative in the colony, should be from 30 to 40 centavos the kilogramme.

That is a problem demanding urgent solution, and an attempt is being made to solve it by better grading, transport facilities and reduced charges of various kinds (about 12.1 centavos per kilogramme).

Further possibilities in this direction are limited by the necessity of avoiding competition with the mother country. Quotations for home-grown maize have ranged from 68 to 70 centavos the kilogramme.

The average annual shortage of maize is approximately 50,000 tons, and the mother country would therefore appear able to absorb large quantities of colonial maize. Rates

¹ The bonus was reduced to 80 escudos for 1932.

have been adversely affected by large sales effected for the account of colonial producers and merchants with the object of obtaining foreign exchange.

Maize deliveries are not at present sufficiently spaced out. Imports for 1922-1928 amounted to 782,804 quintals. Portugal, it is hoped, will be able to raise her present average of 10 metric quintals per hectare to the world level of 12.7 quintals. This seems likely to happen once the proper spacing out of colonial deliveries is secured. With a view to encouraging the consumption of maize and using up stocks, the Government has authorised the use of a certain proportion of maize and rye flour in bread-making. These steps have not, however, proved successful in entirely removing the depression in this branch of agriculture.

RYE, BARLEY AND OATS.

Rye occupies a position of some importance in the agricultural economy of Portugal. Rye mixed with wheat is used for bread-making in certain districts. The present yield — a very low one per hectare — is 1,228,000 quintals for an area of 165,000 hectares. Oats have been affected by the increased use of mechanical traction, particularly in the big towns. The present annual yield is 1,153,000 quintals for a sown area of 174,000 hectares.

For barley, the present yield is 498,000 quintals for an area of 69,000 hectares.

Portugal also imports all these cereals. The fall in world prices and the policy of export bonuses followed by certain countries made it possible, in 1930, to import large quantities (16,686,722 kilogrammes) of various cereals other than wheat and maize. These imports led to the accumulation of stocks, which in turn involved selling at a loss.

RICE.

The 224,000 quintals representing the yield of 14,000 hectares are not adequate for national consumption, and large quantities of rice are therefore imported (42,700,791 kilogrammes in 1930). The very low prices of foreign imports have necessitated an increase in Customs duties (28 oct. 1930). Crops have been normal and prospects are good.

Portugal also produces considerable quantities of French beans, kidney beans and chick-peas. Production has suffered considerably from the fall in prices, while climatic conditions have also been unfavourable.

POTATOES.

Production for the period 1903-1912 was 240,000 tons. Imports have continued to increase, the average for the period 1903-1914 being 10,796 tons, rising to 31,662 tons for the period 1922-1927, and 67,720 tons in 1930. Here, again, the world crisis made itself felt, the import figures for 1931 being only 27,002 tons for the first nine months of the year.

VINE-GROWING.

About 344,000 hectares are planted with vines, a very widespread crop, and one for which both the climate and soil appear to be particularly suitable. The care given to the production of certain classes of wine, notably Port, has given them a worldwide reputation.

The statistics of the last twenty-five years show an annual production of about 5,500,000 hectolitres. About 10 per cent of the cultivated land is under vines — a high proportion which, although decreasing, is still a source of considerable danger. Exports of the famous Port and Madeira wines and of ordinary wines have fortunately not dropped sufficiently to cause a crisis. Bad vintages have prevented the accumulation of stocks. It is to be noted that the export of Port wine reached, in 1925, the highest figure recorded in the last 50 years (594,172 hectolitres). Indeed in 1919, exports of Port to

England amounted to 410,768 hectolitres. Despite the loss of important markets, such as the United States, and the drop in exports to Brazil, Port and Madeira wines have maintained their position, but there is a serious decline in exports of ordinary wines.

The drop in Brazil purchases, the inadequacy of colonial purchases and the irregularity of sales on the French market would have produced a hopeless situation but for the exports of vintage wines. The present difficulties are due to the increasing dependence on the export trade in Port and Madeira. The unsatisfactory state of the Brazilian market, which used to absorb a considerable quantity of ordinary wines, is not set off by any compensating increase on the colonial market. It might be advisable to encourage the consumption in the colonies of good light wines; this lessens the natives' consumption of spirits and palm wine and has produced excellent results in certain foreign colonies.

To sum up, the wine industry reflects the world crisis as manifested in the greatly decreased purchasing power of certain countries. The maintenance of Port exports has permitted the utilisation of considerable quantities of brandy required in the treatment of must and wine. The difficulties of the ordinary wine industry are further increased by the competition of home-produced beer.

Producers' combines, improved technique and propaganda may help to restore normal conditions. Furthermore, international legislation regarding marks of origin and the suppression of fraud must be strictly enforced.

OLIVE-GROWING.

Agricultural conditions in Portugal are particularly suitable for olive-growing. Over 350,000 hectares are to-day devoted to this crop, which is a very valuable one. The average yield exceeds 600,000 hectolitres, and cultivation is spread over almost the entire country. The large home consumption of olive oil formerly enabled the small farmer to regard this crop as a reserve which could be readily converted into cash.

The proximity of Spain, the greatest olive-producing country in the world, placed Portuguese olive-growing at the mercy of a crisis in that centre of production. For many years, therefore, a system of drawbacks has been employed for oil imported for the requirements of the sardine industry. It was essential that the canning industry should be able to purchase oils cheap, in order to compete on the foreign markets. Again, it could obtain credit facilities which were not within the reach of the small Portuguese producers of limited means.

The drawback system, however, added to the complications resulting from the importation of various kinds of oil, gave rise to serious difficulties, and the Government decided to abolish it. It was replaced (December 10th, 1929) by a tariff of 4 to 8 centavos per kilogramme. At the same time (December 18th, 1929), olive oil and ground-nut oil were declared to be the only oils suitable for human consumption. The elimination of dangerous competitive products, such as the soya bean, left the olive-oil industry without any competitor, except for the ground-nut oil produced in the Portuguese colonies.

Conditions seemed, therefore, favourable to the development of olive-growing. Unfortunately, the oil slump in Spain, aggravated by a heavy crop in 1929, brought about a sudden fall in prices.

The tariff protection provided by the law was soon seen to be insufficient. Imports in 1930 reached 12,021,761 kilogrammes. The fall in prices continued and stocks of oil accumulated with the producers. Now prices have a tendency to fall even below world prices. The present crop, which is of inferior quality, may perhaps cause a certain rise, especially in the better grades, but prices are now below the costs of production.

Olive-growing provides over 15,000,000 days' work for the agricultural population, and any crisis in this industry has disastrous consequences. Exports do nothing to help the situation, as they consist mostly of imported oils. The fish-preserving industry does not employ the finer quality oils produced in the country, but uses imported oils.

Olive oil thus depends on the home market, which is flooded with cheap imported oil and can absorb only a very limited quantity. The present situation is therefore bound up with the solution of the oil crisis in Spain.

It might be possible by careful propaganda to extend the world market for olive oil, and even to find new uses for it on a big scale (lubrication, therapeutics, etc.). At the same time, costs of production must be reduced. The independent producer will very probably suffer as the result of this policy, unless co-operative societies can make headway. These societies are taking steps to deal with transport difficulties and the shortage of capital required for the purchase of modern plant. The rectification of olive oils increases the quantity of oil available for consumption and hinders the development of the production of high-quality oil. At the same time, these oils are preparing the way for the replacement of olive oil by seed oils. This is a serious danger for the future of the olive industry, and it is to be hoped that the countries concerned will take steps to meet it before it is too late.

FRUIT AND VEGETABLE GROWING.

Conditions in Portugal are fairly favourable for these products. The export of grapes, in particular, would provide a valuable adjunct to vine-growing.

Portugal exports a certain quantity of fruit and vegetables and of preserves, particularly preserved olives.

Efforts are being made to improve the situation by increased technical assistance and by the standardisation of products.

FORESTRY.

Portugal possesses considerable timber assets distributed among the different varieties, as follows :

	Percentage	Hectares
Firs	12.7	1,131,587
Cork oak	6.3	559,665
<i>Quercus ilex</i>	4.3	379,966
Oak	1.2	107,948
Chestnuts	0.9	85,228
Various	0.8	67,017
	26.2	2,331,411

Portugal accounts for half of the world cork production, while the economic importance of this commodity is further increased by its connection with pig-breeding. Unfortunately, cork prices have dropped heavily, the industrial demand having suffered considerably from the world crisis. The Government has passed various laws to regulate production (May 20th, 1927, February 9th, 1929, November 20th, 1930).

A serious depression has also overtaken the national cork industry and several factories have had to close down.

Remedies for the present crisis, which may check the development of plantations, must depend partly on the solution of the industrial crisis. At the same time, concerted action on the part of cork-producing countries would appear desirable, to regulate felling, standardise products and develop propaganda in favour of a product capable of endless uses in all branches of human activity.

CORK EXPORTS FOR THE LAST FOUR YEARS (IN TONS).

	1928	1929	1930	1931 (January to September)
In pieces	48,172	47,964	33,945	24,288
In strips	39,751	46,051	19,335	12,045
Virgin cork	20,187	27,855	18,621	13,398

Resins.

Portugal is very favourably situated for the production of resins, and the industry, which came into existence about thirty years ago, has made remarkable progress.

Timber.

The world crisis put a stop to a big export trade in timber for pit-props and railway-sleepers.

The development of forestry in recent years has been very remarkable. The State at present exploits about 118,000 hectares and supervises 207,529 hectares. The area under timber has been almost tripled in the space of fifty years.

LIVE-STOCK.

According to the last census (1925), Portugal possessed 7,825,700 head of cattle and about 9,000,000 of farm stock. Sheep head the list (about 3,800,000). Sheep-breeding suits the small farmer, as it enables him to obtain cheap manure and useful by-products.

The demand for mutton from butchers has continued to increase. Milk and cheese also have a wide home market. The fall in wool prices has been considerable, and meat and cheese prices are low.

Farmers engaged in this important breeding industry have therefore suffered badly.

In the pig-breeding industry also (about 1,192,600 head), the outlook is gloomy.

Pork has dropped very much in price, and disease has taken its toll in certain districts.

Beef prices are not remunerative and the importation of cheap colonial cattle has been a serious factor as regards competition.

Horse-breeding is declining as the result of the progress of mechanical traction and is suffering seriously from the present situation.

The position of the breeding industry in Portugal is thus anything but brilliant. Professor Paulo Nogueira has rightly drawn attention to the relatively poor types found. During the last fifty years, it is the smaller and less valuable types of beast that have chiefly increased in numbers (sheep, goats, donkeys). The peasant, being ill-equipped and badly off, cannot go in for any other form of stock-breeding.

Progress has, however, been made by co-operative breeding societies.

The world crisis, by reducing the economic resources of agriculture, has tended to restrict stock-breeding to those types which require the least care and outlay. The development of the cattle industry is hindered by the shortage of suitable pasture, a difficulty which can only be remedied by irrigation. Thus, local conditions, added to the general crisis, make the situation still more difficult.

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CONCLUSIONS.

One of the measures adopted by the Government to meet the crisis has been to extend the period for the repayment of loans.

Agriculture has benefited from road works, on which, since 1927, the Government has spent 81,000 contos a year. During the period 1927-1931, 2,655 kilometres of road were completed and put into service and 3,061 kilometres were in the hands of contractors.

Considerable credits have been placed at the disposal of agriculture for wheat-growing, and bonuses have also been granted. Technical assistance has been further extended, and progress continues.

The standardising of production is now being studied, with a view to increasing exports. The opening of a produce market at Lisbon, to be followed shortly by another at Oporto, is intended to assist farmers in need of information as to prices.

The crisis has prevented a considerable part of these measures from producing their full effect. Portuguese production is inadequate in almost all the chief branches of agriculture, and imports are therefore necessary. These have not always been set off by national products and have far exceeded actual consumption requirements. Portuguese agriculture has suffered greatly from the low prices of imported goods, which often benefit from export bonuses. Up to the present, the Government has kept protective tariffs as low as possible; but, if the present difficulties persist, imports will have to be reduced.

From a financial standpoint, Portugal has achieved a remarkable work, and her finances are now sound. This is due very largely to the remarkable endurance and industry of her peasants. It is clear that the rural population cannot bear any addition to its present burdens; the consumers in large towns must make sacrifices, in order to secure fair prices for agriculture as a whole.

It is to be hoped, moreover, that agreements between producers, the pooling of the results of modern technique, the rationalisation of production, and the reorganisation of the distributing markets will tend to reduce the costs of production and help to arrest the present crisis.

TURKEY

The economic depression prevailing throughout the world began to be specially felt in Turkey in 1930, and its prolongation renders the country's situation increasingly difficult. Exports and prices have fallen with unprecedented rapidity. The depression has become so great that measures taken by the State to alleviate it have become ineffective. The Turkish Government, like the Governments of other producing countries, has reached the conclusion that the only effective means of improving the situation would be by international co-operation and understanding. For, as the evil is general, it is not possible to remedy it by isolated measures. For this reason, in a spirit of economic co-operation, conferences have been summoned in very many places during recent years. Turkey, as a producing country, gladly participated in these discussions, sincerely expressed her views and, to the best of her ability, applied all the measures suggested.

Turkey is an agricultural country of 14 million inhabitants, of whom about 9,500,000 (or 68 per cent) gain their living from the soil. According to the agricultural census of 1927, the number of families on the land is 1,751,339.

Arable land represents 31 per cent of the total area of the country, which is estimated at 760,000 square kilometres. But only 19 per cent of that area, or more than 4 million hectares, are cultivated; thus the parcel of cultivated land that falls to the share of each family is about 2.30 hectares.

The greater part of this arable land is divided into small holdings. Equipment and agricultural methods are not everywhere equally advanced. The harvests are hardly sufficient to permit each man to support his family even when production and prices are at a normal level. There is no large industry; small industries have only come into being during recent years.

Thus the economic and financial life of Turkey depends entirely on the condition of its agriculture, which, owing to the peculiarities of the soil, is especially adapted to the needs of export markets. The producers must live on the income from sales abroad, and the country must be enabled to prosper by means of such transactions. But the population, already hard-hit by the droughts of 1927 and 1928, is wearing itself out in the struggle against the difficulties due to the world depression that set in in 1929. Being unable, for want of purchasers, either to sell all their goods or to pay their debts or taxes, owing to the constant fall in prices, agricultural workers have reached a state of destitution in which, in most cases, they can no longer support their families.

The sole means of remedying this state of things would obviously be to ensure an outlet for produce at a reasonable price in foreign markets. It would thus be necessary to reduce, as far as possible, cost prices and, on the other hand, to increase selling prices, so as to leave the producer a margin of legitimate profit. In present conditions, it is unhappily impossible to lower cost prices; to do so, it would be necessary to secure for agricultural economy the necessary credits, and to rationalise agriculture. The only credit establishment for agriculture is at present the Agricultural Bank, the capital of which is far from meeting the needs of 9 million farmers.

Nevertheless, in deciding to accept repayment of its loans by deliveries in kind, the Agricultural Bank is endeavouring to assist the farmer; but neither this measure nor the short-term credits granted by it can relieve the farmer of the necessity of borrowing from other establishments at exorbitant rates and selling his crop as it stands for next to nothing.

In the present circumstances, the farmer, being unable to pay his debts out of the income from the sale of his produce, is obliged to contract new loans which at length make his position hopeless. In these circumstances, it is evidently not possible to rationalise agricultural production. In order to lower costs, it would be necessary to grant farmers long- and medium-term credits at reduced rates. So long as these credits are not obtained, costs will continue to grow, owing to the constant increase of the debts contracted by the producers at exorbitant interest, not to speak of the fact that the constant fall in sale prices will place him in a situation growing daily more critical. Attention must be given to this situation, which can only be improved by international measures.

To ensure the sale of agricultural products at a remunerative price in export markets, it is indispensable that certain preferential advantages should be granted by international measures to producing countries.

* *

The difference in cost and selling prices in the case of certain agricultural products is shown in the following tables :

TOBACCO.

Cost price per kilogramme (Piastres)	Selling price per kilogramme (Piastres)	Difference (Piastres)
73.3	65	8.3
Cost price is made up as follows :		
		Piastres
Cost of first ploughing		200
Cost of second ploughing and raking		100
Cost of third ploughing and harrowing		150
Cost of furrowing (wages of three labourers)		250
Cost of planting and watering (wages of four labourers)		300
Cost of plants		750
Cost of first hoeing		400
Cost of second hoeing		300
Cost of gathering		1,200
Packing material		150
Cost of management		350
Fertilisers		500
		4,650
Interest on working capital		186
Interest on capital value of land		150
Taxes and various expenses		515
Total		5,501

As one dönüm (0.092 hectare) only yields 75 kilogrammes of tobacco, the cost price of a kilogramme is :

$$\frac{5,501}{75} = 73.3 \text{ piastres,}$$

to which should be added 7 piastres per kilogramme for transport and other expenses.

DRIED RAISINS.

	Days	Wages or expenses
Picking	4	£T 4
Pruning	2	£T 6
Digging	4	£T 4
Hoeing	4 (each time)	£T 8
Summer pruning		320 piastres
Half-sack of sulphur for three sprayings		250 "
4 kilogrammes sulphate of copper		120 "
Labour for spraying	4 days	£T 4
Manure { 5 women for collecting		250 piastres
{ 2 women for cutting		250 "
{ 2 women for transport		250 "
Drying		280 "
Transport		150 "
Interest on working capital		178 "
Taxes, general expenses		487 "
Interest on capital value of land		150 "
Cost of establishing vine and depreciation annually		500 "

These expenses amount in all to 5,785 piastres. As each dönüm produces on an average 150 kilogrammes, the above sum must be divided by this figure in order to obtain the cost price per kilogramme, which is 38½ piastres, whereas the selling price is 35 piastres.

MOHAIR.

Cost price per kilogramme (Piastres)	Selling price per kilogramme (Piastres)	Difference (Piastres)
192.9	65	127.9

Cost price is made up as follows :

Cost of a herd of 500 goats :	Piastres
1. Wages of first shepherd	240
2. Wages of 2 shepherds	360
3. Wages of 2 shepherds (for six months)	180
4. Food of shepherds	438
5. Tax on each goat	250
6. Supply of salt for animals : 5 grammes per day for 500 head ; 365 days	46
7. Annual cost of 4 sheep-dogs : 2 ocques of barley flour per day	36
8. Annual cost of smocks and shoes for 4 shepherds	112
Carried forward	1,662

In the present circumstances, the farmer, being unable to pay his debts out of the income from the sale of his produce, is obliged to contract new loans which at length make his position hopeless. In these circumstances, it is evidently not possible to rationalise agricultural production. In order to lower costs, it would be necessary to grant farmers long- and medium-term credits at reduced rates. So long as these credits are not obtained, costs will continue to grow, owing to the constant increase of the debts contracted by the producers at exorbitant interest, not to speak of the fact that the constant fall in sale prices will place him in a situation growing daily more critical. Attention must be given to this situation, which can only be improved by international measures.

To ensure the sale of agricultural products at a remunerative price in export markets, it is indispensable that certain preferential advantages should be granted by international measures to producing countries.

* *

The difference in cost and selling prices in the case of certain agricultural products is shown in the following tables :

TOBACCO.

Cost price per kilogramme (Piastres)	Selling price per kilogramme (Piastres)	Difference (Piastres)
73.3	65	8.3
Cost price is made up as follows :		Piastres
Cost of first ploughing		200
Cost of second ploughing and raking		100
Cost of third ploughing and harrowing		150
Cost of furrowing (wages of three labourers).		250
Cost of planting and watering (wages of four labourers).		300
Cost of plants		1750
Cost of first hoeing.		400
Cost of second hoeing.		300
Cost of gathering.		1,200
Packing material.		150
Cost of management		350
Fertilisers.		500
		4,650
Interest on working capital		186
Interest on capital value of land.		150
Taxes and various expenses.		515
Total.		5,501

As one dönüm (0.092 hectare) only yields 75 kilogrammes of tobacco, the cost price of a kilogramme is :

$$\frac{5,501}{75} = 73.3 \text{ piastres,}$$

to which should be added 7 piastres per kilogramme for transport and other expenses.

DRIED RAISINS.

	Days	Wages or expenses
Picking	4	£T 4
Pruning	2	£T 6
Digging	4	£T 4
Hoeing	4 (each time)	£T 8
Summer pruning		320 piastres
Half-sack of sulphur for three sprayings		250 "
4 kilogrammes sulphate of copper		120 "
Labour for spraying	4 days	£T 4
Manure { 5 women for collecting		250 piastres
{ 2 women for cutting		250 "
{ 2 women for transport		250 "
Drying		280 "
Transport.		150 "
Interest on working capital.		178 "
Taxes, general expenses.		487 "
Interest on capital value of land		150 "
Cost of establishing vine and depreciation annually.		500 "

These expenses amount in all to 5,785 piastres. As each dönüm produces on an average 150 kilogrammes, the above sum must be divided by this figure in order to obtain the cost price per kilogramme, which is 38½ piastres, whereas the selling price is 35 piastres.

MOLLAIR.

Cost price per kilogramme (Piastres)	Selling price per kilogramme (Piastres)	Difference (Piastres)
192.9	65	127.9

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Cost of a herd of 500 goats :	Piastres
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4. Food of shepherds	438
5. Tax on each goat	250
6. Supply of salt for animals : 5 grammes per day for 500 head ; 365 days	46
7. Annual cost of 4 sheep-dogs : 2 ocques of barley flour per day.	36
8. Annual cost of smocks and shoes for 4 shepherds	112
Carried forward	1,662

Cost price is made up as follows:		Piastres
<i>Brought forward</i>		1,662
9. Various		200
10. Depreciation of clothing and buildings		300
11. Losses amongst goats : 10 per cent		500
Number Price		
50 × 10 = 500 piastres.		
12. Losses amongst kids : 10 per cent		135
Number Price		
30 × 4.5 = 135 piastres.		
13. Foodstuffs for herd, monthly		120
14. Cost of pasturing 500 head		250
15. Forage		180
		3,347

On the other hand, the income from live-stock is made up as follows :

1. Value of 300 kids, representing 60 per cent of the stock, 300 × 450 = 1,350	1,350
2. Income from sale of 20 per cent of herd, after deducting value of 100 kids	450
3. Sum realised on sale of manure	100
4. Cost of 750 kilogrammes of mohair at 65 piastres per kilogr. Total	487
Deficit	2,387
	960

COTTON.		
Cost price per kilogramme (Piastres)	Selling price per kilogramme (Piastres)	Difference (Piastres)
58	47—40	11—18

Cost price is made up as follows :		Piastres]
Cost of first ploughing		200
Cost of second ploughing		50
Cultivator		30
Sowing		30
Seeds		24
Three hoeings		300
		634
Gathering of pods		150
		784
Interest on capital value of land		80
Interest on working capital		32
Taxation and general expenses		80
Sifting of pods		20
Stripping and transport		100
Stowing and packing		100
		1,196

As one dönüm (0.092 hectares) only yields 19.5 kilogrammes of cotton, the cost price of a kilogramme is : $\frac{1,196}{19.5} = 75$ piastres.

UNION OF SOVIET SOCIALIST REPUBLICS

M. D. BATOURINSKI,

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It is a matter of common knowledge that the nature and conditions of production in the Union of Soviet Socialist Republics are radically different from those obtaining in Russia before the revolution and those now obtaining in other countries. We are going through a double process in our country — revolutionary creation and the radical transformation of the old social relations. Each figure indicating particular results with regard to production reveals a definite re-adjustment in social and economic relations. Naturally, if we are to form an idea of the processes or of the results of economic activity in the Soviet Union we must examine the circumstances which have given rise to them. This is the more necessary as, during the last few years, agriculture in Soviet Russia has undergone a transformation which is of world importance and without precedent in social history.

It is impossible here to analyse in detail the quantitative and qualitative factors in the development of agriculture, with reference to the peculiar conditions obtaining in each Republic and in each sector. We will merely give a general account of the development of agriculture as a whole in the Union and try to throw light on the conditions which have accompanied this development and the factors which have gone to determine it.

This summary is based on data taken from official sources (Commission for the Execution of the State Plan of the Union of Soviet Socialist Republics, People's Commissariat for Agriculture, reports by members of the Government, etc.).

GENERAL CONDITIONS FOR THE TRANSFORMATION OF AGRICULTURE.

The last few years have been characterised by a considerable development of the socialist factors in agriculture and by the radical transformation of rural life. The People's Commissary for Agriculture, J. Jakovlev, in his report to the sixteenth congress of the Communist Party (March 1930) describes as follows the state of the Soviet village :

“ While the expropriation of the great landed proprietors was the *first* stage in the October revolution, the transition to collective agricultural concerns (*kolkhoz*) is the *second* stage — a decisive step of the highest importance for the establishment of socialist society in the Union of Soviet Socialist Republics.”

In 1929, began the general adoption of the collective organisation of millions of peasants. In accordance with recent data, it comprises more than half of all the small and medium peasant properties (53.7 per cent). The establishment of *sovkhoz* (State agricultural undertakings) and *kolkhoz* is assuming considerable proportions. The small peasant holdings, which are extremely primitive and scarcely yield anything, are advancing towards collective production ever more rapidly and on an ever larger scale. Millions of small and average peasant proprietors are organising production on a large scale on the basis of collective operation. They can thus use all the latest scientific and technical appliances and effect the rational division of labour, thus obtaining the maximum output. The first enquiries into the collective movement in 1929 showed that the nationalisation of the implements and means of production possessed by the peasants had the effect of increasing the yield of peasant properties by 150 per cent.

Nevertheless, the success which has attended complete collectivism has only been rendered possible by the success of the industrialisation of the country. During the

financial year 1929-30 the total output of industry increased by 25 per cent as compared with the preceding year and the annual production of Soviet industry was more than double that of pre-war years. In 1931, a further increase of 45 per cent in industrial output is expected. These achievements — especially in the case of heavy industry which manufactures agricultural machinery and other means of production — have enabled the Soviet Government considerably to increase the supplies of machinery and means of production for the country districts and consequently to tighten the economic bonds between the towns and the country.

The value of agricultural machinery manufactured during 1928-29 is estimated at 213 million roubles and that during the financial year 1929-30 at 449 million roubles, as against 168 million roubles in 1913. In 1931, the value of machinery and agricultural implements manufactured should be 1,200 million roubles.

The total value of the machinery made available for agriculture amounted to 1,400 million roubles at the end of 1929-30 and 1,700 million roubles in 1930-31.

The value of the tractors supplied to agriculture was 126 million roubles in 1929 and 400 million roubles in 1930. The total stock of agricultural tractors thus corresponded to 450,000 horse-power in 1929 and to 900,000 horse-power in 1930.

The quantity of chemical fertilisers produced and supplied to agriculture increased considerably in 1929; from 645,000 tons to 1,066,000 tons, or 2½ times the average for 1928 (428,000 tons).

In 1929, sixty-one agricultural machinery and tractor stations were set up to serve the small and medium agricultural concerns, whereas, in 1930, there were 158. There has also been a considerable increase in the amount of selected seed and animals for breeding produced in and supplied to the country districts, while agronomic and educational measures have increased in number.

Since 1929, agricultural co-operative societies of all kinds have developed considerably; these comprise about a third of all the peasant holdings, which have largely adopted the system of selling their crops in advance by contract. This system is designed, by means of contracts, to enable industry and agriculture to supply each other with industrial and agricultural products, and also to promote agricultural reconstruction.

The above information is far from giving a complete picture of the conditions attending this development; these must be sought in the whole system created by the October revolution and in particular by two principal factors: the nationalisation of the land and the rural policy of the Soviet Government. The abolition of private property in land has not only facilitated the establishment of large Government agricultural concerns, but also the transition from individual production to collective production — thanks to the absence in the present case of those psychological factors which usually explain the peasant's strong attachment to his plot of land.

This transition to collective production has been promoted by another important factor — the Government policy of improving the material and educational standard of the masses in the villages and of combating the well-to-do members of the community who were exploiting the peasants without means. The struggle is now proceeding; it takes the form, as is universally known, of the "liquidation of the *kulak* class on the basis of complete collectivism". This policy has united the towns and country districts and helped to further the collective movement. The following figures provide striking proof. When this movement began, 25,000 industrial workers were mobilised and distributed in the country districts; during the spring sowings in 1930, about 200,000 specialists of all kinds were engaged to supervise agriculture. After recognising the initial success and solid advantages of collective production, the peasants, in agreement with the workers in the towns, applied socialist methods of operation to an extent greater than that provided for in the five-year plan.

The creation and consolidation of the *sovkhoz* (State agricultural undertakings)

largely contributed towards the success of the movement. The *sovkhoz* have shown the average peasant the advantages of large concerns utilising machinery and organised on rational lines when compared with the small-scale farming to which he was accustomed. At the same time, the *sovkhoz* performed another service; they directly assisted the neighbouring peasant population by making available for them their machinery, seeds, agricultural experience, etc. They helped the Soviet Government in its policy of raising the general level of the peasant class, and they have become the organisers and initiators of the movement for converting the country districts to socialism.

" SOVKHOZ " AND " KOLKHOZ ".

The most striking characteristic of Russian agriculture to-day is the movement for the organisation of *sovkhoz* (State agricultural undertakings) and *kolkhoz* (collective undertakings). It is this constructive system which determines, at the present time, the volume of production and the position with regard to agricultural technique.

RESULTS OF THE INSTITUTION OF THE " SOVKHOZ " (STATE AGRICULTURAL UNDERTAKINGS).

The total area of the *sovkhoz* under crops was 1.7 million hectares in 1928, 2.3 million hectares in 1929, and 3.9 million hectares in 1930, or, including the autumn sowings, 4.9 million hectares. In 1931, according to the decisions of the sixth Soviet Congress, the sown area of the *sovkhoz* should amount to 9.5 million hectares and, judging by the progress of the spring sowings, this figure is likely to be reached.

In accordance with the plan the area under crops should amount in 1932 to 14 million hectares and in 1933 to 19 million hectares.

The increase in the sown area of the *sovkhoz* has, since the beginning of 1931, been nearly double the original estimates under the plan; by the end of the five-year period, this increase should amount to about four times.

The total output of cereals was 11,300,000 quintals in 1928, 13,300,000 quintals in 1929 and 31,500,000 quintals in 1930. In 1931, it will amount to 77,000,000 quintals. The output of cereals available for the market is estimated for 1931 at 30 to 31 million quintals, for 1932 at about 48 million quintals and for 1933 at 64 million quintals.

The cereals problem has now been solved in the main, thanks to the development of the *sovkhoz* and *kolkhoz*. This satisfactory solution of the problem is to be attributed, primarily, to the *sovkhoz*, which specialise in the production of cereals and whose development merits very special attention.

It is estimated that there are at present 175 *sovkhoz* for the cultivation of cereals grouped together in the cereals trust and dealing with an area of 14.5 million hectares. The *sovkhoz* for the cultivation of cereals are in the Northern Caucasus (2 million hectares), Kazakstan (2 million hectares), the Middle and Lower Volga (4 million hectares), the Ukraine (1.5 million hectares) and Western Siberia (2 million hectares).

The average area of the lands cultivated by the *sovkhoz* in the cereals trust is about 80,000 hectares; the figures range from 40,000 to 250,000. In 1930, there were eleven *sovkhoz* with 50,000 to 200,000 hectares and four *sovkhoz* with more than 200,000 hectares. Of these, the *ghigant* (giant) *sovkhoz* grew cereals on 113,000 hectares in 1930.

The land sown by the *sovkhoz* amounted to 1.4 million hectares in 1928, to 2.2 million hectares in 1929, to 4.8 million hectares in 1930 and to 9.5 million hectares in 1931 (according to the plan).

The *sovkhoz* belonging to the cereals trust have a large stock of machinery. In appearance and organisation they are very unlike the old agricultural undertakings. Not only do they supply the State with large quantities of grain, but they also serve as centres for converting the villages to collectivism. In 1930, they ploughed and sowed about 1.5 million hectares belonging to the *kolkhoz*, and, in 1931, more than 2½ million hectares. They show the peasant population what can be done by a large-scale concern employing machinery. This has greatly contributed to awakening a revolutionary consciousness among the peasant population and to winning its support for the new forms of economic organisation.

The favourable results obtained by the *sovkhoz* in growing cereals enabled the Government in 1930 to tackle the problem of stock-raising, with the assistance of the *sovkhoz* and the *kolkhoz*. The problem was very acute at that time as, in many places, the *kulaks* and those under their influence had deliberately destroyed their live-stock out of hostility to the collectivist movement. The result was that, in 1930, there was a shortage of approximately 12 per cent in the case of cows, 25 per cent in the case of sheep and 25 per cent in the case of pigs. One may regard 1930 as the first year during which the stock-raising *sovkhoz* developed to any considerable extent. These *sovkhoz* come under the following trusts: *Skotovod* (raising of horned cattle), *Svinovod* (swine-breeding), *Ovtzevod* (sheep-raising) and *Maslotrust* (dairy-produce trust). The rapidity with which these *sovkhoz* were organised enabled important results to be achieved by the end of 1930.

Since 1930, the *Skotovod* has organised 140 *sovkhoz* with 20 million hectares and a herd of 1,200,000 horned cattle. The *Svinovod* has organised 350 concerns with 1,200,000 hectares and 218,000 pigs. The *Ovtzevod* has organised 115 concerns over an area of 13 million hectares, with 2.7 million sheep. The dairy produce trust, founded in July 1930, comprised 52 concerns in 1931 covering an area of 1,300,000 hectares with 50,000 milch cows. In 1931, these trusts have continued to advance, and fresh trusts have been set up for dairy products, poultry and horses.

Side by side with these, the *sovkhoz* for the cultivation of plants for industrial use are also developing, and not less rapidly; their task is to meet as speedily as possible the increasing requirements of an expanding industry.

During 1931, these *sovkhoz* have been entrusted with certain duties indicated below, which, according to the latest returns for areas sown, have been carried out successfully.

They were to increase their sown area to 9.5 million hectares. The concerns coming under the cereals trust were to sow 5 million hectares, those coming under the stock-raising trusts 2 million hectares, and those coming under the sugar trust 930,000 hectares, while the cultivation of plants for industrial purposes (with the exception of beet) was to cover 350,000 hectares. The seed trust had 500,000 hectares at its disposal.

It has been decided to increase the number of horned cattle belonging to the *Skotovod* herds to 2.8 millions, that of the pigs belonging to the *Svinovod* to 1.9 millions, that of the sheep belonging to the *Ovtzevod* to 4.4 millions and that of the milch cows belonging to the dairy produce trust (including the dairy farms of the sugar trust) to 420,000. The poultry trust was to increase the stock of poultry to 3 millions.

According to the general estimates for the production of the *sovkhoz* in 1931, the value of this production was fixed at 550 to 600 million roubles (at the 1930 prices). This of meat, 36,000 to 42,000 quintals of butter, 37 million quintals of beet, 320,000 to 400,000 quintals of cotton fibre and 24,000 quintals of wool.

In order to gain a more exact idea of the significance of these measures in the field of collective organisation, mention should be made of the tasks entrusted to the *sovkhoz* by the Government for the next two years.

In accordance with the national economy plan for 1932-33, the duties of the *sovkhoz* will include: increasing the sown area to 14 million hectares in 1932 and to 19 million

hectares in 1933; increasing the number of horned cattle to 5 million head in 1932 and to 7 million head in 1933. The number of pigs is to be brought to 4.5 millions in 1932 and to 6.3 millions in 1933. The number of sheep is to be increased to 9 millions in 1932 and to 10 millions in 1933, and the number of milch cows to 900,000 and 1.5 million head respectively. Poultry should number 10 millions in 1932 and 20 millions in 1933.

As regards production, the programme is equally ambitious. The general volume of the production of these *sovkhoz* should amount in 1932 to a value of 1 to 1.1 milliard roubles and to 2 to 2.1 milliard roubles in 1933. This production should represent in kind: for 1932, at least 46,400,000 quintals of cereals, 3.2 million quintals of meat, 200,000 quintals of butter, 37 million quintals of sugar beet, 720 thousand quintals of cotton fibre and 105 thousand quintals of wool. In 1933, the figures should be as follows: 64 million quintals of cereals, 7,200,000 quintals of meat, 400,000 quintals of butter, 64 million quintals of beet, 1,050,000 quintals of cotton fibre and 200,000 quintals of wool.

These figures clearly demonstrate not only the magnitude of these measures, but also the satisfactory way in which the problems with which the country was faced in the matter of meeting the increasing requirements of the population and of industry in food-stuffs and raw materials have been solved.

At the present time, there are in the Union 4,200 *sovkhoz* with 65 million hectares of arable land. The *sovkhoz* have cleared and opened up for trade a large area of new virgin and uncultivated soil, and have developed various districts occupied by backward nationalities which, under the Czarist regime, were doomed to a miserable existence.

We cannot here enumerate all the economic work done by the *sovkhoz* for the country, or describe in detail all the agricultural and other results achieved. We will merely say that most of the large specialised *sovkhoz* apply all the latest scientific and technical discoveries to production and economic organisation. Some of the more important ones — for instance the School and Model *Sovkhoz* No. 2 — combine cultivation of the land with experimental school instruction. This system has been adopted by many other concerns. Most of them serve to test the value of the new experiments made in agricultural science and technique.

The reorganisation of agriculture in the Union of Soviet Socialist Republics on socialist lines is being steadily promoted by the *sovkhoz*; they are the “backbone of socialised agriculture” (Stalin).

RESULTS OF THE CREATION OF THE “KOLKHOZ” (COLLECTIVE ENTERPRISES).

Equally great and even more surprising are the results produced during the last few years by the *kolkhoz*, which have completely changed the appearance of the countryside.

In 1928, the *kolkhoz* grouped approximately 400,000 peasant holdings. In 1929, the number of estates organised on collective principles had reached a million; the total rose to 6 million in 1930 and 9.4 million by February 1st, 1931. At the present day, the *kolkhoz* group 13 million small and medium-sized holdings, or 53.7 per cent of all peasant holdings and more than 60 per cent of peasant-owned corn land.

The *kolkhoz* controlled approximately 2 million hectares of sown land in 1928 and 6.5 millions in 1929, while in 1930 the area collectively exploited amounted to 43 millions. In 1931, the *kolkhoz* sowed an area of 66 million hectares.

The following figures (showing the percentage of all peasant holdings) indicate the progress of collectivisation: October 1st, 1928, 2.3; October 1st, 1929, 7.6; October 1st, 1930, 22.1; February 1st, 1930, 32.6; June 1st, 1931, 52.0; October 10th, 1931, 53.7.

At the present day, there are thirteen million peasant holdings which experience has convinced of the advantages of socialised effort over individual effort and which, as we

shall see below, have already derived from this association economic advantages which compare most favourably with the results of individual exploitation. In the principal cereal-producing areas (Northern Caucasus, Volga Region, etc.) 80 per cent of the holdings and 90 per cent of the land sown and of all means of production are now held and worked collectively. In these sectors, the change over to complete collectivism is already a *fait accompli* while, in the other sectors, collectivist principles are applied to 50 per cent of the holdings and 60 per cent of the sown land.

In other branches of economic activity (more especially stock-breeding), socialisation proceeds with increasing rapidity and is carried out *pari passu* with that of the sown land. The proportion of draught horses under collective ownership was 0.8 per cent in 1928, 1.7 per cent in 1929, 17.2 per cent in 1930. For the time being, of course, the requirements of their programme oblige the *kolkhoz* to continue to avail themselves of privately-owned horses, but the importance of the part played by the latter category is decreasing progressively. The assistance given by the *sovkhoz*, together with the large-scale employment of tractors, are important factors in the development of the *kolkhoz*. In regard to cows, progress from 1928 to 1930 has been as follows : 0.4, 0.8 and 6.6 per cent. In 1930, the live-stock under collective control amounted to 3.5 million head of cattle, 2.5 million pigs, and 5 million sheep. According to the report drawn up by J. Jakovlev, moreover, a herd of 1.7 million cows has been formed in the *kolkhoz*, 450,000 being distributed among 4,700 dairy farms and 4,600 pig-breeding farms with 200,000 sows.

The benefits to be derived from the change over to collective production were demonstrated at the end of the 1930 sowings. In that year, the average area of sown land on each holding amounted to 5.2 hectares among members of the *kolkhoz* and 2.7 hectares among individual farmers. In the principal cereal-producing sectors, the figures were 7.7 hectares and 3.7 hectares respectively. The transformation of the small primitive farms composed of a number of scattered plots into collective enterprises is of course accompanied by a campaign against the rural *kulaks*, a class whose disappearance is a logical consequence of complete collectivisation. This liquidation of the holdings of the *kulaks* has resulted in an increase of the area sown by the *kolkhoz*. The 1930 spring and autumn sowings show that in the Soviet Union the average area sown was 8 hectares on collective holdings and 4.1 hectares on individual holdings. The increase of the area sown naturally increased the income of the holdings organised on collective lines.

From a qualitative point of view, the enormous scope of the work of collectivisation is exercising considerable influence on production as well as on the output and methods of exploitation of the *kolkhoz*. Improvements in organisation have taken the form more especially of the extension of the collective enterprises during recent years. In 1928 (October 1st), each *kolkhoz* grouped on an average 16 holdings in the Soviet Union, in 1929 (on the same date) 28, and in 1930 (on the same date) 58. The average area sown by each *kolkhoz* was 72.9 hectares in 1929 and 428.1 hectares in 1930.

In the principal cereal-producing sectors, the average number of holdings grouped in each *kolkhoz* fluctuated, at the beginning of 1931, between 159 and 1,236. The average area of the land sown on each *kolkhoz* amounted to 1,890.6 hectares in the Northern Caucasus and 2,224.5 hectares in the Lower Volga district. The *kolkhoz* are now constantly expanding and, at the same time, are specialising their production and improving their technical equipment.

In respect of average yield per hectare, quantities available for marketing and total production, the superiority of collective production over individual production has already been proved. Thus, in the Northern Caucasus, the average yield was as follows : for rye, 8.4 quintals per hectare amongst individual farmers and 9.1 in the collective enterprises ; for winter wheat, 9.0 and 10.7 respectively ; for oats 9.3 and 10.3. The same difference is to be observed in the Ukraine, in the central black-soil sector and in the western area.

Even in 1930, the average yield of the *kolkhoz* in the Union of Soviet Socialist Republics exceeded that of the individual holdings by 10 to 15 per cent.

The enquiry conducted by the *kolkhoz* Experimental Scientific Institute shows that, as a result of the mechanisation of working methods, the yield of the *kolkhoz* is one and a half times that of the individual holdings. In the Northern Caucasus, an efficient member of a *kolkhoz* exploits 3.9 hectares as against 2.6 hectares in the individual holdings. In the Central Volga sector, the figures are 3.6 and 2.1 hectares respectively, and in the Lower Volga, 4.7 and 2.6 hectares.

Thanks to these circumstances, and others which we have already mentioned, the production and income of the *kolkhoz*, as is clear from the following table, are higher than those of the individual holdings :

	Number of <i>kolkhoz</i>	Total income per holding (in roubles)	
		In the <i>kolkhoz</i>	In individual holdings
Northern Caucasus	8	749	402
Central Volga sector.	7	583	279
Lower Volga district.	9	1,016	282

The most recent information on the results of the sowings shows that, in the *kolkhoz*, the work of a horse is three times more productive than on the individual holdings, and the sown area on each holding from two to three times as large.

Lenin's claim that " the productivity of work would be doubled and trebled . . . if collective exploitation were substituted for independent exploitation on a small scale " has thus been fully justified.

The advantages of collective production do not merely consist in the ability of large socialistic enterprises to organise work on rational lines and suitably to distribute reserves of labour, but also in the fact that such enterprises possess the necessary technical equipment.

DEPOTS OF AGRICULTURAL MACHINES AND TRACTORS AND THEIR FUNCTION IN THE ORGANISATION OF THE " KOLKHOZ ".

Collective production reposes on technical foundations — namely, the depots of agricultural machines and tractors and the tractor columns which play an important part in the socialisation of the villages.

The depots of agricultural machines and tractors are organising and power centres equipped with a fleet of tractors with all the necessary accessories and a skilled technical staff. They serve the peasant population on a contractual basis. The increase in yield and total production resulting from the use of agricultural machinery, the amalgamation of small holdings into large units and the elimination of the distances which, until recently, separated the fields from each other, together with the agricultural and technical assistance, attract a growing number of holdings within the orbit of the depot of agricultural machinery and tractors, and consequently into the collective enterprises. In the spring of 1930, the system controlled by the Central Tractor Board (central organisation of the depots of agricultural machines and tractors) comprised 158 depots with a tractor fleet totalling 88,684 horse-power. In 1931, these depots served an area of 2 million hectares.

In addition to the depots of agricultural machines and tractors, the villages are served by columns of tractors under the control of the Central Cereal Board (*Khlébotcentr*). In

1930, there were 479 of these columns in operation, with a tractor fleet totalling 16,000 h.p., and in the spring of the same year they worked 2 million hectares of sown land.

In the spring of 1930, the tractor fleet in the possession of the various *kolkhoz* and agricultural co-operative organisations comprised 38,812 tractors totalling 437,061 h.p. In the main cereal-producing sectors, the proportion of mechanical to other power was 16 per cent in the *kolkhoz* and 35 per cent in the *sovkhoz* served by the depots of agricultural machines and tractors.

During the last sowings, the number of tractor depots was increased to 1,400, with a tractor fleet of 1,200,000 h.p., which, according to the most recent information, has already worked and sown an area exceeding 20 million hectares.

In 1933, the tractor depot and draught animals together will have to work 70 to 80 million hectares of land in collective ownership. The success of this movement depends upon the results obtained by the tractor depots.

Freed from such hindrances as private ownership of land, the depots of agricultural machines and tractors, like the *kolkhoz*, are capable of extending their activities to considerable expanses of territory and of deriving the maximum benefit from the discoveries of natural and technical science. In the depots of agricultural machines and tractors, as in the *sovkhoz* for the production of cereals, the tractors are kept well occupied, their annual performance amounting, in some cases, to 2,500 hours. Each tractor is expected to work up to 182 hectares of land.

Such, in brief, is the information available on the collective organisation during the years under review. As the spring sowings, however, have not yet been completed, this information is to some extent provisional.

The execution of the plans for collectivisation establishes the socialistic enterprises in a position of complete superiority over individual enterprises. In the words of the resolution of the Central Committee and the Central Supervisory Committee of the Communist Party (December 1930), it is the "coping-stone of the socialistic economic organisation of the Union of Soviet Socialist Republics". From this point of view, 1931, which is the third year of the five-year period, is considered as being of decisive importance.

GENERAL RESULTS IN AGRICULTURE.

At the present moment, the remarkable progress of the *sovkhoz*, *kolkhoz* and depots of agricultural machines and tractors is of outstanding importance to general agricultural production. It has produced considerable modifications both in the social and agricultural organisation of the Union of Soviet Socialist Republics. In 1928, the total sown area in the Soviet Union was 112.9 million hectares, in 1929, 118.1 million hectares and in 1930, 128 million hectares. The area sown is 104.5 per cent and 108.2 per cent of that of the previous year. In 1931, the areas sown will amount to 140 million hectares, of which 9.5 million hectares will be under the control of the *sovkhoz* and 65.5 per cent under that of the *kolkhoz*.

In 1928, the area under corn amounted to 92.2 million hectares, in 1929, 96.0 million hectares, and in 1930, 102 million hectares. Under the plan, this area will reach 111 million hectares in 1931. The area sown with industrial crops covered 8,620,000 hectares in 1928, 8,840,000 hectares in 1929 and 10,668,000 hectares in 1930. For 1931, 13,500,000 hectares are reported, including 1.35 million hectares under sugar beet, 2.5 million hectares under cotton and 2.1 million hectares under long-fibre flax. These totals are evidence of the considerable revival in agricultural production, and of the rapidity with which this revival is progressing. The figures are even more striking in comparison with those of the pre-war period. In 1913, the total area sown was 113.7 million hectares, including 102.7 million hectares under cereals. In 1931, the total area sown exceeds the pre-war area by

27 million hectares, and the area under cereals shows an increase of 8.3 million hectares. The difference is especially remarkable in the case of the areas devoted to industrial crops. The area under cotton was 702,000 hectares in 1913, whereas, in 1931, it reached 2½ million hectares, or more than 2½ times the pre-war area. In the case of certain crops, the area is 3 times what it was before the war.

Important progress may be noted in the average yield per hectare. In respect of the more important cereals, the yield during the period 1920 to 1928 was 7.3 quintals per hectare, whereas in 1930 it amounted to 8.6 quintals, and, in the *sovkhoz*, 10.3 quintals. The national economic plan for 1931 provides for an increase in the average yield per hectare (in all sectors) of 9 quintals for cereals, 158 quintals for beet and 6.6 quintals for raw cotton.

In 1929, the total production of cereals amounted to 71.7 million quintals, and, in 1930, to 87.7 millions, or an increase of 21.8 per cent. In 1930, cereals produced exceeded the pre-war maximum of 75 million quintals.

If it is remembered that quite recently the wheat problem in the Soviet Union had become very acute in consequence of the existence of a considerable number of small holdings and of the deliberate restriction of the area sown by well-to-do peasants or *kulaks*, it will be perceived without difficulty that the solution of the cereals problem in 1930 is closely connected with the development of the *sovkhoz* and the *kolkhoz*. In 1930, the cereals available for marketing produced by the *kolkhoz* amounted to 74 million quintals or 3½ times as much as the quantity placed on the town markets by the *kulaks* in 1926-27 (20 millions), and 1.6 times as much as the quantity produced by the great landed estates (45 millions). Of the cereals harvested in 1930, enterprises working on socialist principles produced approximately 56 per cent of the total quantity placed on the market.

For 1931, the plan provides for a 12 per cent increase in the production of cereals, making a total of 97 million quintals.

The plan estimates cereal production for 1931 (total crop and quantities available for marketing) in the various categories of enterprise as follows (in millions of quintals) :

	Total crop	Percentage of total	Available for marketing	Percentage of total
<i>Sovkhoz</i>	75	7.9	45	16.1
<i>Kolkhoz</i>	464	48.6	136	49.0
Individual enterprises	416	43.5	97	35.0
Total	955	100.0	278	100.0

In 1931, the cereal production of the enterprises organised on socialist principles should reach 66 per cent of the whole (as against 24 per cent in 1930), while their contribution to market supplies should amount to 85 per cent (as against 56 per cent in 1930). The total cereal production of the *sovkhoz* and *kolkhoz* in 1931 will exceed the pre-war production of the great landowners and the *kulaks* by approximately 139 million quintals (these last used to produce 400 million quintals of cereals).

The increase in the production of industrial crops has proceeded more rapidly in the most recent period, especially in the enterprises working on a socialist basis, whose production, in 1930, amounted to 46 per cent of the whole, and, in 1931, will rise to approximately two-thirds. In 1929, the total cotton crop amounted to 8.6 million quintals and, in 1930, to 13.5 million quintals. The total sugar beet crop in these years was 62.5 and 151.7 million quintals respectively.

In 1931, the total production of industrial crops will show an increase of 43 per cent as compared with 1930. Under the plan, the 1931 raw-cotton crop should reach a total of 6.7 million quintals, or 57 per cent more than in 1930. The plan has fixed the 1931 flax crop at 5.69 million quintals, or 35 per cent more than in 1930. The sugar beet yield is estimated at 214 million quintals, or 41.3 per cent more than in 1930.

Thanks to the rapid and considerable developments which have been taking place in the cultivation of plants used for technical purposes, the proportion of industrial crops to the total area sown has, in recent years, undergone an important modification. This is clear from the percentage tables of industrial crops as compared with the total area sown :

	1929	1930	1931
Cereals	81.73	81.00	75.96
Industrial crops.	7.58	7.82	9.25
Fodder	4.23	5.19	8.17

It is expected that the area devoted to industrial crops will subsequently be extended, especially in the case of flax and hemp, which, in consequence of the specialisation of sectors, are to cover in 1933 an area 25 per cent greater than hitherto. Energetic measures are in view for the subsequent encouragement of the cultivation of industrial crops through the creation of *sovkhoz* and special trusts. Not only will these *sovkhoz*, together with the depots of agricultural machines and tractors, ensure the cultivation of industrial crops in new and extensive areas, but, thanks to the complete mechanisation of processes, they assist the technical reorganisation of every aspect of the cultivation and treatment of these crops. In addition to the special trusts dealing with flax, hemp, etc., steps are now being taken to organise a trust dealing with the new industrial crops (*Novloubtrust*) for the purpose of popularising new textile raw materials—kenaf, kendyr, rami, etc. In 1931, it is proposed to sow 100,000 hectares with kenaf and 43,500 hectares with kendyr.

As we have already pointed out, a clear diminution in live-stock was observable in 1930 as compared with preceding years. Under the plan, however, this decrease should be rapidly made good in 1931. The whole breeding problem will be solved on an entirely new basis. In addition to the above-mentioned tasks which will devolve upon the *sovkhoz*, the plan provides for a considerable development of breeding in the *kolkhoz*. The extension of breeding is to represent four million cows, five million pigs and nine million sheep. Breeding will be concentrated in large farms working for the market.

At the end of 1931, the stock of the *sovkhoz* and *kolkhoz* will together total approximately 13 million head of horned cattle as against 4.3 million last year. The total value of the marketable stock bred in the *sovkhoz* and *kolkhoz* should reach approximately 340 million roubles. In 1931, investments in fixed capital in respect of the breeding activities of the *sovkhoz* and *kolkhoz* will amount to 1,366 million roubles.

If account is taken of the importance of these tasks, especially in respect of the organic forms of breeding which will be controlled by the great mechanised enterprises, it may confidently be expected that this problem will be solved no less successfully than the cereals problem.

The increase in agricultural production, to which we have already referred and which is going forward on the basis of socialist reconstruction, is accompanied by equally important improvements in the technical organisation of rural economy, more especially through mechanisation, electrification, chemical development, etc.

The tractor fleet available for agriculture totalled 450,000 h.p. in 1929, 900,000 h.p. in 1930 and, in 1931, is expected to exceed 2,000,000 h.p. In 1931, a sum of 760,000,000 roubles will be spent on the mechanical equipment of the agricultural communities as against 449,000,000 roubles in 1930. In 1913, the average value per sown

hectare of agricultural machinery and implements was approximately 8 roubles ; in 1931, this figure will reach 16.7 roubles though the area sown will be much greater than at the present day. Although the quantity of equipment available is more than twice what it was before the war, it is still far from adequate. As, however, the machines are concentrated in large-scale enterprises they can be used to much better purpose than would otherwise be the case.

In 1931, chemical fertilisers (potash, nitrates, superphosphates, phosphorites) amount to 2,427,000 tons.

A comparatively high degree of mechanisation and the equipment of agriculture with considerable supplies of power, together with the simultaneous and continual improvement in methods of organising production, necessarily go hand in hand with the general development of agricultural economy.

The total sum invested in agriculture for the year 1931 amounts to 5,000 million roubles, distributed as follows :

	In millions of roubles
State enterprises.	2,675
Central Tractor Board	600
<i>Kolkhoz</i>	1,166
Individual enterprises organised co-operatively	228
Science and staff.	336
Total.	5,005

These sums are made up as follows : Investments in fixed capital : 3,800 million roubles ; running costs : 715 million roubles ; increase in floating capital : 490 million roubles ; 76 per cent of all investments consist of fixed capital devoted to the creation of new funds for the socialist system of agricultural organisation.

Slightly more than half of these resources are allocated to the State enterprises, the remainder being devoted to the Central Tractor Board and to the *kolkhoz*. The individual enterprises organised co-operatively only figure in the grand total for a very small sum, which is slightly more than 4 per cent of the whole. The investments in fixed capital are distributed as follows :

	In millions of roubles
<i>Sovkhoz</i>	1,724
State enterprises (irrigation, transport of the population, etc.).	251
Total for the State enterprises.	1,875
Central Tractor Board	550
<i>Kolkhoz</i>	973
Individual enterprises organised co-operatively	222
Total for the <i>kolkhoz</i> and co-operative enterprises	1,745
Science and staff.	80
Total investments in fixed capital.	3,800

The social and technical revolution in the villages is accompanied by a raising of the cultural level of the peasant class, which is provided at the same time with skilled workers and a numerous technical staff. It is from that source that agricultural science and technical organisation, both of which are placed directly at the service of production, derive their creative inspiration.

The whole creative process is subordinated to the single plan of agricultural organisation, which is binding, not only upon production, but also upon the scientific and technical activities. The execution of this plan is promoted in the towns as in the villages by socialist emulation, storm troops, and local application schemes. The plan of the Soviet executive organs is completed by the plans put forward by the various *sovkhoz* and *kolkhoz*. The combination of all these plans facilitates the checking of points of detail and allows a clearer definition of the general scheme, thus ensuring its profitable application.

Agricultural production is being developed on the basis of specialisation by crops and branches of activity and of the social and rational division of labour:

The Lenin Academy of Agricultural Sciences is preparing the scientific reorganisation of the whole system of agricultural economy on the basis of a high degree of specialisation.

This task, which is now being successfully carried out, contributes to the favourable development of the productive forces of agriculture by ensuring an ultimate increase in the socialist elements in the villages. According to the last decision taken by the Central Committee of the Communist Party on the basis of the provisional results of the spring sowings, there are at present in existence 200,000 *kolkhoz*, grouping 13 million small holdings, formerly in private hands. In the terms of this decision, "our agricultural exploitation is now more important than in any other country in the world".

Collectivisation has now been successfully achieved in the most important sectors producing cereals and raw materials, and the collective movement has won a decisive victory in the other sectors. In this way, the work of laying the foundations of the socialist economic system of the Union of Soviet Socialist Republics is being successfully carried forward.

Part II.

THE SPREAD BETWEEN THE PRICES PAID TO THE PRODUCERS AND THE PRICES PAID BY THE CONSUMERS.

GENERAL REMARKS.

The report of the Economic Committee on the agricultural crisis (document C.239. M.105.1931.II.B, Volume I) draws attention to the importance of the gap separating the price received by the producer from that paid by the consumer. While laying stress on the complexity of the question and the difficulties in the way of a really satisfactory study, the Committee submits a few remarks of a general nature suggested by the information at its disposal.

The reports by agricultural experts on the gap between production prices and consumption prices demonstrate the vastness of the problem and emphasise its theoretical and practical importance.

It will be understood that, in such a complicated question, it is difficult, in the absence of strictly comparable data, to reach generally acceptable conclusions. Nevertheless, the general impression made by the reports is that the margins between the prices received by the producer and those paid by the consumer have been greater during recent years than before the war.

A careful study of the general movement of prices during the crisis and during the immediately preceding years provides an explanation, if not an excuse, for this state of affairs. Two factors have contributed to increase the difference between the price paid to the producer and that paid by the consumer. There is, firstly, the alternation in the upward and downward movements of prices, with a predominant tendency downwards during the period 1920-1930; and, secondly, the tendency of agricultural prices to reach a lower level than the prices of industrial products, salaries, rents, etc. the so-called "price scissor".

Retail prices only follow the course of wholesale prices after a certain interval. In agricultural circles, it is often stated that, when prices are rising, the cost is passed on to the consumer in a comparatively short time, whereas when prices are falling the reduction of retail prices is only partial and operates much more slowly. It is said that middlemen in general charge consumers with the cost of replacement of stocks during a rise, and, on the other hand, make the producers bear the loss due to depreciation in value of stocks in hand and difficulties of marketing. But it is not clear from the data at our disposal whether this tendency operates in every case, or even in the majority of cases.

Apart from differences arising from variations in the elasticity of supply and demand in the case of different products, it is probable that the middlemen are in a better position to look after their own interests by reason of the fact that they are better organised than the great majority of producers and consumers; *per contra*, the more completely producers and consumers are organised, the less will the middleman be in a position to maintain his level of profit. The data submitted by the experts are not sufficient to make it possible to check these suppositions; but, in all cases of products whose production prices are falling, the delay before the price paid by the consumer is adjusted to the new production prices is clearly apparent.

The middleman's margin represents, to some extent, profit, and to a great extent expenses of transport, labour for handling and working up, rent, taxes, interest on borrowed capital, etc. An increase in this margin does not necessarily mean an increase in profit.

at a time when, in comparison with the pre-war period, the drop in agricultural prices has in many cases been greater than that in the case of manufactured articles, wages, rents, transport charges, and taxes. All the apparent profit may be absorbed by the increased costs referred to. It is very difficult to express an opinion as to whether an increase in the middleman's margin, where it exists, is justified by an increase in working expenses.

Comparisons between different countries are particularly difficult in cases of this nature. There is very great variety in the information furnished by the experts, and their figures must be employed with extreme caution in any comparison between countries.

Nevertheless, from a comparison of the reports, it would appear that the rise in wholesale prices of agricultural products varies considerably from one country to another in its relation to the increase of retail prices. In certain countries wholesale prices are fairly close to the prices paid to the producers, and the increase of prices is chiefly in the retail trade. In other countries the difference between the prices paid to producers and the wholesale prices appears to be equally wide.

The problems which arise in this connection vary, not only with the prices obtained, but also with the character of the agricultural product concerned. Agricultural products can be divided into two main groups. A considerable amount of agricultural produce undergoes extensive treatment before it reaches the consumer. Thus, the difference between the price of wheat on the farm and the price of bread is made up, firstly, of the difference between the price of wheat on the farm and the wholesale price, and the difference between the price of flour at the mill and in the bakers' shop (and in some cases the difference between the wholesale and retail price of bread); and, secondly, of the cost of milling and baking. It is particularly difficult to make any comparison in such cases between countries. Prices are fixed under very varying conditions and at different stages of distribution.

Other forms of agricultural produce (eggs, milk, fruit and vegetables) are consumed in the state in which they are delivered by the producers. Even in these cases there are certain processes, in connection mostly with the wholesale trade, such as grading, standardisation, sterilisation and so on, which resemble somewhat the processes of industrial transformation. But the transformation undergone by these forms of agricultural produce before reaching the consumers is not very extensive, and it is here chiefly that it is possible by comparison of the price paid to the producer with that paid by the consumer to determine the middleman's margin.

In the case of these products, the reports of the experts would appear to suggest that, while the gap between production and consumption prices varies considerably in different countries, there are many cases where it might be reduced. This presumption should be tested by a detailed analysis of the structure of prices.

AUSTRIA

DR. ENGELBERT DOLLFUSS.

In investigating the divergence between the prices which the producer receives and those which the consumer has to pay, two groups of agricultural products have to be distinguished. To the one group belong those products which are subjected to a manufacturing and finishing process before they reach the consumer. This includes the two important mass products: grain and live-stock. The second group comprises products, which are sold without further manufacture, after sorting or cleaning. In the case of the latter group, a comparison between producer's and consumer's prices is comparatively easy; in the case of the former group it is necessary, in order to obtain an idea of the position, to go back over the movement throughout a number of years.

I. MOVEMENT OF GRAIN, FLOUR AND BREAD PRICES.

(a) *Black Bread.*

The following calculations and particulars are based on the so-called "Vienna normal loaf". The Vienna normal loaf is made out of a mixture of flour consisting of 75 per cent of rye-meal and 25 per cent of wheat-meal (white bread flour). The comparison of price refers, therefore, to the grain mixture (75 per cent rye and 25 per cent wheat), the flour mixture (same percentages) and the bread.

Price of 100 kilogrammes in schillings.

	Mixed grain	Mixed flour	Bread
1914 (six months)	30.11	44.07	46
1925	41.23	61.37	63.05
1926	31.25	46.82	57.78
1927	38.62	56.85	66.04
1928	39.41	55.91	70.58
1929	39.53	43.86	64.10
1930 (six months)	24.13	36.67	59.34

In order clearly to show the divergence in price between the initial and final product, the values of the initial and intermediate products are shown in percentages of the value of the final product:

Price of black bread = 100.

	Mixed grain	Mixed bread flour	Black bread
1914 (six months)	65	97	100
1925	65	97	100
1926	54	81	100
1927	59	86	100
1928	59	79	100
1929	48	69	100
1930 (six months)	41	63	100

It will be seen that the proportion (in values) of a kilogramme of mixed grain in a kilogramme of bread has fallen from 65 per cent in the first half of 1914 to 41 per cent in the first half of 1930.

(b) *White Bread (Rolls).*

The prices of wheat, wheatmeal and white bread are again compared on the same lines as in the case of black bread. The first table shows the movement of price in schillings per 100 kilogrammes, and the second table shows the proportion of the price of the initial product to that of the final product.

Price of 100 kilogrammes in schillings.

	Wheat	Wheatmeal	White bread
1914 (six months)	35.42	58.82	121
1925	45.74	82.65	165
1926	41.98	77.90	158
1927	49.84	70.50	165
1928	39.55	65.41	165
1929	33.49	59.52	165
1930 (six months)	30.95	62.54	162

Price of white bread = 100.

	Wheat	Wheatmeal	White bread
1914 (six months)	29	49	100
1925	28	50	100
1926	26	49	100
1927	25	43	100
1928	24	40	100
1929	20	36	100
1930 (six months)	19	39	100

The price curves for wheat and for white bread diverge from one another to a much more marked extent than was the case with black bread. But the costs of manufacture are larger in the case of white bread than in the case of black.

2. MOVEMENTS OF THE PRICES OF LIVESTOCK AND MEAT.

We will now turn to the divergence between the prices, first of slaughter oxen and beef, and secondly of pigs and pork.

(a) *Oxen.*

The movements of the market prices of slaughter oxen and the retail prices of beef in recent years were as follows:

Prices of 100 kg. in schillings.

	Oxen for slaughter	Beef
1913	152	288
1925	148	333
1926	140	322
1927	143	324
1928	138	320
1929	150	344
1930 (six months)	140	300

Prices of beef = 100.

	Oxen for slaughter	Beef
1913	53	100
1925	44	100
1926	44	100
1927	44	100
1928	43	100
1929	45	100
1930 (six months)	41	100

(b) *Pigs.*

The following table shows the market prices of live pigs as compared with the retail prices of pork:

Prices of 100 kg. in schillings.

	Pigs	Pork
1913	184	325
1925	216	422
1926	208	422
1927	219	425
1928	196	410
1929	236	495
1930 (six months)	225	507

FINLAND

Dr. E. HYNINEN.

Hitherto, no detailed investigation has been made in Finland regarding the difference between prices paid by the consumers and those received by the producers.

As co-operation in Finland is highly developed in connection with the trade in dairy produce, flour, bread and meat, the expenses for commission agents and other intermediaries in this trade have been fairly low. The "Valio" Central Co-operative Society occupies a predominant position in the foreign and home trade in butter. In 1929, 513 co-operative dairies were members of this Society.

From 1925 to 1928 the average working expenses of the "Valio" Society in the wholesale butter trade amounted to only 1 to 1.5 per cent. For the export trade the expenses were slightly lower, while in the case of the home trade they were a little higher, than this average.

The "Valio" Central Co-operative Society also engaged in the wholesale and retail milk trade in a number of Finnish consuming centres. At the end of 1928 "Valio" had 22 milk shops in the principal towns. In the capital, Helsingfors, "Valio" is principally engaged in the wholesale milk trade. In 1928 it brought to Helsingfors 24 million litres of unskimmed milk. In 1928 "Elanto", the largest consumers' co-operative society in Northern Europe, distributed 15 million litres of milk in Helsingfors through its various shops and restaurants.

Retail milk prices at Helsingfors (including private shops), and prices obtained by the producers, per litre, were as follows:

Year	Retail Price (Finnish Marks)	Price paid to producers (Finnish Marks)
1925	1.77	1.63
1926	1.69	1.55
1927	1.80	1.63
1928	1.88	1.71

The milk trade is organised on a co-operative basis in a number of other large towns, and the expenses for agents and other intermediaries are approximately the same as at Helsingfors.

As regards the meat trade, Finland has a Central Co-operative Society for the sale of cattle, and nine provincial co-operative societies affiliated to the Central Society. At the end of 1928 these societies had 16 slaughter-houses and 13 factories principally producing sausages. The main object of these co-operative societies is to supply the home demand for meat and secondary products. At the end of 1928 the co-operative cattle-selling societies and the Central Co-operative Society had 72 retail shops. The total sales in the large consuming centres amounted to 90.9 million marks. There were 20 retail shops at Helsingfors (220,000 inhabitants), 18 at Abo (63,000 inhabitants), and 8 at Viborg (50,000 inhabitants). In addition, the "Elanto" Co-operative Society had 34 butchers' and pork-butchers' shops in Helsingfors and its suburbs, and another consumers' co-operative society had three shops of the same kind.

The organisation of co-operative butchers' shops has consolidated conditions on the meat market and decreased expenditure for agents and other middlemen. In accordance with an enquiry made by a co-operative cattle-selling society in July and August 1929, the difference between retail and wholesale prices was very small at Helsingfors, Abo and Viborg, and in some other places where the co-operative societies occupied an important position in the meat trade. In certain small towns where the meat trade is in the hands of private traders the difference between retail and wholesale prices was considerable.

In the trade in other foodstuffs, such as bread and flour, the numerous consumers' co-operative societies in Finland have greatly reduced expenditure for agents and other middlemen. At the end of 1929 the large consumers' co-operative society "Elanto" of Helsingfors had 60 bakeries. This society had at that time 40,000 members and a total sale of 328 million marks. According to the calculations of the bakeries belonging to this Society, the retail price of rye bread and wheat bread is made up as follows:

Wages	7.5 per cent.
Raw materials	63.5 per cent.
Cost of distribution	15.0 per cent.
Other expenses, such as heating, rent, repairs, transport, interest and amortisation	14.0 per cent.

The heavy drop in the price of flour during the year 1930 enabled the "Elanto" Co-operative Society to reduce the price of bread on several occasions.

GERMANY

Dr. HERMES.

The increase in prices of agricultural products on their way from producer to consumer has grown markedly in Germany since the war. It is not so much the wholesaler's costs that are responsible for this, or any of the costs accruing on the way from the raw material to the semi-manufactured article, as the margin between wholesale and retail prices. The wholesaler's addition to the producer's price does not as a rule account for more than a small fraction of the total difference between the producer's and the consumer's prices; and the effect of public marketing in the wholesale trade is to adjust prices in a manner which makes it difficult for unjustifiable margins of profit to arise.

Further precision, so far as Germany is concerned, is possible only in the case of particular agricultural products, e.g., grain, where the market quotations in certain cases follow very closely the actual producer's prices. The prices of agricultural products in Germany are not determined before the *wholesale* stage; but for the reasons already stated the wholesale prices should reflect the movements of the producer's prices with fair accuracy, though not with equal reliability in the case of all agricultural products. The German Agricultural Council (*Deutscher Landwirtschaftsrat*) is investigating the question of the actual prices received by the agriculturist.

The increase in the very marked "spread" —i.e., the margin between the wholesale and the retail price—since the war is at once apparent from a bare comparison of the German index number of wholesale prices for foodstuffs (not including grocery commodities) and the index number of retail foodstuff prices. Although the methods of computing the two indices and the lists of commodities included in the calculation are not exactly identical, the characteristic trend is in general shown accurately enough by both indices. The following particulars are based on studies of the Statistical Office (*Statistisches Reichsamt*) and of the Research Institute of Agricultural Marketing (*Reichsforschungsstelle für Landwirtschaftliches Marketing*).

PRICE INDICES OF FOODSTUFFS IN GENERAL.

	Wholesale (1913 = 100)	Retail ("Food Index") (1913-14 = 100)	The increase since the war is therefore greater in the retail than in the wholesale prices by: (Index percentages)
1924	119.6	136.3	16.7
1925	133.0	147.8	14.8
1926	129.3	144.4	15.1
1927	137.8	151.9	14.1
1928	134.3	152.3	18.0
1929	130.2	154.5	24.3

A rather more accurate picture of the position may be obtained by taking the staple German foodstuffs and comparing the *wholesale* and *retail* prices of the corresponding agricultural products. In this case grocery commodities are omitted in the Food Index.

PRICE INDICES OF STAPLE AGRICULTURAL FOODSTUFFS FOR HUMAN CONSUMPTION.

	Wholesale (1913 = 100)	Retail (1913-14 = 100)	The increase since the war is therefore greater in the retail than in the wholesale prices by: (Index percentages)
1924	122.2	140.1	17.9
1925	134.0	150.8	16.8
1926	131.1	146.2	15.1
1927	137.2	153.1	15.9
1928	134.3	149.6	15.3
1929	131.9	153.4	21.5

The increase as compared with before the war is throughout greater in the retail than in the wholesale prices. It follows mathematically that the margin between wholesale and retail prices has risen even more sharply than the retail prices themselves. That is to say, the additions to the prices of agricultural products on their way from producer to consumer are much greater now than they were before the war, owing to the margin between the wholesale and the retail price; and the increase in these additional costs is much more than the increase in the retail prices would suggest.

The tendency is not uniform, however. From year to year the prices of agricultural products show characteristic fluctuations in Germany, as elsewhere. The maximum increase in retail prices is found, on a weighted average of the price figures, to have taken place in 1929.

The increases do not synchronise in the different groups of staple agricultural products, as will be seen from the following comparison of the three chief groups:

PRICE INDICES OF AGRICULTURAL PRODUCTS FOR HUMAN CONSUMPTION CLASSIFIED IN GROUPS OF PRODUCTS.

	Wholesale (1913 = 100)	Retail (1913-14 = 100)	The increase since the war is therefore greater in the retail than in the wholesale prices by: (Index percentages)
I. Vegetable foodstuffs.			
1924	113.0	131.7	18.7
1925	125.2	143.8	18.6
1926	129.1	142.0	12.9
1927	154.4	166.3	11.9
1928	146.1	158.7	12.6
1929	125.7	151.0	25.9

PRICE INDICES OF AGRICULTURAL PRODUCTS FOR HUMAN CONSUMPTION CLASSIFIED IN GROUPS OF PRODUCTS (continued).

	Wholesale (1913 = 100)	Retail (1913-14 = 100)	The increase since the war is therefore greater in the retail than in the wholesale price by: (Index percentages)
2. Cattle and meat.			
1924	103.4	129.8	26.4
1925	121.5	145.9	24.4
1926	122.4	145.6	23.2
1927	111.1	137.3	26.2
1928	110.7	133.3	22.6
1929	127.0	149.6	22.6
3. Cattle products.			
1924	157.4	163.8	6.4
1925	161.1	166.3	5.2
1926	144.4	152.8	8.4
1927	144.6	153.9	9.3
1928	146.4	156.7	10.3
1929	146.3	160.4	14.1

The peak was reached in the case of vegetable foodstuffs in 1927, both in the wholesale and producer's prices and in the retail price. In 1928 and 1929 there was a decline, but much less in the case of the retail price than in the case of the wholesale and producer's prices, with the result that the margin between wholesale and retail prices continued to spread very considerably after 1927.

In the case of cattle and meat and cattle products the movements are even more irregular. The maximum and minimum increases show alternations in the six post-war years. But the increase in retail prices (as compared with before the war), and with it the increase in the "spread", is always greater than the increase in the wholesale prices, though not uniformly so, since the increase in the case of cattle and meat is much greater than in the case of cattle products (milk, butter, eggs). In the latter case the increase in the wholesale and in the producer's prices (as compared with before the war) is also very considerable.

But though on broad lines it is possible from the index numbers to trace the progressive increase since the war in the additions to the cost of agricultural products on their way from producer to consumer, it is not possible, in view of the differences in the conditions and the changes in the price-level, to determine from price indices the *absolute amount of the increase* in the difference of price or gross profit margin as between producer and consumer. That can only be done with any reliability by the investigation of particular markets; and such an enquiry has been made by the Reich Research Institute of Agricultural Marketing in the case of two important agricultural products, bread grain and cattle

and meat, in the largest German consuming centre, Berlin. The results may be seen from the following table:

AVERAGE GROSS PROFIT MARGINS IN BERLIN.

	Margin between gross profit on bread grain and gross profit on bread grain products flour and bran	Margin between gross profit on flour and gross profit on flour products bread and baker's products	Combined margin (i.e., between gross profit on bread grain and gross profit on bread and baker's products)
	(1913 = 100)		
1924	143	136	137
1925	126	141	139
1926	112	141	138
1927	107	172	164
1928	108	165	184
1929	75	183	169

The above example shows clearly the point at which the price is increased on the way from the original to the wholly manufactured product—namely, in the last stage in the process of working up the semi-finished into the finished article. The extent of this increase is not the same in all products.

True, the actual costs of the working up and finishing processes—e.g., such items as wages, taxes and interest—have risen considerably more than the margin between gross profits. But on the other hand improvements in organisation and technique have gone far to offset the effect of the rise in costs per unit of production.

A special enquiry into the movements of the margin between the price of cattle and the retail price of meat in Berlin in the post-war period yielded the following figures:

	Wholesale price	Retail price	Margin per unit
	(1926 = 100)		
1927	86.7	95.0	131.1
1928	87.1	92.1	108.8
1929	80.50	103.8	117.8

The marked fluctuations of these figures are due to the fact that some 60 per cent of the meat consumed in Berlin is pork, which is, of course, specially liable to big cyclical fluctuations. The increase of the margin from 100 to 117.8 is in part due to the rise in the rate of wages per hour paid by the Berlin meat trade and to the general rise in the cost of living in Berlin, as the following table shows:

	Wages	Cost of living	Margin between cattle and meat prices per unit
	(1926 = 100)		
1927	106.3	106.9	131.1
1928	114.6	110.3	108.8
1929	124.9	110.9	117.8

from which it will be seen that the increase in the difference of price is exactly half-way between the increase in the cost of living and the increase in wages.

A comparison of the movements of the margin of prices on the one hand and wages on the other, per unit, does not, however, give a correct picture. The movements of the turnover have also to be taken into account. The following table shows the movements of the index number of the turnover of meat together with the value of the meat sold in wholesale and retail dealing.

	Turnover	Aggregate value		Margin
		Wholesale	Retail	
		(1926 = 100)		
1927	116.7	101.0	111.4	160.3
1928	130.0	113.9	120.3	150.5
1929	124.3	124.8	129.0	148.7

The amount of the total wage expenditure in Berlin is known, and it is consequently possible to give index numbers of the wage expenditure and the gross margin after deduction of wages. The following are the figures:

	Wage expenditure	Margin, less Wages
	(1926 = 100)	
1927	116.8	172.4
1928	135.5	154.7
1929	140.9	150.9

It has, however, to be remembered that the turnover in the year 1926 was still abnormally low, and that the normal pre-war turnover level was not reached until 1929.

To sum up, it may be asserted that the margin between the producer's and consumer's prices of agricultural products in Germany is higher now than before the war, in spite of the notable progress achieved in the improvement of the organisation and technique of the finishing and distributing processes of production. The modern forms of distribution, the co-operatives of consumers and producers and the development of mass production by private enterprise have not yet had their full effect in the reduction of margins in the cases of finishing and distribution.

HUNGARY

COUNT SOMSSICH.

[Translation.]

The extent to which prices of commodities—whether raw materials or manufactured goods—are increased in passing from the producer to the consumer seriously affects the latter's purchasing power. The following enquiry shows—in terms of index numbers—the producer's price and the sale price, wholesale and retail, of the chief agricultural products.

Producer's costs 1913 = 100.

Index number for wheat on Jan. 1st, 1913 = 100; Jan. 1st, 1930 = 89.1
Index number for wheaten flour on Jan. 1st, 1913 = 173.2; Jan. 1st, 1930 = 174.9
Index number for wheaten bread on Jan. 1st, 1913 = 175.9; Jan. 1st, 1930 = 221.0

It will be seen that the price of bread to the consumer in 1930 is 46 points higher, or more than he paid before the war, although the farmer gets 10.9 per cent less than in 1913.

Comparing rye prices with those of mixed rye bread and taking the farmer's price for rye in 1913 as 100, mixed rye bread in the same year cost 190.6. In 1930, although the farmer only obtained 67.8 per cent of the pre-war price for his rye, the index number for mixed rye bread is 230, or 162.2 above the index number for rye, as compared with a difference of 90.6 before the war—more than 2½ times as much.

For barley and beer prices the 1913 proportion was 100 to 405.9; on January 1st, 1930, barley cost 82.7 per cent of the 1913 price, while the index figure for beer was 615.

At the present time the cost of growing oats is 58.7 per cent and that of growing maize 70.7 per cent of the pre-war costs.

Taking the cost price of potatoes as 100, the retail price in 1913 was equivalent to 150.4. On January 1st, 1930, the farmer got 90.2 per cent of the pre-war price for his potatoes, but the retail index number was 180.5, so that the farmer only received 49.9 per cent of the retail price, as compared with 66.4 per cent in 1913.

In 1913 the prices of sugar-beet and of sugar were in the proportion of 100 to 695.4; on January 1st, 1930, they were as 118.1 to 763.6.

In the case of fat cattle, the proportion in 1913 between the farmer's costs for the live animal and the retail price of beef was 100 to 290.7; on January 1st, 1930, the former cost 90.7 per cent of the pre-war price, but the index number for beef was 340.2.

In 1913, taking the market price for live pigs as 100, 141.9 would represent the retail price of pork, while on January 1st, 1930, the figures were 82.5 and 165.6 respectively.

Similarly in the case of sheep and mutton—the 1913 proportion of 100—194.6 had changed by 1930 to 74.3: 229.7.

Milk, again, which cost, say, 100 on the farm as compared with 142.9 retail in 1913, cost 104.8 and 190.5 respectively on January 1st, 1930—i.e., in 1913 the farmer received 69.9 per cent of the retail price as against only 55 per cent to-day—a serious loss for him.

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In the case of wine, the proportion of costs to retail prices in 1913 was 100 to 108.7, as against 82.6 to 143.9 on January 1st, 1930. Thus, the grower received only 47.5 per cent of the retail price in 1930, instead of 92 per cent as in 1913.

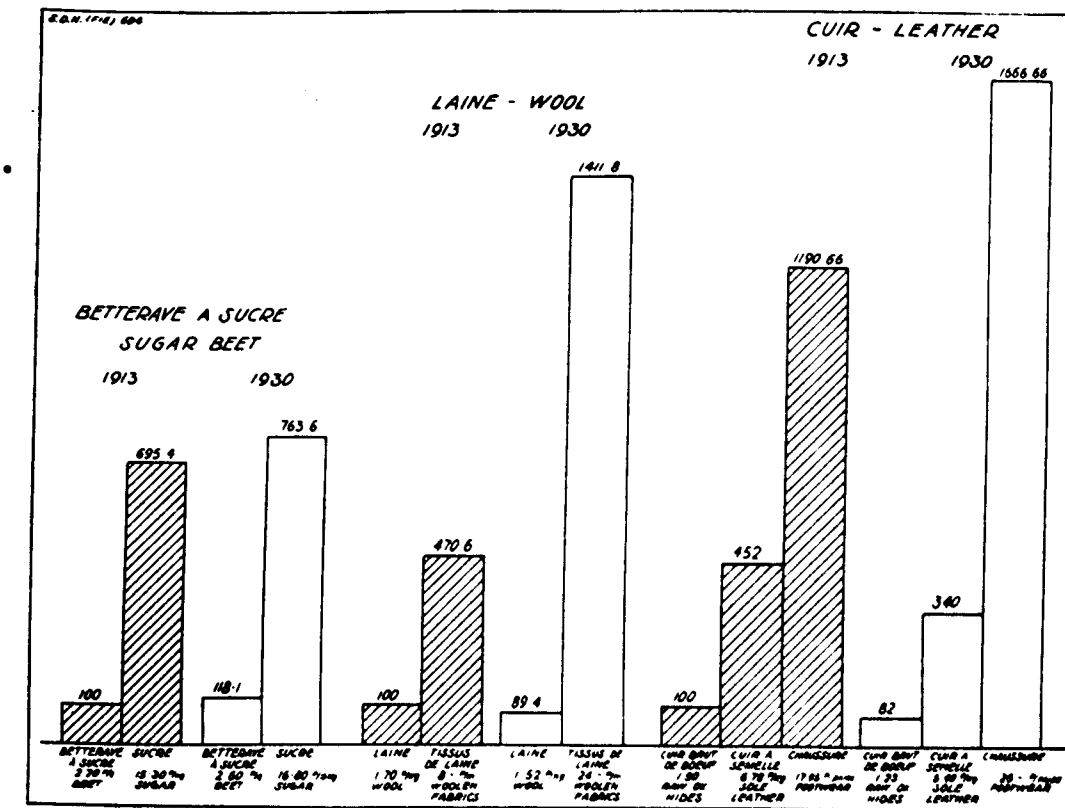
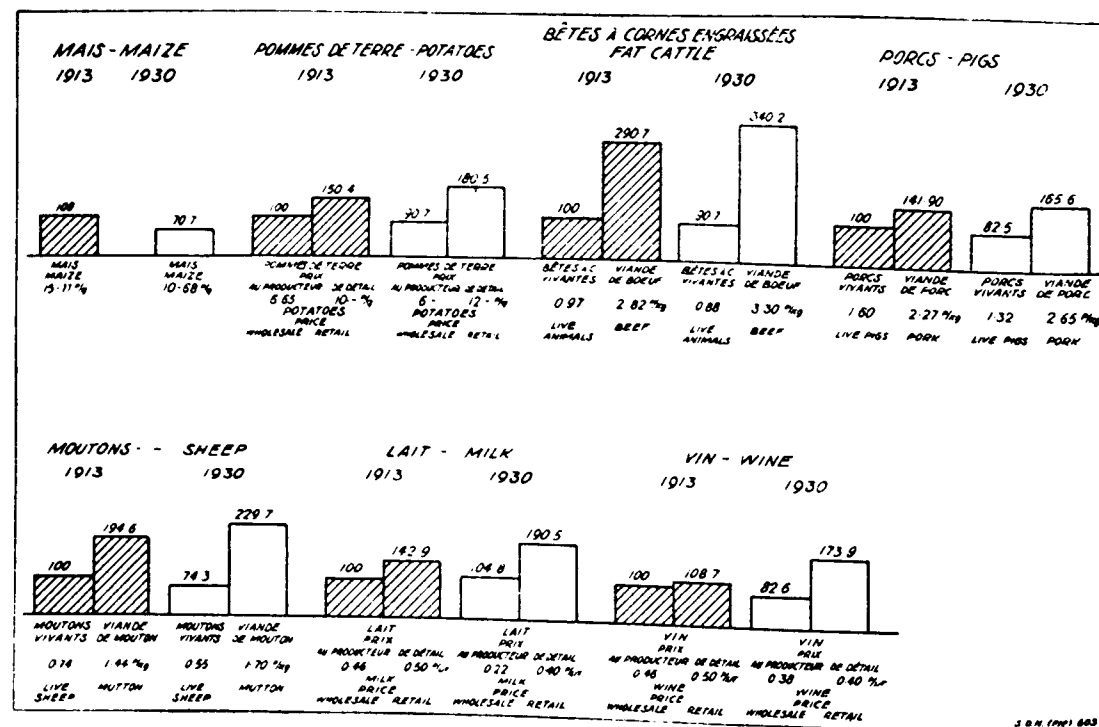
The contrast is still greater if we compare the prices of wool and of woollen fabrics in 1913 and after the war; the proportion of the price of a kilogramme of wool to that of a metre of fabric, which in 1913 was 100 to 470.6, was 89.4 to 1,411.8 on January 1st, 1930.

Another interesting comparison is afforded by taking the pre-war prices for hides, sole leather and footwear.

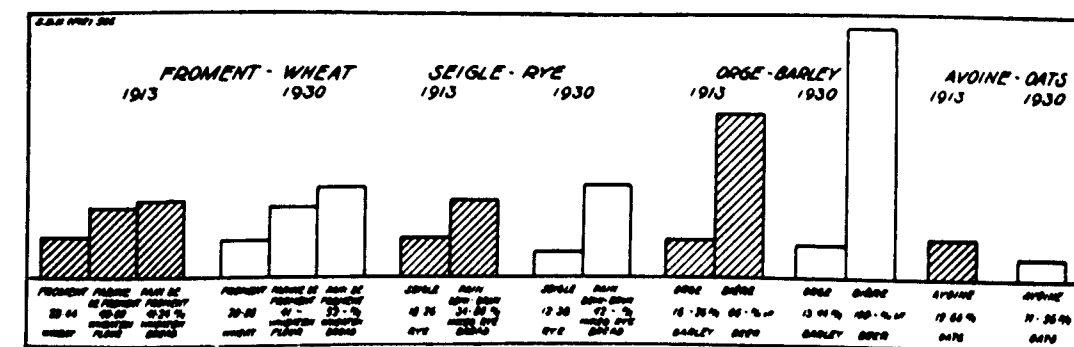
In 1913, assuming the index number for raw ox-hides to be 100, the index number for sole-leather was 452, and for footwear 1,198.66. On January 1st, 1930, raw hides cost only 82 per cent of the pre-war price, while the indices for sole leather and footwear were, respectively, 340 and 1,666.66. With one quintal of wheat in 1913 our farmers could buy a pair of boots and 80 decagrammes of sole leather, as compared with 4.9 kilogrammes of sole leather or 0.84 of a pair of boots in 1930.

Thus, while the prices paid to the farmer are much below pre-war level, retail prices have risen enormously since 1913. The consumer, accordingly, derives no benefit whatever from the fall in costs, as the commodity—whether raw material or manufactured goods—in its passage from producer to consumer becomes dearer than before the war.

The result is that, notwithstanding the lower prices paid to the farmer, living costs the Hungarian consumer more than in 1913, and, earnings being below pre-war level, he buys much less than before, and thus still aggravates the agricultural depression.



WHOLESALE PRICES TO THE PRODUCER AND RETAIL PRICES OF THE CHIEF AGRICULTURAL PRODUCTS (RAW OR PREPARED) IN 1913 AND 1930 (JANUARY 1ST,) EXPRESSED AS INDEX NUMBERS (PRICE PAID PRODUCERS IN 1913 = 100) AND IN PENGÖ.



WHOLESALE PRICES PAID TO PRODUCER AND RETAIL PRICES OF THE CHIEF AGRICULTURAL

Expressed as Index Numbers (prices paid

1913											
Product	Unit of quantity	Mean price paid producer		Product	Unit of quantity	Average retail price		Difference between price paid producer and retail price		Product	Unit of quantity
		pengö	f.			pengö	f.	pengö	%		
Wheat 78 kg. ¹	quin-tal	100		Wheaten Flour No. 0	q	173.2				Wheat 78 kg. ¹	q
		23	44			40	60	17.16	73.2		
Wheat 78 kg		100		Wheaten bread (wh.)	q	175.9				Wheat 78 kg. ¹	q
		23	44			41	24	17.80	75.9		
Rye ¹	q	100		Mixed rye bread	q	190.6				Rye ¹	q
		18	26			34	80	16.54	90.6		
Barley ¹	q	100		Beer	hecto-litre	405.9				Barley ¹	q
		16	26			66	—	49.74	305.9		
Oats ¹	q	100								Oats ¹	q
		19	66								
Maize ¹	q	100								Maize ¹	q
		15	11								
Potatoes ²	q	100		Potatoes	q	150.4				Potatoes ²	q
		6	65			10	—	3.35	50.4		
Sugar-beet	q	100		Sugar (crystal.)	15 kg	695.4				Sugar-beet	q
		2	20			15	30	13.10	595.4		
Live Cattle	kg	100		Beef (av. qual.)	kg	290.7				Live Cattle	kg
		0	97			2	82	1.85	190.7		
Live Pigs.	kg	100		Pork (av. qual.)	kg	141.9				Live Pigs	kg
		1	60			2	27	0.67	41.9		
Live Sheep.	kg	100		Mutton (av. qual.) .	kg	194.6				Live Sheep	kg
		0	74			1	44	0.70	94.6		
Wool	kg	100		Woollen fabrics for clothing .	m.	470.6				Wool	kg
		1	70			8	—	6.30	370.6		
Milk	litre	100		Milk	l.	142.9				Milk	l.
		0	21			0	30	0.09	42.9		
Wine	l.	100		Wine	l.	108.7				Wine	l.
		0	46			0	50	0.04	8.7		
				Sole-leather	kg	452.—					
						6	78				
Raw Ox-hides	kg	100								Raw Ox-hides	kg
		1	50								
				Footwear	pair	1,198.7					
						17	98				

¹ Price in the Budapest Exchange less 2.40 pengö for transport.

² Price in the Budapest Public Markets less 0.50 pengö for transport.

Note. — Index numbers underlined.

PRODUCTS (RAW OR PREPARED) AT JANUARY 1ST, 1913 AND 1930.

producer in 1913 = 100) and in pengö.

1930								Difference between 1913 and 1930 average prices			
Mean price paid producer	Product	Unit of quantity	Average retail price		Difference between price paid producer and retail price			to the producer in 1930		to the consumer in 1930	
			pengö	f.	pengö	%		pengö	%	pengö	%
89.1	Wheaten		174.9								
20	Flour No. 0	q	41	—	20.12	90.4		— 2.50	10.9	+ 0.40	0.1
89.1	Wheaten bread		221.9								
20	(wh.)	q	52	—	31.12	149.—		— 2.50	10.9	+ 11.—	20.1
67.8			230.—								
12	Mixed rye-bread . . .	q	42	—	29.02	239.3		— 5.88	32.2	+ 7.20	20.7
82.7			615.—								
13	Beer	hl	100	—	80.50	644.—		— 2.82	17.3	+ 34.—	51.5
58.7											
11								— 8.11	41.3		
70.7											
10								— 4.43	29.3		
90.2											
6	Potatoes	q	180.5	—	0.—	100.—		— 0.60	9.8	+ 2.—	20.—
118.1			763.6								
2	Sugar (crystal.) . .	15 kg	10	80	14.20	663.6		+ 0.40	18.1	+ 1.50	9.8
90.7			340.2								
0	Beef (av. qual.) . .	kg	3	30	2.42	275.—		— 0.09	9.3	+ 0.48	17.—
82.5			105.6								
1	Pork (av. qual.) . .	kg	2	65	1.33	100.8		— 0.28	17.5	+ 0.38	10.7
74.3			229.7								
0	Mutton (av. qual.) .	kg	1	70	1.15	209.1		— 0.19	25.7	+ 0.20	18.1
89.4	Woollen fabrics for clothing .	m	1,411.8	—	22.48	1,478.9		— 0.18	10.6	+ 10.—	200.—
104.8			190.5								
0	Milk	l.	0	40	0.18	81.8		+ 0.01	4.8	+ 0.10	33.3
82.6			173.9								
0	Wine	l.	0	80	0.42	110.5		— 0.08	47.4	+ 0.30	60.—
	Sole-leather	kg	5	10						— 1.68	24.8
82.—											
1								— 0.27	18.—		
	Footwear	pair	1,666.7	—						+ 7.02	39.—
			25								

NETHERLANDS.

Dr. J. J. L. VAN RIJN.

It is very difficult to ascertain the actual price paid to producers, but the margin between prices paid to producers and prices paid by consumers may be fairly accurately determined by comparing wholesale with retail prices. I have therefore given in the attached table the prices of certain agricultural products in 1929, which confirm that the margin between wholesale prices and the prices paid by consumers is, as was already known, very considerable in the case of certain products, such as brown haricot beans, green peas and potatoes, while the margin in the case of butter and of eggs is very reasonable. I have no figures for other products, but I am in a position to state that there is a very wide margin in the case of vegetables.

1929.

Products	January		February		March		April		May		June		
	1	2	1	2	1	2	1	2	1	2	1	2	
Brown haricot beans.	1½ kg.	21	35	20	35	21	35	20	35	16 ⁵	35	—	35
Green peas . . .	1½ kg.	85	27	8 ⁵	27	9	27	8 ⁵	27	8	27	8	27
Milk	Litre	10	18	10	18	8 ⁵	16	7	15	8	15	7 ⁵	15 ⁵
Cheese													
(Gouda) . . .	1½ kg.	54 ⁵	85	52 ⁵	85	51 ⁵	85	40 ⁵	76	41	70	49	75
Eggs.	Each	9	10 ⁵	9	10	8	9 ⁵	6	7	6	7	6 ⁵	7 ⁵
Butter	1½ kg.	114	135	113	135 ⁵	97	121	93	110	96	110	96	110
Potatoes . . .	Kg.	4	8 ⁵	4	8 ⁵	4	10	3	9	2 ⁵	8	2 ⁵	—
Meat.	1½ kg.	49 ⁵	90	50	90	50	90	50	90	51	90	52	90

Products	July		August		September		October		November		December		
	1	2	1	2	1	2	1	2	1	2	1	2	
Brown haricot beans.	1½ kg.	—	35	—	35	10	35	10 ⁵	20 ⁵	12	22	9	22
Green peas . .	1½ kg.	7 ⁵	27	8	27	7 ⁵	27	7 ⁵	26	6 ⁵	25	6 ⁵	25
Milk	Litre	8	16	9	16 ⁵	10	18	10	18	10	18	10	18
Cheese													
(Gouda) . . .	1½ kg.	53 ⁵	75	54	75	55	75	57	75	57	75	55	75
Eggs.	Each	7	8	7	8 ⁵	8	9	9 ⁵	11	11	12 ⁵	10	12
Butter	1½ kg.	95 ⁵	110	100	113	114	123 ⁵	116	130	111 ⁵	130	107	123
Potatoes . . .	Kg.	3	6	3 ⁵	6 ⁵	3 ⁵	7	3	6 ⁵	3	6 ⁵	3	7 ⁵
Meat.	1½ kg.	51	90	52	90	53	90	53	90	53	90	53 ⁵	92 ⁵

1. Wholesale prices.
2. Retail prices.

NORWAY.

M. HAAKON FIVE.

The prices paid to the producer are the prices paid in Oslo.
The prices paid by the consumer are the average prices paid in retail in different Norwegian towns.

P.p. = Prices paid to producer.

P.c. = Prices paid by the consumer.

RYE AND RYE FLOUR.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	16	25	9	56	100	100
1919	59	74	15	25	389	296
1924	34	52	18	53	212	208
1929	22	37	15	68	138	148

WHEAT AND WHEAT FLOUR.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	19	34	15	79	100	100
1919	59	76	17	29	310	224
1924	41	66	25	61	216	194
1929	25	40	15	60	132	118

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Brown haricot beans.	½ kg.	21	35	20	35	21	35	20	35	16 ⁵	35	—	35
Green peas .	½ kg.	85	27	8 ⁵	27	9	27	8 ⁵	27	8	27	8	27
Milk	Litre	10	18	10	18	8 ⁵	16	7	15	8	15	7 ⁵	15 ⁵
Cheese													
(Gouda) .	½ kg.	54 ⁵	85	52 ⁵	85	51 ⁵	85	40 ⁵	76	41	70	49	75
Eggs	Each	9	10 ⁵	9	10	8	9 ⁵	6	7	6	7	6 ⁵	7 ⁵
Butter . . .	½ kg.	114	135	113	135 ⁵	97	121	93	110	96	110	96	110
Potatoes . .	Kg.	4	8 ⁵	4	8 ⁵	4	10	3	9	2 ⁵	8	2 ⁵	—
Meat	½ kg.	49 ⁵	90	50	90	50	90	50	90	51	90	52	90

Products		July		August		September		October		November		December	
		1	2	1	2	1	2	1	2	1	2	1	2
Brown haricot beans.	½ kg.	—	35	—	35	10	35	10 ⁵	29 ⁵	12	22	9	22
Green peas .	½ kg.	7 ⁵	27	8	27	7 ⁵	27	7 ⁵	26	6 ⁵	25	6 ⁵	25
Milk	Litre	8	16	9	16 ⁵	10	18	10	18	10	18	10	18
Cheese													
(Gouda) .	½ kg.	53 ⁵	75	54	75	55	75	57	75	57	75	55	75
Eggs	Each	7	8	7	8 ⁵	8	9	9 ⁵	11	11	12 ⁵	10	12
Butter . . .	½ kg.	95 ⁵	110	100	113	114	123 ⁵	116	130	111 ⁵	130	107	123
Potatoes . .	Kg.	3	6	3 ⁵	6 ⁵	3 ⁵	7	3	6 ⁵	3	6 ⁵	3	7 ⁵
Meat	½ kg.	51	90	52	90	53	90	53	90	53	90	53 ⁵	92 ¹

1. Wholesale prices.
2. Retail prices.

NORWAY.

M. HAAKON FIVE.

The prices paid to the producer are the prices paid in Oslo.
The prices paid by the consumer are the average prices paid in retail in different Norwegian towns.

P.p. = Prices paid to producer.
P.c. = Prices paid by the consumer.

RYE AND RYE FLOUR.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	16	25	9	56	100	100
1919	59	74	15	25	389	296
1924	34	52	18	53	212	208
1929	22	37	15	68	138	148

WHEAT AND WHEAT FLOUR.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	19	34	15	79	100	100
1919	59	76	17	29	310	224
1924	41	66	25	61	216	194
1929	25	40	15	60	132	118

POTATOES.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	6	9	3	50	100	100
1919	15	19	4	27	250	211
1924	21	22	1	5	350	244
1929	6	11	5	83	100	122

MILK.

(In øre per kg.)

Year	P. p. ¹	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	11.7	17	5.3	45	100	100
1919	44.9	53	8.1	18	384	312
1924	33.7	43	9.3	28	288	253
1928	18.3	27	8.7	48	156	159

BUTTER.

(In øre per kg.)

Year	P. p.	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	204	244	40	20	100	100
1919	600	752	152	25	294	308
1924	674	716	42	6	330	293
1929	334	374	40	12	164	153

¹ Average for Norway.

BEEF (PRIME QUALITY).

(In øre per kg.)

Year	P. p. ¹	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	88	135	47	53	100	100
1919	394	574	180	46	448	425
1924	294	425	131	45	334	315
1929	153	259	106	69	174	192

VEAL (PRIME QUALITY).

(In øre per kg.)

Year	P. p. ¹	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	105	140	35	33	100	100
1919	443	521	78	18	422	372
1924	353	413	60	17	336	295
1929	185	265	80	43	176	189

MUTTON (PRIME QUALITY).

(In øre per kg.)

Year	P. p. ¹	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	104	138	34	33	100	100
1919	423	522	99	23	407	378
1924	296	383	87	20	285	278
1929	177	237	60	34	170	172

¹ In carcasses.

PORK (PRIME QUALITY).

(In øre per kg.)

Year	P. p. ¹	P. c.	Difference		Index 1914 = 100	
			In øre	In percentage	P. p.	P. c.
1914	104	143	39	38	100	100
1919	441	545	104	23	424	381
1924	277	375	98	35	266	262
1929	146	241	95	65	140	169

¹ In carcasses.

POLAND

M. POPLAWSKI.

In the case of cereals, this difference is to be attributed to numerous causes, the most important of which we will endeavour to indicate:

1. *The shortage of working capital among the farmers.* — Polish agriculture was deprived of its capital as a result of the war and the inflation. Credit is difficult to obtain and expensive (the rate charged by the banks is very high).

Consequently, the farmer is obliged to sell his products immediately after the harvest, which entails a fall in prices and hampers the normal course of agricultural work.

In order to avoid having to sell his produce immediately, the farmer obtains credit from the wheat merchant in the form of an advance on the prospective sale contract. This sort of speculation is very expensive for the farmer, who usually has to let the wheat go at an excessively low price to the advantage of the merchant.

2. *The middleman* who deals with the producer is the last link in the chain of middlemen. The various middlemen's profits and the tax on each transaction are largely responsible for the low prices paid to the producer.

3 and 4. *The inadequacy of means of transport and of elevators* for the handling of wheat are responsible for the buyers offering a lower price than that quoted on the Exchange. This is always the case when wheat is purchased from the peasant.

5. The consumer does not benefit by this fall in prices. The other factors (transport, labour, grinding, baking, etc.) undergo no reduction, even when the prices of the raw product fall (that is to say, during the period of depression), with the result that the consumer is obliged to pay almost as much as in normal times.

6. As the risk incurred by the buyer is greater when prices are falling, he naturally desires to cover himself for this extra risk, which he does by offering still less to the producer.

7. When the price of wheat falls, the percentage of the irreducible accessory costs increases in proportion, as these costs are invariable. At such a time (for instance, during the present crisis) the difference between the prices paid to the producer and those paid by the consumer thus automatically increases, as may be seen from the figures available (comparison between the prices of wheat and bread in 1929 and 1930).

As regards animal produce, this difference is due to dearness of capital, middlemen's profits, and cost of transport (sometimes over long distances, which entails a certain amount of risk for the merchant).

* * *

The differences between the prices paid to the producers and the price paid by the consumer have been very great in Poland in 1930:

(1) For flour and bread (1 kg. of flour = 1.35 kg. of bread), the difference is 47.7 per cent.

- (2) For beef, the difference between the price obtained by the farmer and the retail price is 40 per cent.
- (3) For pork, the difference is 51.5 per cent.
- (4) For cereals (December 1930), there is a difference between the prices actually obtained by the producer and the official prices quoted on the Stock Exchange of 7.3 per cent for wheat, 13.2 per cent for rye, 46 per cent for barley, and 36 per cent for oats.
- (5) In the case of milk, the difference between the prices paid to producers and the price paid by the consumer is 76.5 per cent.

ROUMANIA

Prof. JON RADUCANU.

In Roumania there is a striking divergence between the price received by the producer of cereals and the price paid by the consumer.

The position can only be understood after an analysis of the various factors involved.

Is this disparity due to a defective organisation of trade or to the charges borne by cereals during their transport from the place of origin to the place of consumption? Or must it be attributed partly to the producer's inadequate efforts to secure a remunerative price for his products and partly to the fact that consumers are not organised? In other words, the problem is whether the profit taken by middlemen is not all the higher for want of a satisfactory organisation of trade and whether the sums paid on account of handling, transport, and various dues are excessive. We have to discover why the farmer and the consumer are compelled to hand over the greater part of the price for the benefit of middlemen.

In the case of cereal-exporting countries the problem must be considered from the standpoint both of the home market and of foreign markets.

THE HOME MARKET.

Wheat calls for thorough consideration owing to the chief part it plays as a foodstuff. As, however, maize is still an important foodstuff of the rural population in Roumania, our consideration will include maize also.

Let us first note the differences in price that occur in home dealings in all cereals. Subsequently we shall devote particular consideration to wheat in the successive stages of transformation through which it passes before becoming a foodstuff.

Present prices on the home market in lei per ton:

	Price obtained by producer	Wholesale price at Bucharest	Retail price at Bucharest
Wheat	2,000	3,200	5,000 7,000
Barley	1,000	2,500	3,200 3,500
Oats	1,200	2,300	3,200 3,500
Maize	1,500	2,500	3,300 3,500

A comparison of these prices shows that wholesale prices are 166 per cent to 250 per cent higher than the prices obtained by the producer and that retail prices are 126 per cent to 217 per cent higher than wholesale prices. The differences in the former amount to

90 per cent and in the latter to 91 per cent. In absolute figures the difference between the price paid to the producer and the wholesale price is less than the difference between the wholesale price and the retail price. An accurate view can be obtained only after consideration of the charges incurred between one market and the other:

(a) *Wholesale market* (in lei per ton):

	Lei	Lei
(1) Between the place of production and the station:		
Cost of transport and unloading	10	
Handling, charges in the village market, dues to the commune and the Chamber of Commerce.	40	
		50
(2) Between the station and the market:		
Loading the truck	30	
Preparation of the truck (boards)	25	
Cost of rail transport	360	
Waybill.	25	
		440-490

(b) *Between the wholesale market and the retail market* (in lei per ton):

(1) Unloading, transport	80	
Sacks, weighing, ropes	16	
Assistance in delivery.	10	
Transport costs	20	
Warehousing about one month.	10	
Warehouse costs	20	
		156
Total costs from producer to consumer, per ton:		646

The differences between the price received by the producer, the wholesale price, and the retail price are, as compared with the first named:

	Wholesale price	Retail price	Costs added to the price received by the producer			Profit as compared with the price received by the producer		
			490 lei	156 lei	Total	Wholesale	Retail	Total Profit
Wheat	%	%	%	%	%	%	%	%
Barley	60	150	24.5	7.8	32.3	35.5	82.2	117.7
Oats	150	220	49	15.6	64.6	101	54.4	155
Maize.	91.6	166.6	40.8	13	53.8	50.8	62	112.8
	66.6	120	32.6	10.4	43	34	43	77
Average.	92	164.15	36.8	11.8	48.6	55.3	60.4	115.60

Thus, as compared with the price received by the producer:

Costs represent an average of	48.6%
The wholesale dealer's profit represents an average of.	55.3%
The retailer's profit represents an average of	60.4% to 109.52%

In comparing the items covered by the increase in price, it should be noted that the retail trade takes a higher profit than the wholesale trade.

The most important item in the list of charges is transport, which represents 55.5 per cent of the total (for an average distance of 250 km.: 360 lei per ton).

Transport charges, as compared with the price received by the producer, are as follows:

	1930	1929
For wheat.	18	6.6
" barley	30	9.1
" oats	30	11.2
" maize.	24	8

In spite of the reduction introduced in the spring of 1930, railway rates for cereals are still much too high by comparison with the 1929 rates and particularly with the rates of previous years.

* * *

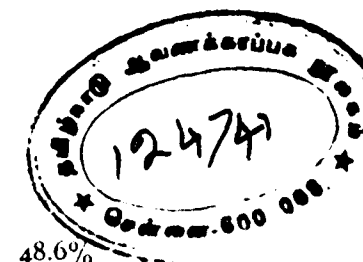
Let us now compare fluctuations in the wholesale price of wheat with fluctuations in the prices of bread and flour during the period 1913-1930:

Year	Wheat	Flour		Bread		Flour prices expressed as a percentage of wheat prices	Bread prices expressed as a percentage of wheat prices	
		1st quality	2nd quality	1st quality	2nd quality		1st qu.	2nd qu.
1913	180.6 ¹	380		320	270	210	177.40	140.50
1914	200 ¹	350		320	270	175	160	135
1923	4,140	8,000	5,350	6,750	4,350	193.23	163	105.07
1924	5,450	11,450	7,850	9,850	7,000	210.00	144.03	128.44
1925	8,530	18,000	13,750	16,000	11,500	211.01	187.57	134.81
1926	7,950	17,120		13,830	10,900	215.34	173.90	137.10
1927	7,810	15,850		12,500	9,000	202.94	160.05	115.23
1928	7,113	13,750		11,650	9,100	193.30	163.78	127.93
1929	7,080	13,550		11,250	8,900	191.38	158.80	125.70
1930	3,200	6,500	4,200	8,000	6,000	203.10	250	187.50

¹ Gold lei.

The foregoing table shows that the wholesale price of wheat was highest in 1925 and lowest in 1930, and that flour prices correspond.

J. IN, N31
N31-2



The extreme variations in the price of flour, expressed as a percentage of the price of wheat, were 175 per cent to 215 per cent. In the price of first quality bread they were 144 per cent to 250 per cent and in the price of second quality bread they were 105 per cent to 187 per cent.

These ratios varied independently of the price of wheat. Thus, in 1930 there is no correlation between the fall in the price of wheat and the price of bread.

The above table also shows that the price of bread, which during the years 1924 to 1929 was below the price of flour of the corresponding quality, exceeds that price in 1930. This shows the favourable position occupied by intermediate classes (dealers, millers, bakers) to the prejudice both of producer and of consumer.

* * *

THE EXPORT MARKET.

Cereal prices in Roumania are governed by this market.

A policy of price reduction was carried out at home by means of the export duties introduced after the war. Although these duties have been gradually reduced, this system still remains in force, and a duty of 100 lei per ton is still paid on wheat and 140 lei on oats and maize.

Taking as a basis for calculation the price of 40 H.Fl. (2,700 lei) per ton c.i.f. in European ports—about which the price of barley has fluctuated—the price f.o.b. Roumanian port comes to 2,128 lei. Between this price and the price received by the producer there is a difference of 1,121.50 lei, which represents the costs, including middlemen's profits. For a producer situated at an average distance of 250 km. from the port and transporting his produce by rail there is left a sum of 1,006.70 lei per ton, which is equal to 37.26 per cent of the price c.i.f. The balance of 62.74 per cent is absorbed by costs and the profits taken by middlemen.

This difference is made up as follows:

(1) Producer—station f.o.r.	100	lei or	2.70	per cent of the price c.i.f.
(2) Station f.o.r. to port f.o.r.	490	" "	18.15	" " " " " "
(3) F.o.r.—ship	411.5	" "	15.25	" " " " " "
(When the produce is handled in the dock, there is a reduction of 250 lei per ton.)				
(4) Ship—f.o.b.	120	" "	4.40	" " " " " "
(5) F.o.b.—c.i.f.	571.8	" "	21.20	" " " " " "
	1,693.33	lei or	62.70	per cent of the price c.i.f.

The costs may be analysed as follows:

(1) Transport, Handling, Warehousing.

F.o.b.—c.i.f.	490.8—i.e. 18	per cent of the price c.i.f. or 29 per cent of the total costs.
Producer—f.o.b.	773.5—i.e. 28.50	" " " " " " " " 46 " " " " " "
	1,264.3—i.e. 46.50	" " " " " " " "

(2) Insurance.

F.o.b.—c.i.f.	27—i.e. 1	per cent of the price c.i.f. or 1.5 per cent of the total costs.
Producer—f.o.b.	—	
	27—i.e. 1	" " " " " " " "

(3) Wastage.

F.o.b.—c.i.f.	27—i.e. 1	per cent of the price c.i.f. or 1.5 per cent of the total costs.
Producer—f.o.b.	40—i.e. 1.50	" " " " " " " " 2.5 " " " " " "
	67—i.e. 2.50	" " " " " " " "

(4) Dues.

F.o.b.—c.i.f.	—	
Producer—f.o.b.	138—i.e. 5	per cent of the price c.i.f. or 8 per cent of the total costs.
	138—i.e. 5	" " " " " " " "

(5) Sundry Charges.

C.i.f.—f.o.b.	—	
Producer—f.o.b.	50—i.e. 2	per cent of the price c.i.f. or 3 per cent of the total costs.
	50—i.e. 2	" " " " " " " "

(6) Middlemen's Profits and Commissions.

F.o.b.—c.i.f.	27—i.e. 1	per cent of the price c.i.f. or 1.5 per cent of the total costs.
Producer—f.o.b.	120—i.e. 4.5	" " " " " " " " 7 " " " " " "
	147—i.e. 5.5	" " " " " " " " 8 " " " " " "

In the case of other cereals, the items that make up the difference between the price received by the producer and the price c.i.f. vary with the price c.i.f. and with the Customs duties.

For instance, for wheat at the price of 4,200 lei per ton c.i.f. the difference in the prices is made up as follows:

(1) Producer—f.o.r.	121—i.e. 2.88	per cent.
(2) F.o.r.—f.o.b.	945.5—i.e. 22.50	per cent.
(3) Ship—f.o.b.	280—i.e. 6.6	per cent.
(4) F.o.b. c.i.f.	616.8—i.e. 14.68	per cent.
Total	1,963.3—i.e. 46.70	per cent.

The difference between the prices on board of Roumanian wheat and Canadian wheat is due, in the first place, to the export duties on the former and, in the second place, to the superior quality of Canadian grain. This difference is approximately 1,170 lei per ton. As export and other dues amount to 270 lei per ton, there remains a balance of

900 lei per ton, and this cannot be explained solely by the difference in quality. The explanation must be sought not only in the superior quality of Canadian grain but also in the homogeneity of quality secured by standardisation, in the superiority of the Canadian selling organisation, concentrated in the pools, and in the effect exercised on the commodity market by forward exchange transactions.

As home consumption has increased and as, consequently, the stock carried is relatively small in comparison with the amount exported, Roumanian produce is not an important factor in the world market. In years when the harvest is poor, especially, the price of Roumanian grain is too low in comparison with American and particularly Canadian grain.

* * *

The above analysis of the disparity between the initial price paid to the producer and the final price paid by the consumer justifies the statement that the greater part of the price is absorbed by costs of various kinds and middlemen's profits.

These costs and profits, which may rightly be regarded as excessive, are a heavy burden both on export transactions and on the home market. They are felt to an increasing extent as cereal prices fall.

As regards prices in the home market, particularly, it is essential that transport rates and charges for handling should be reduced in favour of the producer.

Internal policy has no effect on general prices, as these are governed by the world market.

So long as the producer does not receive at least 50 per cent of the price paid on the foreign market, defensive measures are needed.

The efforts of producers and consumers alike should be directed towards the joint defence of their common interests, the simplification of the intermediate stages, the rationalisation of supply and demand, economy in handling and, finally, the concentration of both production and consumption.

Producers, and particularly consumers, are finding the solution in co-operative societies.

As in most agricultural countries, the efforts of the Roumanian co-operative movement were originally directed towards credit operations. Cheap credit, within the reach of the peasant producer, is the primary need of agricultural economy.

Through the increase in world production, the rationalisation of agriculture, and the fall in cereal prices, another problem—that of securing remunerative prices for agricultural produce—has overshadowed the credit question and is now the chief problem of co-operation in agricultural countries.

The change in the structure of rural property through the division of large estates increases the importance of the problem of securing proper prices for agricultural produce. As it follows the evolution of agriculture, the co-operative movement will undergo a radical change. Co-operative societies concerned with securing remunerative prices for produce, the transformation of the raw material, and collective trade are now being constituted and organised.

A country like Roumania, which is based on small property, cannot overcome the world crisis in agriculture without the assistance of a rationally organised co-operative movement. That is the means by which the price obtained by the producer can be brought nearer the price paid by the consumer.

SPAIN

M. CANOVAS DEL CASTILLO

The following examples will serve to show the difference between the prices paid by the consumer and those obtained by the farmer for his produce:

Beef, for which the stockbreeder receives only 2.50 to 2.75 pesetas per kg., costs the consumer 4.50 to 5 pesetas (prime quality) and 4 to 4.50 pesetas (second quality).

On mutton, which is sold to the public at 3.75 to 4.25 pesetas per kg., the producer obtains 2.75 to 3 pesetas.

Pork, for which the producer obtains 2.50 to 3 pesetas per kg., costs the consumer 4.50 to 5.50 pesetas.

For a litre of fine olive oil the producer obtains only 1.25 peseta, although the consumer pays 1.60 to 2.50 pesetas.

Potatoes, which the producer sells at 0.15 peseta per kg., are bought in the market at 0.25 to 0.40 peseta.

Eggs, which the farmer sells at 1.75 to 2 pesetas a dozen, are sold to the public at 2.50 to 4 pesetas.

A litre of ordinary wine, for which the producer obtains less than 0.20 peseta, costs the consumer 0.50 to 0.70 peseta.

The dairy farmer obtains only 0.35 to 0.50 peseta for a litre of milk, while the public pays 0.65 to 0.80 a litre.

We may again mention the case of wheat, for which the farmer obtains only 0.42 to 0.45 peseta per kg., and which is made into flour, sold at 0.59 to 0.69 peseta (ordinary quality). Flour used for fancy bread and pastry is sold at 0.60 to 0.70; fancy bread, the consumption of which is always increasing, is sold at anything up to 1.75 per kg.

A detailed examination of the part played by costs of transport or internal charges (as in the case of wine) in determining the prices paid by the consumer would take too long, and we will content ourselves with the few examples given above.

The large number of hawkers tends to increase this difference of price, due to the profits which have to be made on the small quantities sold at a time.

SWITZERLAND

M. LAUR.

The question of the preparation, transformation and distribution of foodstuffs was investigated in Switzerland for the first time in 1923. An attempt was made at the same time to ascertain the *part played by agricultural production in the value of foodstuffs*.¹ This proportion is called the *production-value* of marketable foodstuffs and is determined at the time when, in the ordinary course of trade, an article leaves its place of production for the market. In the particular conditions obtaining in Switzerland, this production-value corresponds fairly closely to the farmer's gross profits on cereals, fruit, milk, etc. The prices have been fixed on the basis of the average rates paid to the producer at home as determined by means of the investigations of the Information Office regarding the prices charged by the Swiss Peasants' Union. The figures thus obtained have been supplemented by the *import value* of products derived from abroad, and the total production-value has been compared with the *consumption-value*. By consumption-value is to be understood the sum paid by the consumer—that is to say, by the ultimate recipient—and this sum is calculated on the basis of the average consumer's prices. The difference between these two values represents the total of the *preparation, transformation and distribution costs*, or, in other words, the *margin* of profits of the foodstuffs industry in Switzerland. The following are the principal figures:

	Production-value of home-grown foodstuffs	Import value	Total production-value	Consumption-value	Margin
(In francs, 000's omitted.)					
Bread, pastes, flour, semolina, etc.	28,721	115,086	143,807	266,187	122,380
Potatoes, fruit and vegetables	76,988	29,229	106,217	154,007	47,790
Poultry, fish, eggs, edible oils, fats	47,043	61,932	108,975	147,237	38,261
Groceries of all kinds (sugar, coffee, tea, rice, etc.) . .	9,319	87,029	96,348	149,894	53,546
Milk and dairy produce . .	375,175	41,640	416,815	590,334	173,519
Meat and meat preparations	353,041	47,423	400,464	516,527	116,063
Miscellaneous (honey, southern fruits, jams, chocolate, etc.)	16,502	32,029	48,531	153,480	104,949

¹ O. HOWALD: *Zeitschrift für Schweiz. Statistik und Volkswirtschaft*. Berne, 1923.

The following are the figures, by branches:

	Production-value in francs (000's omitted)	Consumption-value in francs (000's omitted)	Preparation, transformation and distribution margin		
			Actual figures (000's omitted)	Per cent of the production-value	Per cent of the consumption-value
Bread, flour, etc.	143,807	266,187	122,380	85.03	43.98
Milk and dairy produce . .	416,815	590,334	173,519	41.63	29.39
Meat and meat preparations	400,464	516,527	116,063	28.88	22.47
Groceries and miscellaneous	360,071	604,618	244,547	67.91	40.43
Total	1,321,158	1,977,666	656,508	50.04	33.19

Owing to certain practical difficulties, it was not possible to make these calculations for home-grown produce alone. Within the same group, however, the margin for foreign produce and that for home produce differs but little. The part played by production in determining the consumption-value of foodstuffs is 56.02 per cent for bread and flour, 70.61 per cent for milk and dairy produce, 77.53 per cent for meat and meat preparations, and 59.57 per cent for groceries and miscellaneous foodstuffs.

Taking all the products examined, the proportion is 66.81 per cent. These proportions naturally vary considerably with the extent of the processes of preparation, transformation and distribution, the nature of the article and the level of prices. Since the enquiry, the general average of producer's prices has fallen, while the consumer's prices have been slow to follow this downward movement. It follows that the preparation, transformation and distribution margin has become greater but, as there has been no subsequent enquiry, it is impossible to say exactly how much greater. The part played by production in the consumption-value may now be roughly computed at an average of 60 to 63 per cent. The increase in the margin is mainly due to the more elaborate processes of treating the raw materials, the increase in costs due to the fact that the public is becoming more and more exacting and the result of agreements concluded between retailers regarding the determination of sale prices.

The level of costs mainly depends, in the case of the various articles, on the processes of transformation. The fact that these costs are so considerable in the case of bread and flour is due to the raw materials being successively treated by the milling industry, the baking industry and the alimentary paste industry. The same applies to the figures for the costs incurred in connection with milk and dairy produce, which comprise the processes employed by the condensed milk industry, and the cheese and butter-making industry. The sale of meat (not including pork butcher's meat, which does not play a very important part) involves fairly simple processes, the margin consisting mainly in costs of distribution. The last group (groceries and miscellaneous articles) comprises articles necessitating elaborate processes (chocolate) and those whose relatively considerable margin is due to the fact that they are perishable commodities involving a good deal of waste (vegetables, fruit and southern fruits).

The estimates and calculations worked out by the Secretariat of the Swiss Peasants' Union to ascertain the part played by production in the consumption-value of certain agricultural products and especially foodstuffs, have been supplemented during the last few years by the investigations carried out in connection with certain articles by the

Prices Committee set up by the Federal Department for Economic Affairs. This Committee was appointed to examine the factors which go to determine the prices of certain products, with special reference to the question of the margin of profits in retail trade. Up to the present it has published three interesting volumes on this subject entitled "The Margin in the Milk Industry in Switzerland" (1927), "Contribution to the Study of the Bread Prices in Switzerland" (1928), and "The Margin of Prices in the Swiss Butchery and Pork-Butchery Trade" (1929). The following are the factors which went to determine the consumer's price of milk in March 1927 in the three towns of Zurich, Berne and Basle, taken from the report on the price margin in the milk industry:

	Zurich	Berne	Basle Service	
			At residence	At the shop
	(Centimes per litre.)			
Price paid to the producer	22.09	22.70	21.91	21.91
Margin of wholesale trade (collection, transport, treating of the milk at the dairy, measures to secure regularity of supplies, etc.)	6.91	5.17	7.14	7.14
Margin of retail trade (distribution to the consumers)	6.00	6.13	5.95	4.95
Total margin	12.91	11.30	13.09	12.09
Consumer's price	35.00	34.00	35.00	34.00
Total margin expressed as percentage of the consumer's price	36.88	33.23	37.40	35.55
Part played by production in the consumption-value of milk . . per cent	63.12	66.77	62.60	64.45

The percentage thus arrived at is based on the prices obtaining at the time. From the spring of 1927 until 1929 the consumer's prices increased on an average by 3 centimes, afterwards falling by 2 centimes. The actual figures for the margin have remained about the same. The production price is therefore at present (April 1930) 1 centime per litre more than in March 1927, and the part played by production in the consumption-value is, in the case of Zurich, for instance, 64.2 per cent.

In the country districts and in districts where the question of obtaining supplies of milk does not present any particular difficulty, the part played by production in the consumption value is greater, amounting to 70 to 90 per cent of the consumer's price. On the other hand, the proportion is only 60 to 70 per cent (according to local conditions) in the case of milk to be converted into dairy products. The average percentage of 70 per cent calculated by Howald for the whole of Switzerland is thus seen to be roughly correct. The other investigations made by the Committee with regard to the prices of bread and meat show that conditions are much the same for other foodstuffs.

The increasing discrepancy between the prices of *wine* paid to the producer and those paid by the consumer has attracted particular attention in wide circles during the last few years, and this question is being made the subject of a fresh investigation by the Committee. The provisional results of the preliminary work done in this field point to the fact that the Swiss wine-grower does not now receive more than approximately 40 to 50 per cent of the consumption-value.

The margins in Switzerland are usually considered high. In a country where requirements can so easily be covered locally, commodities ought, if trade were properly rationalised, to be cheaper and their sale should yield the producer a larger profit. Indeed, the agricultural organisations have for years past been endeavouring to sell their produce direct to the middleman in immediate contact with the public and even to the consumer. The efforts made to reduce the margin have, however, been counteracted, mainly by the fact that the public is becoming increasingly exacting as regards service and the quality of the produce.

UNITED STATES OF AMERICA

Mr. Loyd V. STEERE.

Indices of the prices of farm products in the United States of America show that the margin of wholesale prices over farm prices of such products has increased moderately in post-war years as compared with before the war, but that retail prices of farm products generally, at least as indicated by the cost of living, have risen to a considerably greater extent. A cost-of-living index is not an entirely satisfactory index of retail prices for all farm products, but it seems to be indicative of the general trend of such prices, though it is probably higher than a retail index for farm products would be, if available. The tendencies in prices of farm products generally since the war have been as follows:

INDICES OF PRICES OF FARM PRODUCTS GENERALLY.

Year	Farm Prices of all Farm Products	Wholesale Prices of Farm Products	Cost of Living Index ¹	Ratio of Wholesale to Farm Prices	Ratio of Cost of Living to Farm Prices
1910-14 . .	100	100	1913 = 100	100	100
1920 . . .	205	211	208.5	102.9	101.7
1921 . . .	116	123.8	177.4	106.7	152.9
1922 . . .	124	131.3	168.1	105.9	135.6
1923 . . .	135	138	171.5	102.2	127
1924 . . .	134	140	170	104.4	127.5
1925 . . .	147	153.7	175.7	104.6	119.5
1926 . . .	136	140	175	102.9	128.8
1927 . . .	131	139.2	172.7	106.3	131.8
1928 . . .	139	148.3	170.5	106.7	122.7
1929 . . .	138	146.9	170.5	106.4	123.6

¹ 1920-1929, average for June and December.

Indices of the prices of food products in the United States of America reveal tendencies similar to those for all farm products. Retail prices of food products show a considerable post-war increase in the cost of distributing food as compared with pre-war costs, with a large share of the increase due to the widening of the spread between wholesale and retail prices. It is of interest to note that the ratios of both wholesale and retail prices of foods to farm prices of foods are at present considerably lower than five or six years ago, and

that the margin of wholesale prices of foods over farm prices is relatively closely in a line with the margin prevailing before the war. The margin of retail prices of foods over farm prices, on the other hand, seems to have found a level about 15 per cent higher than before the war.

INDICES OF PRICES OF FOODS.

Year	Farm Prices of Foods	Wholesale Prices of Foods	Retail Prices of Foods	Ratio of Wholesale Prices to Farm Prices	Ratio of Retail Prices to Farm Prices
1910-14 . .	100	100	100	100	100
1920 . . .	207	213	207	102.9	100
1921 . . .	130	140.4	163	108	125.4
1922 . . .	121	135.8	150	112.2	124
1923 . . .	124	143.7	154	115.9	124.2
1924 . . .	126	141.1	153	112	121.4
1925 . . .	152	155.3	169	102.2	111.2
1926 . . .	154	155	174	100.6	113
1927 . . .	145	149.6	169	103.2	116.6
1928 . . .	149	156.6	170	105.1	114.1
1929 . . .	151	154.5	174	102.3	115.2

INDICES OF PRICES OF PARTICULAR GROUPS OF FOODS.

Year	Farm Prices			Wholesale Prices			Retail Prices		
	Grains	Meats Animals	Dairy Products	Grains	Meats	Dairy Products	Grains	Meats	Dairy Products
1910-14	100	100	100	1913 = 100			1913 = 100		
1920 .	231	173	188	256	180	194	232	186	185
1921 .	112	108	148	134	134	145	180	158	150
1922 .	105	113	134	124	130	133	159	150	136
1923 .	114	106	148	125	123	152	157	149	148
1924 .	129	109	134	141	129	140	160	150	143
1925 .	156	139	137	172	155	148	176	163	147
1926 .	129	146	136	148	154	149	176	171	146
1927 .	128	139	138	149	143	155	171	170	149
1928 .	130	150	140	159	165	157	167	179	150
1929 .	121	156	140	144	168	158	164	188	149

RATIOS BETWEEN FARM PRICES, WHOLESALE PRICES AND RETAIL PRICES OF PARTICULAR FOODS.

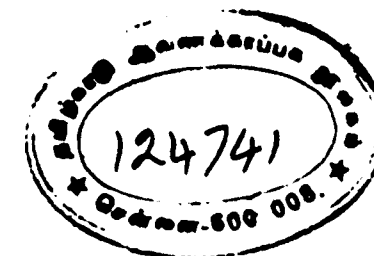
Year	Ratio of Wholesale to Farm Prices of:			Ratio of Retail Prices to Farm Prices of:		
	Grains	Meats	Dairy Products	Grains	Meats	Dairy Products
1910-14 . . .	100	100	100	100	100	100
1920	111	104	103	100	108	98
1921	120	124	98	161	146	101
1922	118	115	99	151	133	102
1923	110	116	103	138	141	100
1924	109	118	105	124	138	107
1925	110	112	108	113	117	107
1926	115	106	110	136	117	107
1927	116	103	112	134	122	108
1928	122	110	112	129	119	107
1929	119	108	113	136	121	106

The indices of prices received by farmers and the prices paid by consumers for the same products point to an important increase in the cost of marketing, processing, and distributing farm products. A study of indices of some of the most important items of cost in the processing and distribution of farm products seems to indicate, however, that the widening of the spread between the producer and the consumer has not been excessive, when the character and causes of the increases in the individual cost items are considered. There is evidence, in fact, that efficiency in distribution has improved in recent years, as one of the most important items determining distribution costs—that of wages—has risen much more than retail prices of farm products. The increased costs of marketing, processing, and distribution are largely due to higher wages for labour used in these processes, to higher transportation costs, and to higher rents for business establishments. The demands of the modern consumer for improved quality in products, better conditions of supply, greater convenience in form for handling and use, and, generally, for a greater amount of service, are requirements, which seem likely to involve even greater expenditure of labour in processing and marketing in the future than in the past. There is some reason to believe, therefore, that the costs determining the spread between farm prices and retail prices of farm products offer limited prospect of material reduction, but much interest is being devoted to the problems of distribution in the United States of America and there is evidence that distribution efficiency is increasing. Many competent authorities in the United States of America believe that co-operative marketing and other developments give ground for hope that the farmer can secure a larger share of the consumer's dollar than he does at the present time.

INDICES OF COSTS.

Year	Cost of Distributing Food	Index of Freight Rates			Index of Industrial Wages	Index Cost of Housing
		Livestock	Wheat	Cotton		
1910-14 . . .	100		1913 = 100		100	1913 = 100
1920	202	170	164	172	222	143
1921	190	170	160	176	203	160
1922	175	160	150	164	197	161
1923	177	160	150	164	214	165
1924	180	158	150	166	218	168
1925	185	157	150	166	223	167
1926	192	157	150	166	229	165
1927	190	157	149	165	231	161
1928	190	157 ¹	148 ¹	164 ¹	232	157
1929	199	—	—	—	236	153

¹ Based on rates in effect to December 31st, 1928.



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