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THE WORLD WHEAT SITUATION, 1934-35

A REVIEW OF THE CROP YEAR

The distinctive characteristics of the crop year under review are clearly evident in a brief résumé.

Stocks of old wheat on August 1 were larger in 1934 than ever before; but owing mainly to short crops, and in part to negligible exports from the USSR, *wheat supplies* for the world ex-Russia in 1934-35 were the smallest since 1929-30.

The *world wheat crop* ex-Russia turned out to be the smallest since 1925. As in 1933, crops were unusually small in the major exporting countries (except Argentina), and in 1934 in the Danube basin also; and the large crops in importing Europe did not reach the record total of 1933. With some exceptions, however, the 1934 crops were of unusually good quality. The *livestock feed position* was tighter than usual, owing chiefly to extremely short crops of feed grains and hay in the United States and small crops of maize in Argentina in 1933 and 1934.

Government policies continued to exert powerful influence on world wheat developments. Importing countries generally persisted in measures tending to maintain or increase their domestic production, hold down their food consumption of wheat, and restrict imports of wheat and flour. Both domestic and international trade in cereals were subject to more extensive government controls than in any year since wartime controls were abolished. As an outgrowth of these policies and good crops in 1933 and 1934, several importing countries faced problems of surplus disposal. To cope with such a problem, the French government made notable changes in its wheat policy.

The International Wheat Agreement, which had so greatly disappointed the hopes of its sponsors in 1933-34, was virtually inoperative in 1934-35. The United States continued

its "adjustment payments" to wheat growers in return for agreements to hold down their seeded acreage, but its influence on production for 1934 and acreage for 1935 was relatively slight.

The Argentine Grain Regulating Board liquidated the rest of the wheat that it had acquired in December-June 1933-34, but purchased no more. The Canadian govern-

ment, however, continued to back Mr. McFarland in price-supporting purchases which were reinforced by price-pegging in Winnipeg. This policy proved a major factor in the world wheat situation in 1934-35; and toward the close of the crop year, trade expectations of a radical change in Cana-

dian policy were a potent influence on wheat trade and prices.

International trade in wheat and flour unexpectedly fell below the low total of 1933-34, and was the smallest since 1908-09 except for one crop year during the World War. This was due in part to the geographical distribution of wheat supplies, since most importing countries in Europe (and Japan as well) had available unusually large quantities of domestic wheat. In part it was due to restraints indirectly imposed on wheat consumption in various parts of continental Europe, and on Canada's exports through government-sponsored support of prices. In part also it was due to liberal stocks of import wheat on August 1, 1934, and to exceptionally light European purchases late in the crop year.

Argentina became the leading exporter for the first time in history, and the northern African countries exported a record quantity from their bumper crops. France, Sweden, Estonia, and Latvia, hitherto net importers, joined Poland and Lithuania as net exporters with the aid of export bounties or an equivalent. The United States became a net importer

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for the first year but one since colonial days, but only because domestic supplies of durum were very short and some low-grade wheat could be imported at a low rate of duty.

Wheat disappearance during 1934-35, though larger than in 1929-30, was lower than in 1933-34 or the average for seven crop years beginning with 1927-28. Broadly speaking, world wheat *consumption for food* continued at levels below those reached shortly before the onset of depression in 1929. For this fact governmental policies (including processing taxes in the United States and several other countries) and reduced personal incomes of masses of people continued jointly responsible, in proportions impossible to ascertain. In the Danube basin, small wheat crops made for restricted food use of wheat as they had in 1924-25 and 1932-33. *Seed use* was slightly smaller than in several preceding years, chiefly because drought, government measures, and/or competition of other crops reduced sown acreage in the major exporting countries. *Feed use* of wheat has been tending upward over several decades and has been unusually large ever since 1930-31. It was again heavy in 1934-35, under the influence of feed shortage in North America, denaturing of wheat in some European countries, and very low prices of wheat (including subsidized exports from France, Sweden, and Poland) in Great Britain and Denmark.

Wheat prices were higher in 1934-35 than in the year or two preceding, if one looks at such outstanding series as those for the United States, Winnipeg, and British import wheats. The net rise shown by averages for the year, however, fell far short of hopes and expectations aroused by what seemed, early in the year, a striking improvement in the "statistical position."¹ As the true situation became clearer, the bullishness that first prevailed gradually evaporated; and a fresh advance in the spring of 1935 was soon followed by pronounced decline. British "parcels prices" in terms of gold averaged 47 cents a bushel—4 cents higher than in 1933-34, but far below the level of 63 cents which the International Wheat Agreement had made a major objective. It is no longer possible, however, to take any one series of prices as a con-

densed reflection of what has ceased to be a "world wheat market." Diversity of wheat prices, within and among nations, was a feature of the year as of the three preceding.

In the United Kingdom, where the domestic crop was large and most of it went to market, native wheat sold at heavy discounts below imported wheat, and in terms of gold (39 cents, pre-devaluation basis) at the lowest point yet reached. Quasi-official market operations held up prices of wheat in Canada, and on British markets Canadian wheats were quoted far above their normal relation to Argentine wheats. In the United States, though specific governmental interposition was negligible, wheat prices were continually above an export basis; hard wheats were relatively dearest, and durum prices were at import levels through most of the year.

The *accumulated surplus* of wheat, which has been reflected in abnormally high levels of visible supplies and year-end stocks ever since the huge crop of 1928 was marketed, was materially reduced in 1934-35 in the world ex-Russia. Disappearance exceeded new supplies by a larger absolute margin than ever before.² According to our estimates for the greater part of the world ex-Russia,³ year-end stocks were reduced by some 270 million bushels from the record peak in 1934; and recent developments presage a further reduction toward more normal levels by midsummer 1936. Elimination of the "surplus carryover," however, will not mean that the underlying *wheat surplus problem* is solved; for despite governmental efforts to restrict wheat acreage in several countries, world wheat producers are still "geared" to raise more than the market is likely to absorb at prices that growers regard as remunerative.

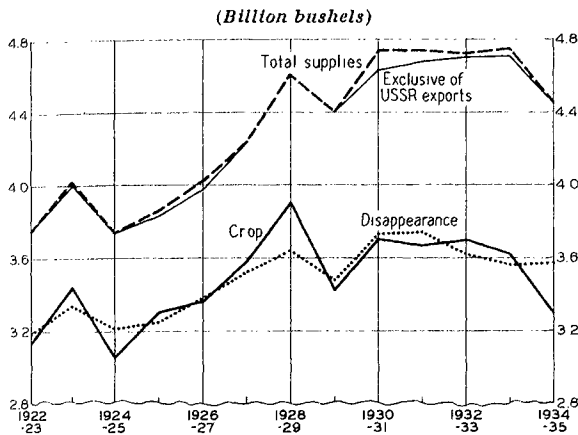
¹ But cf. H. C. Farnsworth, "Decline and Recovery of Wheat Prices in the 'Nineties," *WHEAT STUDIES*, June-July 1934, X, 342: ". . . it seems to us probable that, so long as world year-end stocks substantially exceed 700 million bushels, complete and sustained recovery of wheat prices is unlikely. On the other hand, marked shrinkage of the wheat surplus, such as appears to be in prospect for 1934-35, is a factor favorable to some (though it may be small) improvement in world wheat prices relative to commodity prices in general."

² In percentage terms, the reduction may have been larger in 1897-98. ³ See footnote 1 on p. 103.

I. SUPPLIES FOR THE YEAR

The marked change in the world wheat-supply position is reflected in Chart 1. What we term "supplies" for the year—the sum of initial stocks, crops ex-Russia,¹ and Russian exports—were considerably lower in 1934–35 than in five of the six preceding years. Stocks

CHART 1.—WHEAT CROPS, TOTAL SUPPLIES, AND DISAPPEARANCE, EX-RUSSIA, FROM 1922–23*



* Data in Table XXXII. See footnote 1 on this page.

of old wheat carried into the year were at a record peak, some 450 to 550 million bushels above what can reasonably be considered a normal carryover (Chart 18, p. 141). Even after upward revisions of early estimates, however, the 1934 wheat crop ex-Russia fell below the average for the six years 1928–33

¹ Variations in wheat production and carryovers in the USSR, China, Turkey, Persia, and many countries that produce little wheat have, within wide limits, only slight bearing on the world wheat situation. For most of these even crop estimates are not available until very late if at all, and for several of them useful estimates are not available for any long period of years. For these reasons, unless otherwise noted, our term "world ex-Russia" excludes, for production, not only the USSR but Turkey, Asia Minor, and Manchukuo listed in Tables II–IV, and others including China listed in Table VIII. For wheat stocks or carryovers our term "world" or "world ex-Russia" excludes all these countries and also Mexico, Uruguay, Chile, Chosen (Korea), South Africa, and New Zealand, but includes stocks afloat to Europe and ex-Europe.

² See estimates of the International Institute of Agriculture in its *Monthly Crop Report and Agricultural Statistics*, March 1935, XXVI, 175, 181.

³ *World Wheat Prospects*, July 23, 1934, p. 2.

by about 370 million bushels, roughly 10 per cent. Drought severely reduced acreage and yields in North America and the Danube basin, and various factors kept down acreage in both Argentina and Australia. Big crops in importing Europe, northern Africa, and a few small producing countries elsewhere did not fully offset short crops in most of the exporting areas. Moreover, the USSR exported almost no wheat, for her large 1934 crop was short in the areas from which exports can readily move. World exportable supplies in 1934–35 were much lower than in any year since 1925–26.²

Shorter wheat supplies in 1934–35 were accompanied by reduced supplies of rye and feed grains. Except as potatoes were abundant and good crops of maize in southern Europe facilitated food use of this cereal there, supplies of the lesser grains were such as to hold down their use for food, and in some countries to stimulate the use of wheat for feed.

For the first year since 1924–25, new supplies of wheat for the year fell markedly below "disappearance" during 1934–35. The "carry-over surplus," which has been a persistent feature of the world wheat situation since the onset of depression in 1929, was consequently cut in half. Furthermore, as the crop year drew to a close, drought and rust in North America, with prolonged shortage of rain in Argentina and Australia, reversed earlier prospects for good wheat harvests in 1935. These events gave promise (subsequently borne out) of a second short world crop in succession and suggested that in 1935–36, at long last, the current wheat "surplus" might disappear.

THE 1934 WHEAT CROPS

In general.—The world wheat crop ex-Russia, now appraised at close to 3,300 million bushels, was underestimated early in the crop year as each of several previous ones had been. Late in July 1934 the United States Department of Agriculture expected the crop of Europe ex-Russia to be 340 million bushels less than in 1933.³ Official estimates now standing show a reduction of only 214 million (Table I). A month later, when their appraisal of Euro-

pean crops had been raised, they anticipated that the world crop ex-Russia would be 430 million bushels less than in 1933.¹ Final figures will probably show a reduction of only about 300 million. The Canadian official review of the wheat situation for August 30, 1934, expressed the probability that Europe ex-Russia would harvest 300 to 350 million bushels less wheat than in 1933, and that "about two-thirds of this reduction [over 200 million] will occur in normally importing countries." The reduction in importing Europe now appears to have been only 98 million bushels.

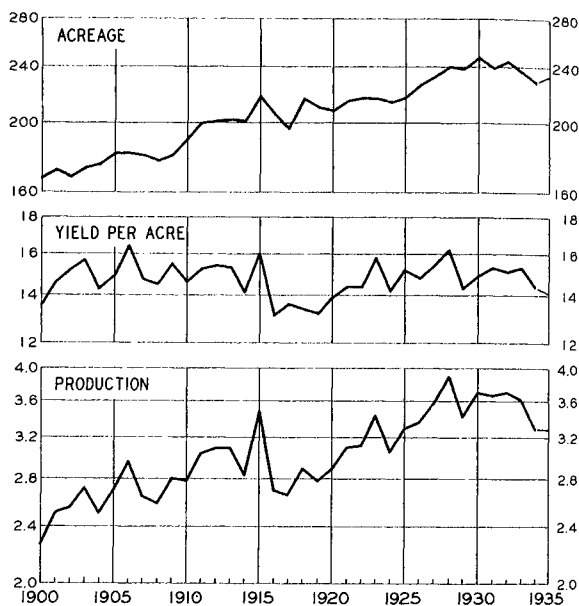
Since mid-September 1934, mostly before mid-January 1935, our summary totals for 1934 for the world ex-Russia have been raised by about 130 million bushels.² This proved important, though it appears moderate beside the net increase of nearly 330 million bushels in the appraisal of the 1933 crop since mid-September 1933.³ Disregarding some significant upward revisions before mid-September 1934,⁴ the major changes in our totals may be summarized as follows, in million bushels: France, +34; Poland, +26; other importing Europe, +31; northern Africa, +11; ex-European importing countries, +24.⁵

Viewed in longer perspective in Chart 2, the

reduction in the 1934 crop, by 300 to 400 million bushels from those of the four preceding years, is most comparable with the drop in 1914 from the level of 1911-13. The other striking reductions shown on the chart were from the preceding peaks of 1903, 1906, 1915,

CHART 2.—WHEAT ACREAGE, YIELD PER ACRE, AND PRODUCTION, EX-RUSSIA, 1900-35*

(Million acres; bushels per acre; billion bushels; logarithmic vertical scale)



* See footnote 1, p. 103. For years prior to 1925, totals are those given in WHEAT STUDIES, April 1933, IX, 264 (col. 2), adjusted by substituting United States figures given in revised official estimates mimeographed September 1934.

¹ *World Wheat Prospects*, Aug. 29, 1934, p. 1.

² The following summary figures for 1934 crops, in million bushels, were published in our "Surveys," including tentative estimates or mid-range figures for a few countries when official estimates were lacking:

1934-35	World ex-Russia	Northern Hemisphere	Four chief ex-ports	Lower Danube	Other Europe	Northern Africa ex-ports	Others ex-India
Sept.	3,167	2,752	1,140	255	1,190	86	147
Jan.	3,279	2,827	1,161	249	1,267	87	166
May	3,283	2,843	1,145	249	1,279	91	170
Sept.	3,299	2,862	1,145	251	1,284	97	171
Dec.	3,295	2,859	1,147	251	1,281	97	168
Change	+128	+107	+7	-4	+91	+11	+21

Later revisions, including increases for Canada and perhaps Czechoslovakia (see below, pp. 129, 177 footnote n), are likely to raise the 1934 total slightly further.

³ See WHEAT STUDIES, December 1934, XI, 127-28, and below, Table I.

⁴ In Germany successive estimates rose from 146 million bushels in July to 166 million in September and a final figure of 167 million.

⁵ Including Uruguay and Chile, which are more commonly net exporters (see Table XXV).

1923, and 1928. Almost all of the earlier sharp reductions were due largely to short yields, and not (except between 1915 and 1916) to significant reductions in acreage. In 1934, by contrast, the short world crop was the joint result of reduced acreage and low yields, for the most part in the major exporting areas. Wheat acreage ex-Russia (mainly harvested acreage) was the smallest since 1926 and 7 per cent below the peak 3-year average for 1930-32. The average yield per acre ex-Russia was less below recent levels, and not so low as in 1924 and 1929; yet it was among the smallest in this century except during 1916-20.

By regions.—On both acreage and yields, however, one needs to look beyond world to-

tals and averages. Illuminating group totals of wheat areas for recent years are shown in the accompanying table, in million acres.

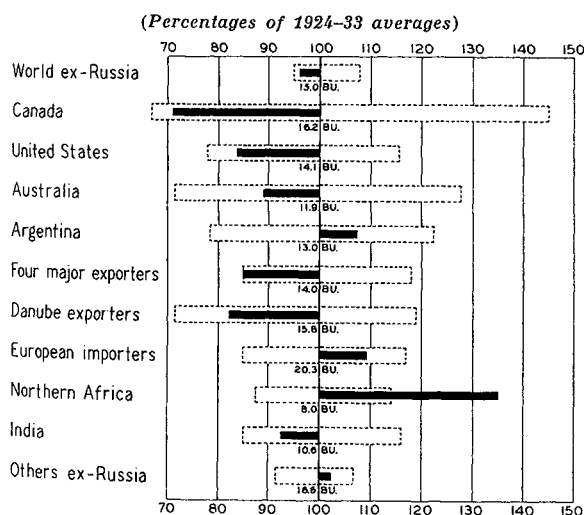
Period	World ex-Russia	Four chief ex-ports	All others ^a	Danube basin	Importing Europe ^b	Others ex-Russia ^a
1924 (low)	215.2	101.4	113.8	18.1	56.5	39.2
1929.....	239.2	119.5	119.7	18.4	60.2	41.1
1930 (peak) ...	248.3	125.3	123.0	20.0	62.5	40.5
1933.....	236.3	106.8	129.5	20.0	66.9	42.6
1934.....	228.2	96.0	132.2	19.3	66.8	46.1
Change						
1933-34.....	-8.1	-10.8	+2.7	-.7	-.1	+3.5
1930-34.....	-20.1	-29.3	+9.2	-.7	+4.3	+5.6

^a Excluding China, Manchukuo, Turkey, Asia Minor.

^b Including French dependencies in northern Africa.

Reductions in acreage between 1933 and 1934, and the much greater reductions from the world peak in 1930, were in the four chief exporting countries. Slight reduction in the Danube basin was more than offset by increases outside Europe and, between 1930 and 1934, in importing Europe as well. Chart 3 makes evident the striking contrasts be-

CHART 3.—WHEAT YIELDS PER ACRE, 1934, COMPARED WITH RANGES AND AVERAGES FOR 1924-33*



* Hollow bars indicate ranges, solid bars the 1934 yields, each expressed as a percentage of the 1924-33 average shown in figures. Based on data in Tables I and IV.

tween the relatively low yields per acre in 1934 in most of the export areas (and India) and the relatively high yields in northern

Africa, importing Europe, and other countries as a group.

Chart 4 (p. 106) brings out corresponding facts for the more important wheat-producing areas for the years since 1924. Several points deserve emphasis. Crops were distinctly large in 1934 in what we term "importing Europe" (though six countries within it were net exporters in 1934-35). They were of record size in the exporting countries of northern Africa, which are French dependencies. They were large also in some ex-European countries that have hitherto generally been net importers, notably Japan and South Africa, though small in Egypt, Manchukuo, and New Zealand. With the exception of Argentina, Poland, and northern Africa, on the other hand, most of the usual exporting countries ex-Russia had small or short crops.¹ This was true of the Danube basin and Australia, which had had large crops in 1933, and of Canada and the United States where the 1933 crops had been small. The United States crop of 1934 was below 500 million bushels for the first year since 1890² and under 60 per cent of the average for 1928-32.

Importing Europe had a crop second only to the bumper harvest of 1933. According to official estimates now standing, the net reduction was only 98 million bushels. The crops of France, Germany, and Italy were smaller in 1934 than in 1933—129 million bushels less as now reckoned. Reductions in Poland, Czechoslovakia, Austria, and Belgium-Luxemburg, now totaling some 28 million bushels but perhaps somewhat less, were more than offset by increases of 59 million bushels over 1933 in all other Europe ex-Danube.

Nowhere in importing Europe was the 1934 wheat crop really small. The only ones now reckoned below the corresponding average for 1929-33 were in Italy and Czechoslovakia; but even in Italy, where the reported crop was 65 million bushels less than in 1933, the 1934 harvest could hardly be called small (see Chart 15, p. 130). The German crop was larger than any post-war crop prior to 1932,

¹ On the peculiar situation in the USSR, see p. 111.

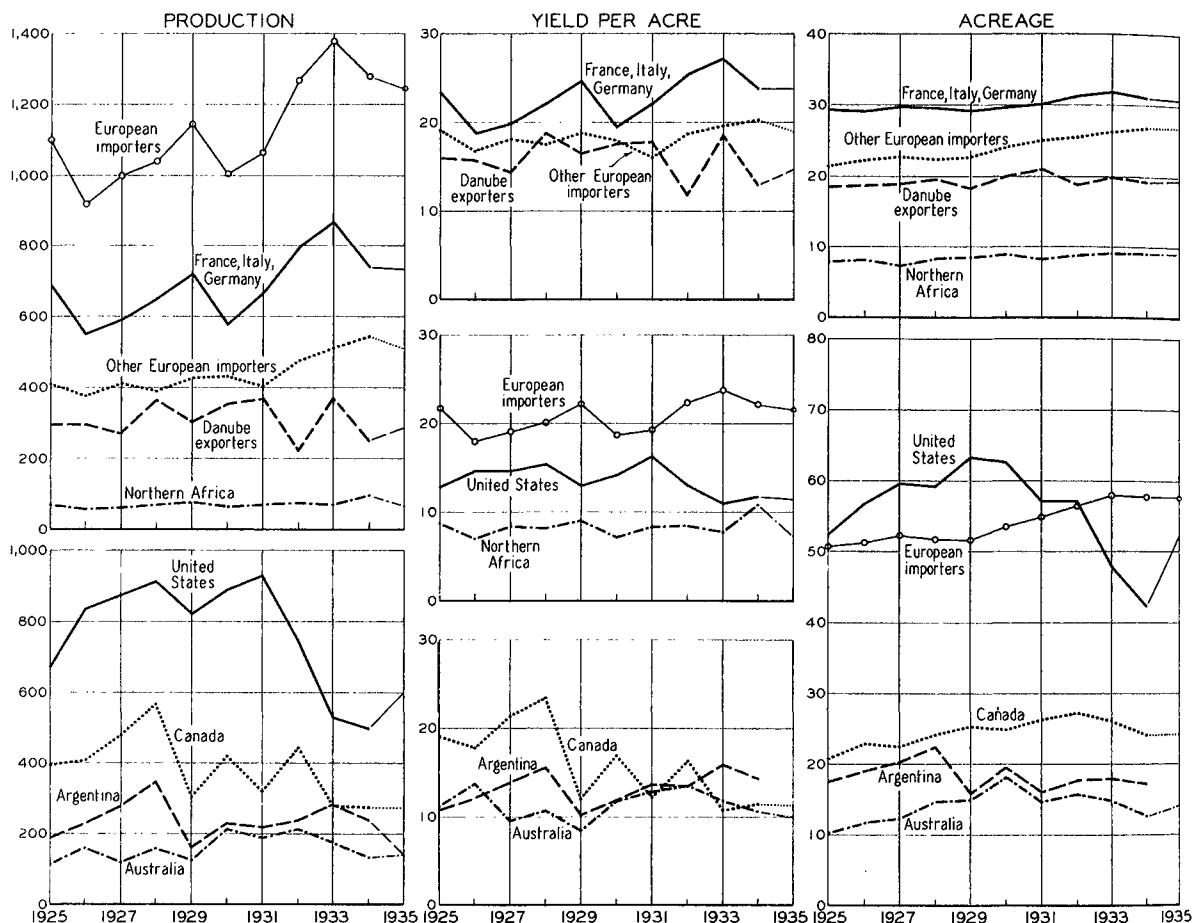
² *Agriculture Yearbook*, 1935, pp. 349-50.

and above the pre-war average for the corresponding territory. The French crop was the largest in post-war years except that of 1933. Poland's crop was among the largest even in recent years.

further under the new wheat policies adopted in 1932; yields per acre in the islands were slightly above the highest previous record; and the combined crop was nearly double that of 1931 when acreage had fallen to the

CHART 4.—WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE IN MAJOR AREAS EX-RUSSIA, 1925-35*

(Million bushels; bushels per acre; million acres)



* Data in Tables I-IV. See footnote 1, p. 103.

Outside of the countries just mentioned, wheat crops of importing Europe and northern Africa were either of record size or one of the largest for many years. Conditions were exceptionally favorable in the British Isles, the Iberian peninsula, and northern Africa. Morocco, Algeria, and Portugal each harvested the largest crop ever reported, and the Spanish crop was not far below the record crop of 1932. In the United Kingdom and the Irish Free State, acreage expanded somewhat

lowest point in more than a century. In the Netherlands, the Scandinavian¹ and Baltic states, and Switzerland, large acreage and high yields resulted in 1934 crops above the previous record level of 1933.

Turkey, which is nowadays a large wheat producer, had a big crop of about 100 million bushels, as in 1929-31 and 1933. In Egypt,

¹ A slight reduction in Sweden was more than offset by increases in Denmark and Norway.

on the other hand, the crop was the smallest since 1928 (Chart 16, p. 131). Acreage was held down, as in the preceding year, to about the lowest point since 1925, because larger areas were put into cotton; and rust and other factors greatly reduced the yield.¹

Among ex-European importing countries there were two notable crops. Thanks to yields far above average (though still low) on a large acreage, the Union of South Africa had a record wheat crop nearly 40 per cent above the average for 1929–33. Japan, with high yields on a record acreage, had also a record crop—for the first time in forty years practically sufficient for her net domestic requirements. The crop of Chosen (Korea) was the largest since 1926. Japan's rice crop was exceedingly poor; but a heavy carryover remained from the record crop of 1933, and rice imports from Chosen and Taiwan (Formosa) were very large.

Two other oriental countries, which are

¹ *Commercial Intelligence Journal*, Nov. 24, 1934, p. 777. High water on the Nile prevented sowing of maize in some flooded areas, but this did not materially affect the wheat acreage.

² See Chinese official *Crop Reports*, and data given by a Chinese wheat authority in an article by the Minister of Industry, in the official *Chinese Economic Journal*, August 1935, XVII, 121. With these figures one may contrast the estimates given in a recent report from the Shanghai representative of the U.S. Department of Agriculture (*Press Release No. 546-36*, Sept. 30, 1935) that China's crop of 1934 was 840 million bushels compared with a 1931–34 average of 780 million. At best, no estimates of Chinese crops can as yet be considered very trustworthy.

³ See Table XV for United States carryovers by types. Those of Canada included a good deal of Garnet wheat, which is inferior in milling quality.

⁴ For some years American millers have believed a great deal of wheat in the huge stocks would prove unmillable. What is millable, however, depends in part on what is available. The carryover on July 1, 1935, was inferior to what had been milled from the crops of 1933 and 1934, but superior to much of the poor 1935 crop.

⁵ In the latest issue of Broomhall's *Corn Trade Year Book* (April 1935, p. xi), however, the editor compares Argentine wheats of recent years unfavorably with those of 1928–29; and adds that "the quality of French wheat is also poor" and that Russian and Hungarian wheats are not equal to those of pre-war years.

⁶ See pp. 127, 152. Domestic food use of durum is around 13 million bushels a year. In years of large crops much durum is fed on farms, large quantities are exported as grain (Table XVI) or in processed form, and variable quantities are blended with other wheats to produce bread flour.

excluded from our totals for the world ex-Russia, also deserve brief comment. For several years prior to 1932, the Manchurian provinces of China shipped surplus wheat abroad. In 1934 Manchukuo, under the control of Japan, had the smallest of three successively diminished crops, less than 45 per cent of the average for 1927–31 (Table II). The 1934 crop of China proper was materially overestimated early in the season, and is now officially regarded as below rather than above the average for recent years (Table VIII). Four crop reports showed estimates successively reduced from 892 million bushels in June 1934 to 800 million in December. In January 1935 the estimate was put at 815 million, which compares with a 1931–34 average of 865 million (Table VIII) and an estimated "normal" of 830 million.² China's rice crop also was small in 1934—perhaps 20 per cent below average.

Type and quality.—In the world crops of 1934, as in those of 1933, soft wheats strongly predominated. Initial carryovers in North America consisted largely of hard bread wheats,³ and that in the United States was drawn upon for domestic consumption.⁴ Large carryovers elsewhere, however, consisted mainly of soft wheats, and these were drawn down during the year. Hard wheats constituted an unusually small fraction of international shipments. Canada shipped sparingly, Russia almost none, and Hungary little, while the United States—formerly an exporter of hard wheats—was a net importer. Much of the Argentine exports to Europe, however, consisted of harder wheats than have been common in past years, and these were liked by European millers.⁵

In the United States crop of 1934 (Table VI), durum wheat was most conspicuously short. As compared with a crop of 98 million bushels in 1928 and an average of 55 million in 1928–32, the 1934 outturn is estimated at only 7 million bushels. Moreover, this followed a small crop of durum from which only a small carryover remained (Table XV). In consequence, durum prices rose to a level which induced the import of some 6 million bushels paying a 42-cent duty.⁶ The crop of hard red spring was also the shortest in many

years.¹ Now estimated at 54 million bushels, it compares with the recent low of 70 million in 1931, a high of 202 million in 1928, and a 1928-32 average of 154 million. The crop of hard red winter, though slightly larger than in 1933, was little more than half the average for the preceding five years. The crop of white wheat, largely grown in the Pacific Northwest, was the smallest in several years but nearly 80 per cent of the 1928-32 average. The crop of soft red winter was only slightly below its average for the same period, which was raised by the huge crop of 1931.

Partly because of generally dry weather when the 1934 wheat crops were maturing and being harvested, they were of unusually high quality almost everywhere. Though specific data on quality are limited, this is reflected in almost all available evidence on test weight per measured bushel, grades, protein analysis, and flour yield per bushel. A few examples will suffice.

In the United States all of the five types of wheat were of exceptionally high quality in practically all respects, as the small 1933 crops of hard red winter and hard red spring had also been.² The average protein content of hard red spring-wheat inspections in Canada (samples of No. 3 Northern and better) was 14.1 per cent, the best of the six years for which official tests have been made (Table IX); and that of amber durum was also fairly

high. In the Danube basin the quality of the crop was reported generally good. The German crop of 1934 was of unusually high gluten content.³ In France official analyses showed the highest test weight per bushel in several years, and the crops of northern Africa were reported excellent in quality as well as quantity.⁴

For a few countries some qualifications must be made. In Canada, some 75 per cent of the hard red spring wheat inspected graded No. 1 Hard to No. 3 Northern. Though very good, this percentage was not so high as in four of the five preceding years. There was a considerable proportion of low-grade wheat, though this was by no means as large as in 1928 and several earlier years. Grades 4 and 5 accounted for 12 per cent, considerably more than usual, and 2.4 per cent was classed as No. 6 or feed wheat. In addition, some 10 per cent was classed as "tough" or "damp" because of excessive moisture for straight grades (Table IX). A good deal of the Argentine crop was of poor quality. In Australia, f.a.q. standards for the different states were rather below than above average, in Victoria owing to injury from late rains. In Italy, test weights were reported to run from 77 to 78 kilos per hectoliter as compared with 80 for the excellent crop of 1933.

FACTORS AFFECTING SIZE OF CROPS

Economic forces, government measures (in net effect), and adverse weather combined to reduce wheat acreage ex-Russia for the 1934 harvests. Among these, drought was of paramount importance, most notably in North America. Drought was also primarily responsible for low yields where they occurred, and favorable weather for high yields where such were obtained.

Broadly speaking, wheat prices were very low during the season for planning and planting wheat for the 1934 crop—not so far below previous levels as to bring about much further contraction of acreage, but only in rare instances such as to stimulate acreage expansion. Even in several European importing countries which have held prices of domestic wheat far above those in exporting countries, prices were lower in 1933-34 than

¹ Comparable data extend back only to 1923. The total spring-wheat crop (91 million bushels) fell below that of 1931 (114 million), which until 1934 was the smallest since separate estimates have been made (1909).

² See U.S. Bureau of Agricultural Economics (Grain Division), *Summary Report [on] Quality of the 1934 Crops [of] Wheat, Barley, Oats, and Rye . . .*, Nov. 21, 1934. Official data are not available to continue Table XI of *WHEAT STUDIES*, December 1933, X, 126.

³ Pelshenke's investigations of samples from four recent crops (as reported by J. H. Shollenberger in *Foreign Crops and Markets*, Sept. 23, 1935, pp. 430-31) showed the following percentage distribution, in terms of protein content on a 13.5 per cent moisture basis:

Crop	Over 11.2 per cent	11.2-10.4 per cent	10.3-8.6 per cent	Under 8.6 per cent
1931.....	13.3	22.2	58.6	6.1
1932.....	8.4	15.7	55.5	20.4
1933.....	24.4	21.9	44.0	9.0
1934.....	46.1	14.4	32.2	7.3

⁴ *World Wheat Prospects*, Aug. 29, 1934, pp. 3, 14.

in several preceding years.¹ In the United States, mainly because of short crops in 1933, the devaluation of gold, and unusually effective tariff protection, wheat prices were much above earlier low levels, but they were still regarded as unremunerative to most growers. In Canada there was some shift from wheat to coarse grains on the basis of relative prices. In Argentina linseed prices were relatively attractive, leading to temporary shifts from wheat to flax.² In Australia, where wheat growing and sheep raising are not merely complementary but competitive, wool prices were so sharply higher in 1933-34 as to stimulate wheat farmers to expand sheep at the expense of wheat.³ In Japan, prices of wheat were relatively better than those of rice and the barleys.⁴ Altogether, these and other economic influences alone would have made for little aggregate change in wheat acreage sown; increases in the United States might have offset reductions elsewhere.

Government influences on wheat acreage were divergent. In some countries, persistence in established policies tended to stimulate expansion. In a few others, more or less

effective efforts were made to reduce acreage sown.

In the United States, the first year's wheat program of the Agricultural Adjustment Administration called for a 15 per cent reduction from the average sown for 1930-32. The net reduction in sown acreage was under 8.5 per cent, and that attributable to the program not much over 5 per cent. Though over 75 per cent of the base acreage was reported "signed up," compliance was not perfect. Contraction by signers was partly offset by expansion of others, since contracts were signed by nearly all who intended in any case to reduce, while many who preferred to maintain or expand their wheat acreage did not sign.⁵ If, however, the drought had not supervened to reduce acreage for harvest, the AAA would have brought about more reduction than it can properly take credit for.

Under the International Wheat Agreement, the three other major exporting countries appeared to have agreed to reduce their sown acreage for 1934 by 15 per cent from the average for 1931-33; but none took steps to force so substantial a cut, and in Australia, where alone the outcome practically fulfilled the pledge, economic forces rather than government measures were primarily responsible.⁶ The similar pledges of the Danube exporting countries and signatory importing countries⁷ not to increase their wheat acreage were responsible for few if any active changes in governmental policy.⁸

The wheat acreage reported for the Danube basin countries was nearly 5 per cent below that of 1933 (Tables I, III). In Italy, Germany, France, Spain, and Sweden, which together have about four-fifths of the wheat acreage of importing Europe, there was a net reduction from 1933 aggregating about 2.2 per cent. For the most part these reductions, which totaled about 1.0 million acres, were due to adverse weather for fall sowing⁹ together with some winterkilling. All of the other seven European signatory countries reported increases in acreage, to the highest level since the war; and their aggregate expansion of .7 million acres represented a 6 per cent increase over 1933.

Among countries that did not sign the

¹ See data for a few countries in Table XXXIV, in terms of pre-devaluation gold cents per bushel.

² Latest data indicate that the Argentine area sown to wheat for the 1934 crop was reduced (by less than the linseed area was increased) to about 93 per cent of the average area sown in 1928-32. The average for 1931-33 (used under the International Wheat Agreement) was particularly low for Argentina because adverse weather reduced sowings in 1931. From this average the reduction in 1934 was very slight, according to revised figures shown in Table VII.

³ Average prices of wool, in pence per pound, are summarized for recent seasons in the official *Production Bulletin No. 28*, September 1935, p. 35:

Year	Greasy, total	Greasy merino	Year	Greasy, total	Greasy merino
1927-28	19.50	19.50	1931-32	8.46	8.30
1928-29	16.44	16.50	1932-33	8.72	8.50
1929-30	10.29	10.50	1933-34	15.84	15.80
1930-31	8.36	8.70	1934-35	9.75	9.70

⁴ See C. L. Alsberg, "Japanese Self-Sufficiency in Wheat," *WHEAT STUDIES*, November 1935, XII, 91.

⁵ See J. S. Davis, *Wheat and the AAA* (Washington, D.C., 1935), pp. 96-104, 129-34, 347-53.

⁶ *Ibid.*, chap. x, especially pp. 334-40.

⁷ Some commitments were qualified by unpublished reservations.

⁸ Davis, *op. cit.*, pp. 317-18, 322-23.

⁹ See International Institute of Agriculture, *Monthly Crop Report* . . . , December 1934, XXV, 930.

agreement—most of them minor wheat producers—acreage expansion was the rule, under more or less continued government stimulus. Indeed, unwillingness to change policies already in operation was doubtless a potent reason for not signing, even on the part of such co-operative nations as the Netherlands, Denmark, Norway, and Finland. The largest increase was in India, where the wheat area increased from 33 million acres to 36 million, a high record (Table I). In the aggregate, some 13 other non-signatory countries increased their wheat area between 1933 and 1934 by .65 million acres, or 7 per cent. Far higher percentage increases occurred in the Irish Free State, Norway, Switzerland, and the Union of South Africa.

Under agrarian pressure to protect wheat growers from depressed prices, financial pressure to curtail imports, and a variety of arguments for increased self-sufficiency in wheat, the smaller wheat-importing nations have, like the larger ones, expanded their wheat acreage and production greatly since 1929. This movement has extended to South America, South Africa, and the Orient. The Japanese Imperial Government adopted in 1931 a "five-year wheat plan" under which, supported by economic influences, the wheat area rose between 1931 and 1935 by .4 million acres, or over 30 per cent.¹

Weather conditions accounted for minor changes in wheat acreage in several countries. In some, more favorable weather made for increase in sowings as compared with 1933. This was true, for example, of United States winter wheat, and it may have been a factor in numerous countries where acreage was increased. To a greater degree adverse weather curtailed sowings, as it did in France, Germany, and Italy, the Danube basin (where a late corn harvest in 1933 was also a factor), even more in the North American spring-wheat belt, and to some extent in Australia, Argentina, and elsewhere.²

In the world acreage totals, and particularly in the United States, abandonment of sown acreage was still more important. Largely because of adverse weather in the fall and winter, 21 per cent of the winter-wheat acreage was abandoned or not harvested for

grain;³ this was much above average though less extreme than in 1933, when 33 per cent was abandoned (Table VII). Contrary to all precedent, the spring drought caused about half of the spring-sown acreage to be abandoned, and the loss of acreage was greater in spring wheat than in winter wheat. If similar data were available for the Canadian spring-wheat belt and the Danube basin, abnormal abandonment would be shown there as well.⁴ Abandonment of winter- and spring-wheat acreage in the United States alone amounted to 18 million acres as compared with an average of 7 million in the three years 1930-32; the difference alone accounts for over two-thirds of the net decrease in world wheat acreage from the 1930-32 average to 1934.

Drought also was the major factor responsible for very low yields per harvested acre in the United States and per sown (or harvested) acre in Canada,⁵ as in 1933; for yields well

¹ Alsberg, *op. cit.*, pp. 57-100.

² Davis, *op. cit.*, pp. 111-14, 130, 349, 351.

³ Some fall-sown acreage was cut for hay by contract signers in order to comply with terms of their "adjustment contracts."

⁴ For Canada, official data on spring-wheat acreage refer only to sown acreage (Tables I, III). In France and Germany, winterkilling was reported larger than usual—in Germany nearly 6 per cent.

⁵ The official summary of the development of the crop is given thus in the *Monthly Review of the Wheat Situation*, Sept. 22, 1934, pp. 26-27:

"The Prairie Provinces experienced a very unfavourable growing season with large areas affected by drought, soil drifting, extreme heat, pests, hail and frost. The most adverse conditions were experienced in the southern and central areas of the three provinces while northern districts again received adequate rainfall. The season commenced with extremely dry weather during the month of May, resulting in soil drifting, especially in southern areas. In many cases growth did not commence until the early part of June. In June timely rains were received and crops throughout western Canada responded to improved conditions with a marked recovery throughout the drought area. The rains also assisted in checking the damage of grasshoppers. In July drought conditions returned and moisture reserves were insufficient to carry the crop through the hot dry weather experienced during the latter part of July and the early part of August. . . . During the latter part of August damaging frosts were received in northern Saskatchewan and Alberta. These frosts lowered both yields and grades and were particularly damaging to late crops."

In Saskatchewan, where the damage was greatest, the yield per sown acre was 8.6 bushels, little over half of the long-time average.

below average in the Danube basin, India,¹ and Australia (Tables I, IV); and for reduced yields in Germany, Italy, and Czechoslovakia. Of the major exporting countries, Argentina alone had a yield above average; and among the usual exporting countries only the French dependencies in northern Africa, which harvest early, had record yields.

In most of the more humid countries of importing Europe, where excess of moisture is more to be feared than deficiency, yields generally averaged high (Table IV) in spite of damage done (especially in Germany) by rainfall deficiencies in the spring months. In the drier Iberian peninsula also, as in Morocco, Algeria, and Tunis, excellent yields were the rule. Record yields were secured in the United Kingdom, Portugal, Sweden, and two of the Baltic states. The same was apparently true in Japan and South Africa. Among

¹ Since reduced yields were offset by increased acreage, India's wheat crop was about the same in 1934 as in 1933 or the 1929-33 average (Table I), and far above poor crops such as those of 1919, 1921, and 1928.

² Official estimates are given thus under "Latest News" in the International Institute of Agriculture, *Monthly Crop Report* , August 1935, XXVI, 641:

Year	Wheat	Rye	Two bread grains	Barley	Oats	Malze	Total
PRODUCTION (million units of 60 lbs.)							
1928-32 av...	798	788	1,586	219	522	126	2,453
1933.....	1,019	889	1,908	288	566	176	2,938
1934.....	1,117	740	1,857	251	694	141	2,943
AREA (million acres)							
1928-32 av...	80.35	65.37	145.72	18.04	42.96	9.62	216.3
1933.....	82.14	62.72	144.86	17.93	41.22	9.78	213.8
1934.....	87.10	59.37	146.47	20.96	44.51	9.09	221.0

³ See various numbers of *World Wheat Prospects*, issued monthly by the U.S. Department of Agriculture, especially that for Nov. 24, 1934. In its monthly review for March 1935, the International Institute of Agriculture reported that the Secretary of the Wheat Advisory Committee (Andrew Cairns) figured on a crop of 775 million bushels as compared with the 1928-32 average of 797 million.

⁴ Close observers consider that the official allowance for heavy harvesting losses suffered in 1933 was much too low, and that the wheat actually garnered was 10 to 20 per cent below the official estimate of 1,019 million bushels. See *World Wheat Prospects*, Nov. 24, 1934, p. 5.

⁵ On Jan. 1, 1935, bread rationing was abolished, and increases in wages were made to all low-paid workers with a view to compensating them for paying going prices for bread. See article by L. Volin, in *Foreign Crops and Markets*, Jan. 28, 1935, pp. 77-81.

net-importing countries, only Belgium, Czechoslovakia, and Italy reported yields below the 10-year average 1924-33, and at least one of these seems to be below the truth (see p. 129).

RUSSIA'S CROP AND EXPORTS

Early in the spring of 1934 indications pointed to a big wheat crop in the USSR: the sown acreage was large; a relatively large proportion was sown to winter wheat, which usually yields better than spring; fall plowing for spring seeding was larger than usual; and spring wheat was sown relatively early. However, as in the United States, winterkilling and severe drought caused heavy abandonment of fall-sown acreage, and persistent drought reduced yields per acre on what remained. In the summer and autumn of 1934, Soviet officials considered the total grain crop equal to that of 1933, as official estimates now show it.² Foreign observers, however, generally believed that the wheat crop would prove much smaller than that of 1933,³ which standing official estimates count slightly larger than the bumper crop of 1930.⁴

No official estimate of the 1934 crop was published until July 1935; at the surprising figure of 1,117 million bushels, it exceeded that for 1930 by 128 million and that for 1933 by nearly 100 million (Table I). Poor crops in 1931 and 1932 had forced severe restraints on wheat consumption and brought carry-overs down to minimum levels. Two big wheat crops in succession could be expected not only to relieve the internal shortage and permit reconstitution of reserve stocks, but to make possible liberal exports as well. Early in the season it was clear, however, that, while timely rains had greatly aided spring-sown crops, prolonged drought had played havoc with the important winter-wheat crops in the Ukraine and North Caucasus, from which wheat flows most readily into export through the Black Sea. Under the circumstances, with export prices still very low, the policy was to restrict exports to negligible amounts, to take steps to facilitate increased domestic consumption by the increasing population, and to build up large reserves.⁵

In the ten years ending July 1935, Russian wheat exports averaged only 31 million bush-

els a year, net, out of crops officially estimated to average 858 million (Tables I, XXII). Nearly 60 per cent of the net exports of this decade were made in two years following the bumper harvest of 1930, when wheat consumption was drastically restricted in order to obtain much-needed foreign exchange from grain export sales. In striking contrast with net exports of 179 million in those two years are net exports of only 36 million in the past two crop years combined. Even more striking is the contrast between 114 million bushels in 1930-31, after one big crop, and less than 2 million bushels in 1934-35, following two crops even larger.¹

OTHER GRAINS, HAY, AND POTATOES

An outstanding feature of the crop year 1934-35 was the drastic effect of severe drought upon United States crops of other grains and hay as well as wheat. Total grain production in 1934 was only about 42 per cent of the 1924-29 average, and hay production less than two-thirds of the corresponding average. Crops of rye, barley, oats, and corn were the smallest in several decades, as shown by comparative data in million bushels:

Period	Rye	Barley	Oats	Corn ^a
1909-13 av.	33.8	163	1,080	2,632
1928-32 av.	38.7	283	1,218	2,562
1933	21.2	156	732	2,352
1934	16.0	118	526	1,377
Lowest since	(1870)	(1900)	(1881)	(1881)

^a Grain equivalent on entire acreage. Data on amounts harvested as grain go back only to 1919.

The combined production of corn, barley, oats, and grain sorghums is estimated by the Department of Agriculture at 50.8 million short tons, only about half of the average of 100.6 million in 1928-32. The official index of crop production (based on production of seven grains, tame hay, cotton, tobacco, and white and sweet potatoes) was the lowest since 1890 and only two-thirds of the average for 1909-13; in per capita terms it was the lowest on record (1866-1934).²

So extreme a feed shortage presented a serious national problem.³ It entailed drastic slaughter of livestock for lack of feed, including 8.3 million head of cattle purchased

through the Agricultural Adjustment Administration and the Federal Surplus Relief Corporation.⁴ It led also to imports of feed grains which, though very small in relation to the feed shortage, were large in comparison with any in recent years and turned former export balances into net import balances.⁵

In Europe ex-Russia the 1934 crops of bread grains, feed grains, and potatoes, considered as a whole, turned out better than was expected and proved of good size though smaller than in 1933 (Table V). In total, the *rye* crop, which is important for both food and feed, was a little below average instead of large as in 1933 or short as in 1931. Only in the Danube basin was the crop relatively small. The Baltic states had the largest rye crops since the war, and Scandinavia the largest since 1926, before Sweden shifted so heavily from rye to wheat. The European *barley* crop was somewhat farther below recent averages, but larger than in 1931 or crops prior to 1928. The reduction from 1933 or the average was most pronounced in the Danube basin, where the crop was the smallest in more than a decade. European production of *oats* was the smallest since 1924, but still only about 10 per cent below the average for 1929-33. The reduction was relatively greatest in Germany and France. Production of *maize*, which is a food crop as well as a feed crop in Italy and the Danube basin, was large—much larger than in 1933. Production of *potatoes*, which

¹ Gross exports, three-fourths of which were shipped in August-November 1934, were 4.1 million bushels; imports exceeded exports in August 1934 and April 1935 (Table XXVII).

² See chart in Davis, *op. cit.*, p. 112. The revised figure for 1934 differs slightly from that shown on the chart.

³ Late in 1934 the Bureau of Agricultural Economics issued an extensive analysis of the situation created by the drought.

⁴ See D. A. FitzGerald, *Livestock under the AAA* (Washington, D.C., 1935), chap. x.

⁵ The following illustrative data from *Agriculture Yearbook, 1935*, and *Foreign Crops and Markets* on net exports (with net imports shown in parentheses) are in thousand bushels, including products in terms of grain:

July-June	Corn	Barley	Oats
1924-29 av.	20,796	35,595	19,763
1929-34 av.	5,649	9,510	4,216
1933-34	4,721	1,552	1,251
1934-35	(18,103)	(14,107)	(14,499)

are a feed crop as well as a food crop in several countries, was even larger than the previous record crop of 1932.

Since Europe is a net importer of feed grains, their international position had some bearing on the world wheat situation. During most of the crop year 1934-35 this position was relatively tight, chiefly for three reasons: the United States was a net importer, instead of a net exporter; the Danube basin had poor

crops of the small grains; and Argentina, the outstanding maize exporter, had harvested in April-May 1934 a very small crop of that grain which followed one not much larger. At higher prices for feed grains, less moved in international trade (roughly reflected in Table XX). The position was materially eased when Argentina harvested in 1935 what proved to be a bumper crop of maize (Table V).

II. MARKETING AND VISIBLE STOCKS

GOVERNMENT MEASURES

The year 1934-35 witnessed few relaxations of government controls affecting marketing and disposition of domestic wheats. Instead, most of the changes in national policy and programs, particularly in continental European countries, involved extension or tightening of such controls.

A German law of June 27, 1934, effective July 1, gave the Minister of Agriculture complete control over sale, handling, and processing of grain. The Reich Grain Office was given authority to decide how and to what extent producers of wheat and rye for food may or must sell, at fixed prices; to issue regulations to dealers in wheat and rye; and to instruct processors how much they may purchase and sell within stated periods, what rates of extraction they shall employ, and what minimum stocks they must hold. These powers were extensively used. The newly created Czechoslovakian Cereal Company was given a monopoly of the grain trade of that country, from July 1, 1934. In Spain, under a decree of the same date, the wheat trade was put under control of local (communal) wheat-trading commissions (*juntas de contratación de trigo*), each consisting of the head of the municipal government (*alcalde*) or one of his councilors, one member elected by local wheat growers, and a third by local millers and wheat buyers. A high degree of regulation was continued in various other countries—through state agencies in the Irish Free State, France, her dependencies in northern Africa, the Netherlands, Italy, and several of the Baltic and Danube states.

In Czechoslovakia the new state monopoly undertook to buy all wheat and rye at specified prices. In Norway, Sweden, Switzerland, and Greece state agencies offered such high prices (fixed for June and July in Sweden) that they got practically all the farmers' wheat. In Germany, Spain, and Italy, and France in the early part of the crop year, prices on a rising scale were fixed for purchase through the private trade, which in Germany was subject to thoroughgoing control. In Poland, some of the Baltic states, Italy, and Rumania state agencies bought up supplies with a view to regulating the flow of grain and supporting prices, subsequently disposing of some of their holdings for export. Loans designed to facilitate holding by growers were offered in Poland, Spain, Italy, and Japan. In France some 22 million bushels was purchased for a "security stock."

In order to force domestic wheat through the mills, several countries required, as in previous years, that mills use not less than stated percentages of domestic wheat in their grist. In France this was 100 per cent for bread flour (counting wheat from northern Africa as domestic). In Sweden during most of the year it was 90 per cent for mills in the compulsory cartel, 100 per cent for others. In Italy also it was very high. In the Netherlands it was 45 per cent, having been raised over the past few years as domestic crops have increased. In the Irish Free State it was eventually fixed at 10¾ per cent. To get wheat used up, France fixed a low maximum rate of extraction (65 per cent). To dispose of government-controlled stocks of old wheat, France and Italy required mills to include in

their grist, while these stocks lasted, certain minimum percentages of such carryover grain, purchased at fixed prices.

As the foregoing examples inadequately suggest, not only international trade but internal trade in wheat and flour was subject in Europe, in 1934-35, to more extensive national control than since war-time controls were liquidated.

RATE OF MARKETING

Marketings in the United States were unusually early in 1934-35, in proportion to the total for the season. Official data indicate that wheat farmers marketed at country points 42 per cent of the season's total marketings in June-July (Table X). July-June receipts at thirteen primary markets east of the Rockies totaled 160 million bushels; nearly 50 million bushels of this were received in July 1934. This was much larger than in July 1933, but in later months of 1934-35 receipts fell below corresponding figures for 1933-34. These peculiarities were due in part to the unusual crop distribution, with very short crops of spring wheats. Hard winter wheats, however, were harvested early and were shipped promptly in response to good milling demand.

In Canada also farmers marketed more heavily than usual in the early part of the season, considering the small size of the crop. Receipts at country elevators and platform loadings in August-October 1934 exceeded those of 1933 by 10 million bushels, and represented nearly two-thirds of the season's total as compared with 55 per cent in 1933 (Table X). In both countries reported marketings represented an unusually small percentage of the amount of the crop or the quantities estimated as "sold or for sale."

Australian farmers, who had held persistently in the early months of 1934, sold more freely in the second half of the year, and returned to their holding tactics only in June-July 1935.

In the United Kingdom more wheat was marketed than in any year except 1918-19 for decades. The crop was the largest since 1921 and, like that crop, of high quality. Moreover, the wheat policy inaugurated in

1932 impels farmers to *sell* all except their "tail corn" even if they need wheat for feed, for the subsidy is paid in proportion to certified sales of millable wheat.¹ In 1934-35 such sales represented 96 per cent of the estimated crop. Much of this, of course, was bought by wheat farmers for seed or poultry feed and by other farmers for the latter use; and other large amounts were ground by "provender millers" into meal for feed on farms and elsewhere.

In Germany the new grain-control agency assigned quotas to farmers to insure minimum deliveries in the different parts of the crop year. In Bulgaria growers were required to deliver to the monopoly all but specifically exempted quantities. In various other continental countries, including Poland, Italy, and Spain, efforts were made to induce farmers to hold back their wheat through making loans on it as collateral.

VISIBLE SUPPLIES

Stocks of wheat statistically reported in trade channels, commonly termed "world visible" supplies, had risen in successive years from a low level in 1925-26 to a record level in 1931-32,² and subsequently receded as the huge stocks in United States terminals were drawn down (Chart 5). As this shrinkage continued in 1934-35, world visibles fell to lower levels than in any year since 1928-29. Primarily because of huge Canadian stocks, however, total visibles remained far above "normal" levels such as are roughly reflected in averages for 1925-26 to 1927-28.

After two very short crops in succession, commercial stocks of United States wheat fell in April-July 1935 slightly below the corresponding averages for the three pre-depression years just mentioned. Though Canada's crops too were small in 1933 and 1934, stocks of Canadian grain in North America fluctuated in 1934-35 on a level generally higher than ever before, far above that of 1931-32 and much farther above the 3-year average

¹ See below, p. 155. Thus the wheat policy has increased the business of the "inland corn trade."

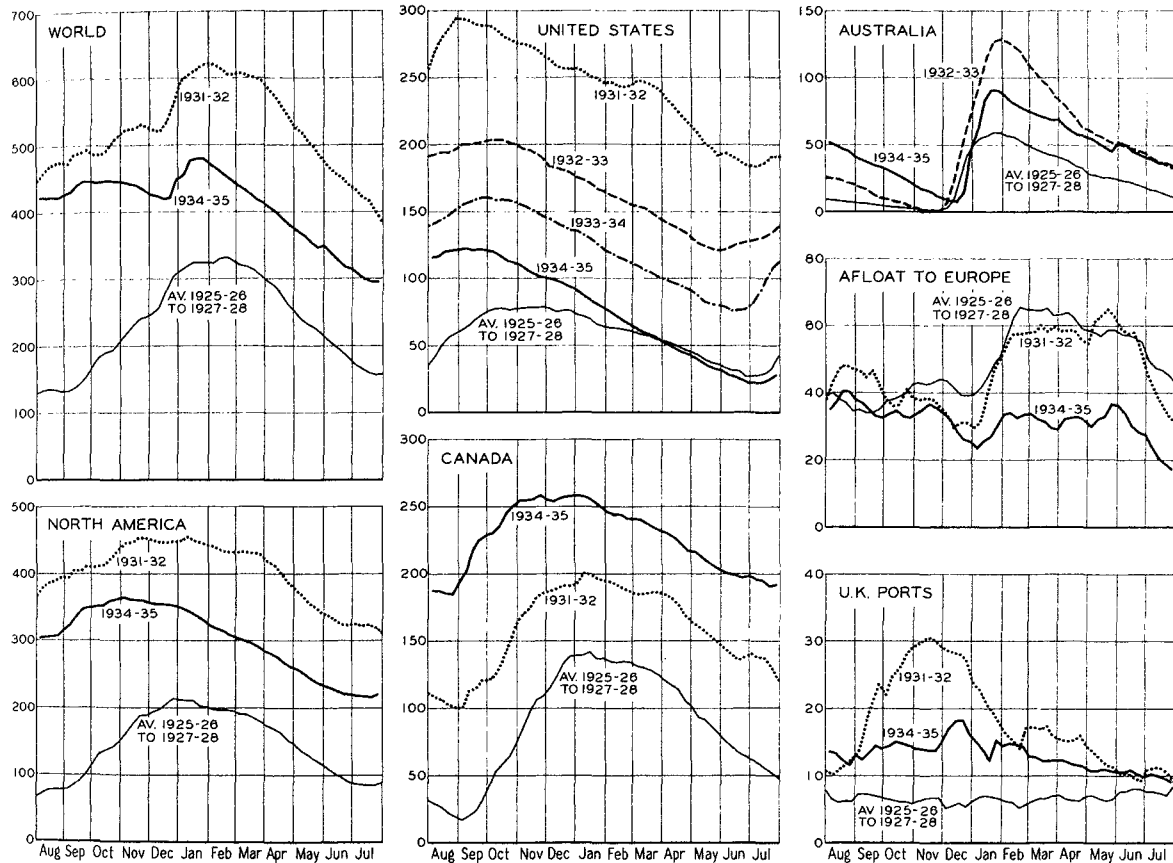
² See charts in our previous crop year "Reviews," especially December 1931, VIII, 141, and December 1932, IX, 73.

mentioned above. This was an unwelcome consequence of the price-supporting policy.

Australian visibles—which, like Canadian, include wheat at country stations—were well above former averages through most of the year. Because of Australia's small crop of 1934, they were lower at their peak than

ever, these visibles ran high throughout the calendar year 1934 and were at record levels through January 1935 (Table XI). The high level inadequately reflected the backing up of wheat, followed by gradual disposition of stocks, under the influence of the Argentine Grain Board's stabilization activities in the

CHART 5.—WHEAT VISIBLE SUPPLIES, WEEKLY, 1934-35, WITH COMPARISONS*
(Million bushels)



* Weekly data for the series summarized monthly in Table XI.

in any of the three preceding years; but they were relatively high in the early months of the crop year as a result of retarded selling by Australian farmers from the preceding crop, and again in June-July 1935 for much the same reason.

Argentine visibles always constitute a minor fraction of the world total since they include only wheat at terminals, where storage space is limited.¹ In comparison with data for corresponding weeks in earlier years, how-

1933 crop (see p. 155). The lowness of the peak in April 1935 was mainly incidental to the unchecked flow of exports from the moderate crop of 1934.

Stocks of wheat afloat to Europe fluctuated on a low level throughout 1934-35, for several reasons. Much as in the preceding year, the volume of international trade was very small; shipments on consignment were smaller than

¹ The record peak, in early May 1934, was little over 22 million bushels.

in several recent years; stocks of domestic wheat were generally abundant in Europe; and restrictions on imports and milling continued generally such as to render difficult, and/or to increase the risks of, laying in stocks of import wheat at low prices. In contrast with the preceding year, when crop scares had led to increased purchases in May-July 1934, fears of shortage in 1935-36 did not become important market factors until after mid-July 1935. So extreme was the decline in shipments to Europe in July (see p. 122) that stocks afloat to Europe fell to an extraordinarily low point—less than 17 million bushels—at the end of the crop year.¹

Stocks in British ports, on the contrary, were well maintained through the year, although far below the record level of 1931-32 (when Russian wheat accumulated there), and not so high as in 1933-34. In 1934-35 little wheat was shipped to the United Kingdom unsold; but with import wheat readily available at low prices in terms of sterling, British stocks were kept well above the pre-depression average and, till late in the crop year, above that of 1932-33 as well. These stocks too, however, reached their lowest point of the crop year at the end of July 1935.

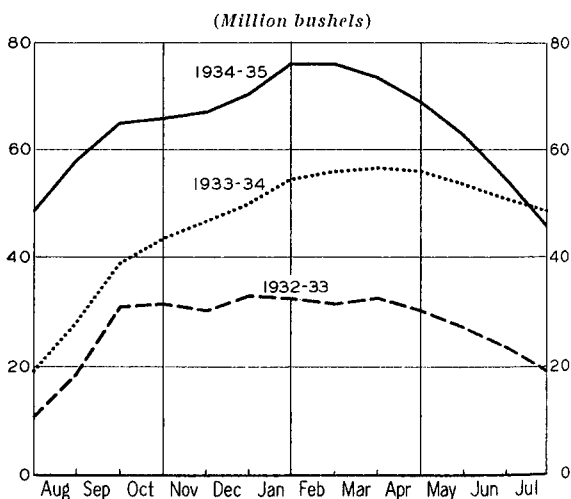
The course of world visible supplies was peculiar in three particulars (Chart 5). First, the total rose but little—net, practically not at all—between early August and mid-December, when ordinarily the greatest rise occurs. For this peculiarity the unusually slight increase and subsequent net recession of United States visibles were mainly responsible; these in turn were the result of light marketings from a short crop moving rapidly into consumption, combined with current drafts on terminal stocks. In addition, Canadian visibles rose much less than usual, chiefly because the crop was small; Australian and Argentine visibles declined much more than usual in this period, in consequence of liberal shipments from large supplies remaining from the 1933 crops; and

stocks afloat to Europe, which tend to rise at this season, declined instead as Canada exported at only a moderate rate while other exports from the Northern Hemisphere were very small.

Second, the characteristic midwinter peak in world visibles was much less than usual above the preceding midsummer low. Under the influence of factors already noted, stocks in Canada and afloat to Europe increased but little and soon declined; stocks in the United States and in British ports diminished; and Australian and Argentine visibles rose less strikingly and began to decline earlier than usual.

Third, the year's peak in world visibles was reached some weeks earlier than usual. This was chiefly because North American visibles persistently declined after early November while Australian and Argentine wheat, from crops of small and moderate size respectively, moved rather freely into export until June.

CHART 6.—STOCKS OF WHEAT AND FLOUR IN COMMERCIAL ELEVATORS AND MILLS IN GERMANY, MONTHLY FROM JULY 31, 1932*



* Official data as reported in International Institute of Agriculture, *Monthly Crop Report and Agricultural Statistics*.

Two other series of data on visible supplies, which are not included in our totals because they are available for only a limited period, deserve brief comment. Stocks of import wheat in Antwerp, Rotterdam, and other continental European ports were of good size in

¹ Weekly data since the war show a previous post-war record low of 20 million bushels, reported for Dec. 23, 1933; and 31.4 million, reported for July 30, 1932, as the previous low for a weekly date nearest Aug. 1.

October–March, but fell rapidly in the spring to an unusually low level in August 1935.¹ In Germany, largely because of official pressure, wheat and flour stocks in commercial channels were unusually heavy throughout the crop year, as shown by Chart 6; but they declined rapidly in the spring, eventually below the high figure for July 31, 1934.² Stocks of

domestic wheat were unquestionably heavy throughout the year in France, northern Africa, Spain, Portugal, Sweden, and several other countries, all of which faced problems of surplus disposal. These facts largely explain why, toward the end of the crop year, stocks afloat to Europe were allowed to run and fall so low.

III. INTERNATIONAL TRADE

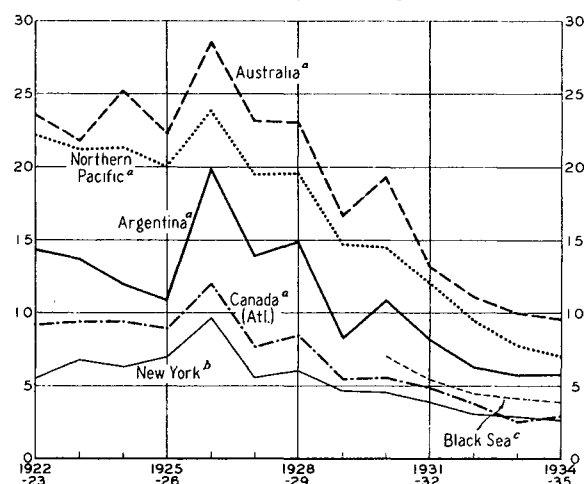
International trade in wheat and flour in 1934–35 continued profoundly under the influence of national measures. Nowadays, one can use the phrase “world wheat market” only in a limited sense, very different from that which was appropriate in pre-war and pre-depression years. Import barriers, with tariffs outstripped in importance by milling regulations, import quotas or monopolies, and exchange controls, have never been more general or more restrictive in time of peace.³ If these seemed to impose less *immediate* limitation on wheat imports than in some previous years, this was only because, under their persisting influence, domestic production and carryovers in various countries had so increased that big supplies of native wheat effectually served as barriers to imports.

Moreover, refunds of import duties and direct subsidies on exports affected an even larger volume of shipments than in 1933–34, with France replacing the United States in the leading rôle. Exports under special intergovernmental arrangements, and generally handled through official control agencies, increased in number if not in volume affected. The Argentine Grain Regulating Board exerted little influence as compared with its major rôle in the first half of 1934. On the other hand, government-financed holding in Canada had a powerful influence on the volume, distribution, and course of shipments;

and toward the close of the crop year, wheat prices and international movements were further affected by trade expectations that this holding policy would shortly be reversed.

Ocean freight rates on wheat continued at about the lowest levels ever known. In terms of gold (Chart 7), average rates for the year

CHART 7.—OCEAN FREIGHT RATES ON WHEAT TO EUROPE, ANNUAL AVERAGES FROM 1922–23*
(U.S. pre-devaluation gold cents per bushel)



* See table in WHEAT STUDIES, December 1934, XI, 188. Table XXVI, below, gives data for the past ten crop years in *current cents*. Peaks in 1926–27 were due to the British strike; see *ibid.*, January 1927, III, 152–156, and November 1927, IV, 16–18.

^a To United Kingdom.

^b To Liverpool.

^c To Antwerp and Hamburg.

were generally lower than even in 1933–34, the chief exception being on the route from Canadian Atlantic ports to the United Kingdom. The factors chiefly responsible for the decline to low levels are: the plethora of ocean shipping even before the depression; declining costs of shipbuilding and operation; the diminished volume of international trade

¹ See below, p. 142, footnote 2.

² Data on Italian stocks have been reported monthly only from July 31, 1934. See International Institute of Agriculture, *Monthly Crop Report* . . . , March 1935, XXVI, 240, and later issues.

³ In view of the space devoted to this topic in earlier issues of our “Reviews” and “Surveys,” we make no attempt here to go into all the complex details of changes in policy or procedure in 1934–35.

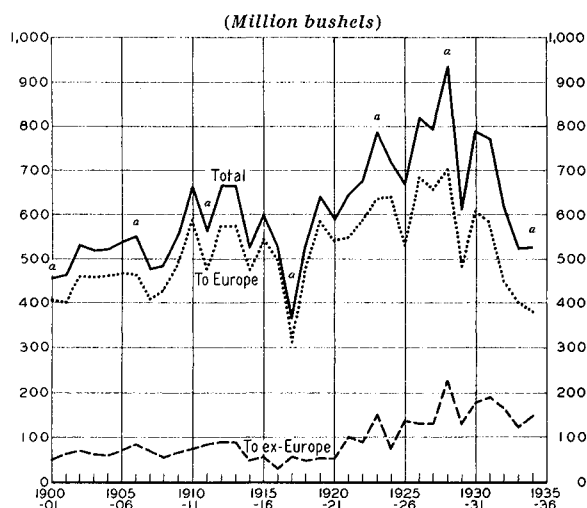
during the depression; and the very light international movement of wheat in the past two years. In comparison with pre-war rates or pre-depression levels, the most striking declines are shown in rates on the longest routes, from Australia, Argentina, and North Pacific ports to Europe; from Australia and Argentina to the Orient similar declines were important. Corresponding figures expressed in current United States cents (Table XXVI) are higher for the past three crop years, but this is largely a reflection of the depreciation of the dollar.

VOLUME AND COURSE OF TRADE

In total, the international movement of wheat and flour in 1934-35 fell below all forecasts. In terms of net exports of net-exporting countries, it was the smallest since the war. Except for the war year 1917-18, shipments to Europe in 1934-35 were the smallest in the present century. Aggregate net exports of flour were the smallest since 1920-21.

In general.—In gross volume, international trade in wheat and flour in 1934-35 was ap-

CHART 8.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, FROM 1900-01*



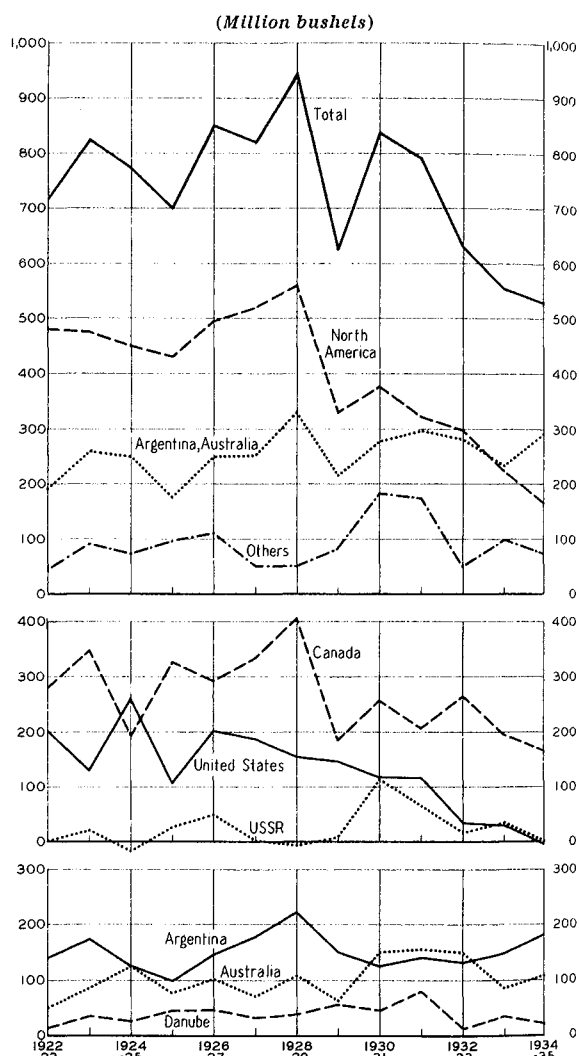
* Data from Broomhall's *Corn Trade Year Books*, and *Corn Trade News*. See Table XX.

^a For 53 weeks.

proximately at the low level reached in 1933-34, with reduced shipments to Europe more than offset by an increase to ex-Europe. Broomhall's data shown in Chart 8, however,

are not closely comparable in the two years. The latest total is for 53 weeks instead of the usual 52; and it includes a considerable part of the shipments to the United States, which

CHART 9.—NET EXPORTS OF WHEAT AND FLOUR BY EXPORT AREAS, FROM 1922-23*



* See Table XXI.

Broomhall has hitherto ignored. In other respects his series is more comprehensive in recent years than in earlier ones; hence fully comparable data would show 1934-35 relatively lower than it appears.

Net exports of net-exporting countries, a better index of the volume of trade, were about 532 million bushels in 1934-35, as com-

pared with 553 million in the preceding year and a peak of about 950 million in 1928-29 (Chart 9). Average figures for comparison are (a) 800 million bushels for the nine years ending with 1931-32, and (b) about 675 million bushels for the five years before the war.

Canada's exports constituted a smaller fraction of the total trade than usual, and a smaller fraction of her exportable supplies than ever before. Argentina exported more than Canada, and a larger part of the total (34 per cent) than in any previous year. The United States was a net importer for the first year in almost a century. Net exports from North America (160 million bushels) fell strikingly below those of Argentina and Australia (290 million), by a far larger margin than in 1933-34. Net exports from the Danube basin were smaller than in any recent year except 1932-33, and those from Russia and India were negligible. But the French dependencies in northern Africa exported a record volume, and no less than ten European countries were net exporters in 1934-35.

The decline in net imports of Europe ex-Danube is shown in Chart 10 in relation to crops and total disappearance. Two facts stand out clearly: the marked increase in wheat production in this area since the then bumper crop of 1929; and the failure of domestic utilization to expand beyond the level reached in 1928-29. In 1934-35, importing Europe had a large crop, held consumption about constant, drew upon large accumulated stocks, and thus was able to get along with very light imports. Capone, however, was right in saying:¹

.... The magnitude of the internal supplies in most of the European countries resulting either from the plentiful harvests of 1934 or from the stocks carried over from previous years, would not have caused such an appreciable reduction in demand if these countries had not at the same time taken steps to support domestic wheat prices and, in a more radical and general way, to protect national currencies, which constitute an increasingly difficult obstacle to the movement of goods.

The notable shrinkage in European imports, which is reflected in Charts 8 and 10, is

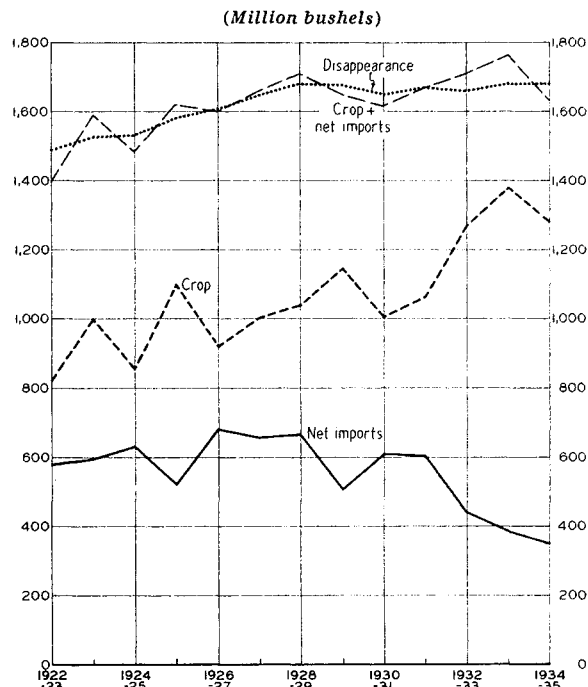
¹ G. Capone, in *International Institute of Agriculture, Monthly Crop Report* . . . , May 1935, XXVI, 334.

indicated by the following data on net imports of Europe ex-Danube, in million bushels:

Area	1924-29 average	1929-34 average	1933 -34	1934 -35
British Isles	224	240	238	218
France, Italy, Germany	216	94	20	4
Other Europe ex-Danube	191	175	128	128
Total	631	509	386	350

The reduction in British and Irish imports was moderate, yet appreciable. The combined net imports of France, Italy, and Germany,

CHART 10.—WHEAT SUPPLIES AND DISAPPEARANCE IN IMPORTING EUROPE, FROM 1922-23*



* Data from Table XXXII. "Disappearance" represents crop plus net imports adjusted for estimated changes in stocks.

formerly major net importers, showed a striking shrinkage from an average of 216 million bushels in pre-depression years to 4 million in 1934-35. If their imports from French dependencies in northern Africa were deducted, the latest net figure would be net exports of about 20 million bushels. The shrinkage was also marked in other continental European countries outside the exporting area of

the Danube basin. Their combined net imports in 1934-35 were much the same as in 1933-34 but only two-thirds as large as the average for the five pre-depression years. Poland and Lithuania were joined as net exporters by Sweden, Estonia, and Latvia. Spain and Portugal had large surpluses, but chose not to export wheat. Total net imports of Europe ex-Danube were 280 million bushels less than the average for the five years ending with 1928-29. Continental European countries shipped fair quantities to Great Britain and ex-Europe, and their gross imports from overseas countries appear to have been not much over 100 million bushels.

Forecasts of the volume of trade in 1934-35 proved seriously in error, especially in respect to European imports and Canadian exports. In August-September 1934 all indications seemed to point toward an international movement in 1934-35 some 40 to 60 million bushels larger than in 1933-34;¹ the actual volume of trade was about 20 million bushels below the low level of 1933-34.² Early forecasts were far too high, chiefly because 1934 crops in importing Europe had been greatly underestimated (see p. 104). Even successive downward revisions of forecasts proved inadequate, however, chiefly because import purchases were notably restricted late in the crop year.

Broomhall's successive forecasts of international shipments for 53 weeks and our published forecasts of net exports for 12 months compare as follows with the actual results, in million bushels:

Broomhall (shipments)				Food Research Institute		
Date	To Europe	To ex-Europe	Total	Total net exports	Europe net imports ^a	Date
Aug. 15 ...	448	128	576	600	420-445	Sept. 15
Feb. 6.....	416	136	552	575	395	Jan. 15
May 1.....	404	140	544	555	390	May 15
<i>Actual</i>	<i>381</i>	<i>146</i>	<i>527</i>	<i>532</i>	<i>375</i>	<i>Actual</i>
Net change	-67	+18	-49	-68	-45-70	Net change

^a Of net-importing countries only.

Forecasts of European net imports made by other authorities all proved far too high. The

international Wheat Advisory Committee first suggested, in August 1934, a figure of 465 million bushels. The U.S. Department of Agriculture put out a forecast of 450 million in late September 1934, lowered it to 440 million a month later, and again to 400 million late in January. The International Institute of Agriculture forecast 430 million in October 1934, and 390 million in March 1935; their reported actual figure was 357 million.

Shipments to ex-Europe ran above forecasts chiefly because of heavy exports to the United States (mainly from Canada), some of which Broomhall included in his shipments figures as he had not previously done; but Australian shipments to the Orient materially exceeded expectations.

Early in the season Broomhall expected Canada to contribute 50 per cent of total shipments; she actually contributed only 31 per cent of a much smaller total, and the difference amounted to 122 million bushels. As late as February 14, 1935, Mr. McFarland expressed confidence that Canada's exports would exceed 240 million bushels;³ they proved to be only 165 million. On the other hand, shipments from Argentina, Australia, and miscellaneous countries all exceeded Broomhall's successive forecasts of movement from these areas, except that for Argentina as of May 1.⁴ Our corresponding forecasts of net exports by sources, at first given in terms of ranges, proved less wide of the mark; but we substantially overestimated Canadian ex-

¹ See WHEAT STUDIES, September 1934, XI, 26-27.

² *Ibid.*, September 1935, XII, 16-17, and Table XXI below. Broomhall's figures for shipments show an increase of 3 million bushels, but his totals for 1934-35 cover 53 weeks instead of the usual 52, and are otherwise too inclusive for appropriate comparison with previous years.

³ Address at Moose Jaw, quoted below, p. 154.

⁴ Details are as follows, in million bushels:

Date	U.S.	Canada	Argentina	Australia	Others
Aug. 15	8	288	160	96	24
Oct. 31	8	280 ^a	168	88	32 ^a
Feb. 6	^b	240	168	96	48
May 1	^b	200	184	104	56
Actual		166	183	112	66

^a Followed by "?" beginning Jan. 9.

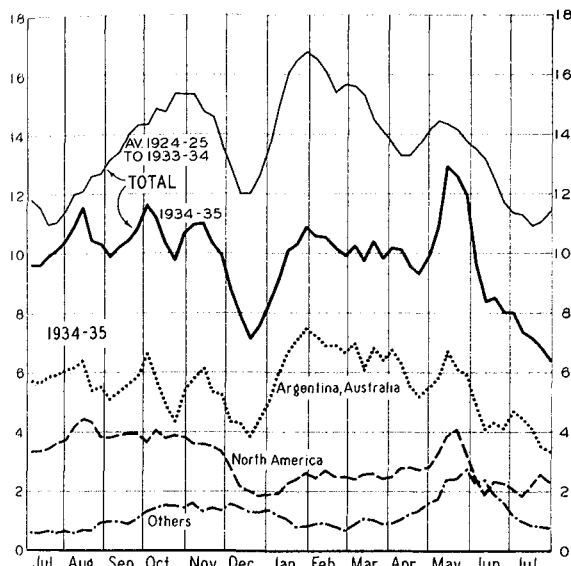
^b "Expected importer on balance."

ports and underestimated those of miscellaneous exporting countries.¹

The *course of shipments* is perhaps best reflected in Broomhall's weekly data, slightly smoothed by the use of 3-week moving averages. These are shown in Charts 11–13 in

CHART 11.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, 1934–35*

(Million bushels; 3-week moving average)



* Based on Broomhall's data from sources noted under Chart 8. Averages are for corresponding weeks in the 10-year period ending July 27, 1935.

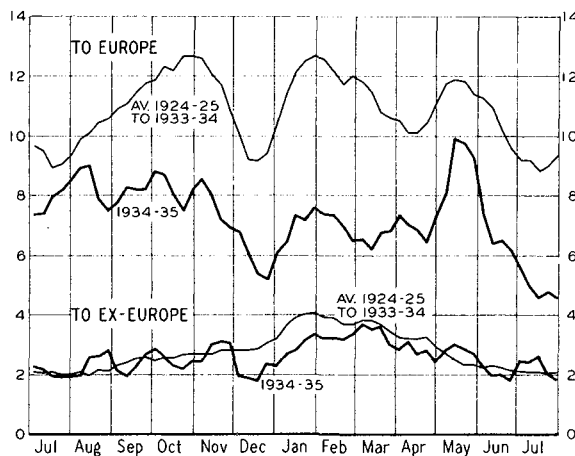
comparison with corresponding averages for the ten preceding years. These bring out the exceedingly low level of total shipments, shipments to Europe, and shipments from North America; and the relatively high level, unusually well maintained through the year, of

shipments from Argentina and Australia. They also afford illustrations of certain characteristic features of the movement, and peculiar departures from the usual course which call for explanation.

On the whole, the course of trade was dominated by import purchases rather than by export pressure. This was chiefly because, under the market control exercised in Canada, sales of Canadian wheat fell off when competing wheats were freely sold; and there was little of the distress selling which has occurred in several earlier years. Furthermore, European import purchases exerted a dominant influence on the course of the movement as a whole. Shipments to ex-Europe were relatively light during the winter months, but through most of the year they ran surprisingly close to the average for the preceding decade.

CHART 12.—SHIPMENTS TO EUROPE AND TO EX-EUROPE, 1934–35, COMPARED WITH AVERAGES*

(Million bushels; 3-week moving average)



* See footnote to Chart 11.

¹ Details are as follows (except for the United States), in million bushels:

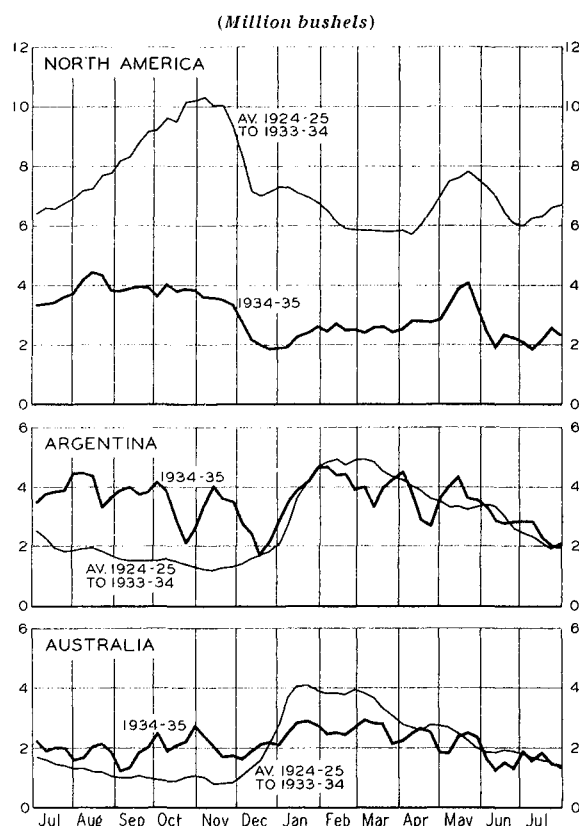
Date	Canada	Argentina	Australia	Danube	USSR	North- ern Africa	Others
Sept. 15	{ 280 } { 210 }	{ 150 } { 195 }	{ 110 } { 135 }	{ 15 } { 20 }	{ Under } { 15 }	{ 20 } { 15 }	{ 1 } { 2 }
Jan. 15	210	190	120	17	5	25	8
May 15	190	180	115	18	2	28	22
Actual	165	182	109	22	2	24	28

As of Sept. 15 we forecast net exports of under 10 million bushels from the United States; and later that the United States would be a net importer, as the event proved.

The usual striking increase of shipments from late July to late October was notably absent. Exports from the United States, Russia, and the Danube basin, which usually contribute to this seasonal increase, were very small (Table XXVII). Canadian shipments, held down by quasi-official market support, rose very moderately and even receded after August instead of rising further. Most exceptionally through this period, Argentine

and Australian shipments from heavy stocks consistently exceeded North American shipments; and fluctuations in Southern Hemisphere shipments largely accounted for marked fluctuations in total shipments.

CHART 13.—SHIPMENTS FROM MAJOR EXPORT AREAS, 1934-35, COMPARED WITH AVERAGES*



* See footnote to Chart 11.

In November-January the course of shipments was most nearly similar to the usual one. The sharp decline to mid-December reflected slowing down of Canadian shipments after the close of navigation on the St. Lawrence, while Australian and Argentine shipments fell to seasonal lows; and the ensuing rise was due mainly to expansion of new-crop shipments from the two latter countries. The midwinter peak was reached around February 1, as usual; but this was not, as commonly, the maximum for the year, for Argentine shipments increased less than usual at this season and Australian far less.

The decline from the midwinter peak was

unusually small; shipments from Canada and Australia were well maintained at their low level, and Argentine shipments increased in March instead of declining.

The characteristic rise in May and the subsequent decline were extraordinarily pronounced and, contrary to the usual experience, the spring peak was considerably higher than either autumn or midwinter peak. Canadian shipments, which commonly increase after the opening of the St. Lawrence, contributed less than usual to the spring rise and fell off more than usual from mid-May to mid-June. Argentine shipments, contrary to their usual course, rose sharply and then declined; and Australian shipments did also, though in less marked degree. In addition, shipments from miscellaneous countries, which are usually light at this season, increased materially in April-May. The sharp advance in wheat prices from mid-March to mid-April (see p. 149) stimulated European import purchases for May shipment, which drew wheat from all quarters where it was freely available. France,¹ Sweden, Poland, the Danube states, and northern Africa took this opportunity to reduce excessive stocks by liberal sales for export (Table XXVII).

After the prompt recession from the relatively high spring peak, shipments fell off more sharply than usual in the closing weeks of the crop year. For the extreme of this recession, hand-to-mouth buying by European importers was primarily responsible. This was influenced in June by crop news which then indicated much larger crops in North America, and good crops in Europe in 1935. Through July 1935 world wheat shipments declined to an extremely low point. This decline was due primarily to the virtual cessation of import purchases early in the month, when the view gained ground that Canadian wheat, instead of being sold sparingly for export, would soon be rather freely available at lower prices (see p. 150). This view was not easily dislodged, and the price recovery on crop scares later in July did not lead to heavier purchases in time to affect shipments materially.

¹ Sales of French denatured wheat in British ports were reported on Mar. 25-26, Apr. 2-4, 8, 26, and May 3.

TRADE OF EXPORTING COUNTRIES

Canada.—For the first year since 1919–20, Canadian exports of wheat and flour (165 million bushels net) were exceeded by those of Argentina. Canada had abundant supplies of wheat—sufficient, indeed, to have exported twice as much as she did without leaving her granaries bare. There was no lack of eagerness to export: in fact, it was extremely disappointing to Canadians that Broomhall's early forecast of 288 million bushels proved so much too high. The light exports were in large measure the result of three factors: importers' demands, as we have seen, were much less urgent than had been expected; the price-supporting policy pursued by John I. McFarland, with the backing of the Dominion government, served indirectly to hold down Canada's share of the export movement; and trade expectations of a different policy in 1935–36, under the new Canadian Wheat Board, adversely affected export sales late in the crop year.¹

Since November 1, 1930, Mr. McFarland had been general manager of Canadian Co-operative Wheat Producers, Ltd., the central selling agency of the three provincial pools. To this position he was appointed from private business, with the approval (and presumably at the behest) of the Canadian banks and the Dominion government, after the 1930 debacle in wheat prices had forced the pools

into financial straits; the government sought to rescue them in order to avert serious repercussions on the banks and on business. McFarland closed the pool's sales offices abroad, and subsequently sold only to the trade. He sought to follow a merchandizing policy, hedging pool grain as private merchants do. But he had taken over the burden of handling some 76 million bushels of unhedged wheat, and eventually faced, as the Federal Farm Board earlier had done, the pressure to undertake market stabilization operations on a large scale. In each of the past three years these operations, conducted with the financial guarantee of the Dominion government, have exerted marked influence on world wheat developments.² Here it is appropriate merely to consider their bearing on international trade during 1934–35.

In virtual control of the Winnipeg market (see below, pp. 142, 149), McFarland had four objectives: to keep wheat prices to growers as satisfactory as possible; to keep to a minimum actual and potential losses to the Dominion government; to further export sales and thus to reduce the Canadian carryover; and to maintain the good will of the grain trade at home and abroad. These objectives could not all be secured at once. In practice, steps taken with the first two aims primarily in view served to restrict Canadian exports and to arouse increasing criticism from the trade.

Even the United Kingdom imported little more from Canada than from Argentina, despite the British import duty on ex-Empire wheat. At price relations prevailing, British millers were evidently content to use an unusually small percentage of Canadian wheat in their mix and a larger fraction of Argentine.³ The United States became Canada's second largest customer. Even so, exports to this country were much less than had been expected. Efforts were vainly made to secure a liberal interpretation of the American tariff phrase "unfit for human consumption." Equally vain were Mr. McFarland's reported negotiations for the sale of 50 million bushels of wheat for relief disposition.⁴ No other steps were taken to expand Canada's exports through special deals,⁵ subsidies, or sales at a

¹ This board was appointed on Aug. 15, 1935, with Mr. McFarland as chairman, under provisions of the Canadian Grain Board Act, approved on July 5. Early in December, after the Liberal victory in the October elections, the personnel of the board was changed, James Murray succeeding Mr. McFarland as chairman.

² Recent publication of considerable evidence, long kept secret, now makes possible analysis of these operations, which we hope to make the subject of a subsequent issue of *WHEAT STUDIES*.

³ See A. E. Taylor, "World Wheat Prices, Canadian-Argentine Spreads, and the Ottawa Agreement," *WHEAT STUDIES*, October 1935, XII, 49.

⁴ *Southwestern Miller*, Nov. 12, 1935, pp. 23, 25.

⁵ In a campaign speech late in August 1935, H. H. Stevens (formerly minister of trade and commerce in the Bennett government of Canada) stated that two or three years ago he had worked out a plan acceptable to the Chinese government whereby China would have taken 50 million bushels of Canadian wheat in exchange for 15-year bonds; but the Canadian government chose not to approve the deal. See *ibid.*, Sept. 3, 1935, p. 36.

loss. Most of the rest of the Canadian exports moved to Europe. Little went to the Orient,¹ or to ex-Europe as a whole (Table XXIV).

Of the Canadian exports, 4 million bushels of wheat, plus a little flour, moved out of Port Churchill by the Hudson Bay route on which the first experimental shipments were made in the summer of 1931.² The volume shipped overseas through United States ports declined to the smallest figure in many years—something like 30 million bushels, as contrasted with an average of around 150 million in the four years ending with July 1929.³ The rest of Canadian wheat grain exports moved out of Canadian Atlantic and Pacific ports, with Vancouver and Prince Rupert handling well over half of the wheat grain and the various eastern Canadian ports an unusually small volume (Table XIX).

Argentina.—Exports of wheat and flour from Argentina were not only exceptionally

¹ Toward the end of the crop year, Japan imposed a 50 per cent ad valorem additional duty on imports of wheat and flour (and other specified products) from Canada, in retaliation for Canadian duties on imports from Japan. *Commercial Intelligence Journal*, July 27, 1935, p. 153.

² See WHEAT STUDIES, August 1932, VIII, 453-55. *Canadian Grain Statistics* gives initial stocks and exports by crop years (practically all shipped in September and October) as follows, in thousand bushels:

Year	Stocks Aug. 1	Grain exports	Flour exports	Total exports
1931 .....	.....	545	..	545
1932	2,291	2,736	22	2,758
1933	2,430	2,708	..	2,708
1934	2,476	4,050	66	4,116
1935	2,389	....	..	....

³ Canadian official data understate exports to the United States. A fairly reliable (though still rough) indication of Canadian exports through United States ports may be gained by subtracting general imports of wheat grain according to United States statistics (see Table XVII, making allowance in 1934-35 for imports from other countries) from the Canadian total of exports to and through the United States (Table XIX). Some reasons for the decline in recent years (apart from the shrinkage of Canadian exports) are given in WHEAT STUDIES, October 1933, X, 28-30.

⁴ See further below, pp. 154-55.

⁵ *World Wheat Prospects*, Nov. 24, 1934, p. 18.

⁶ See WHEAT STUDIES, January 1932, VIII, 224-26; December 1932, IX, 104, 112.

⁷ Chinese official data show wheat imports from Argentina by calendar years as follows, in thousand bushels: 1932-279; 1923-4,939; 1934-3,566. Japanese official data suggest that some Argentine wheat was imported in 1934, and show a total of 872,000 bushels in January-September 1935.

large in 1934-35 (Table XXI); they exceeded early expectations, and also Argentina's export surplus from the crop of 1934.

Operations of the Grain Regulating Board had been important for several months in the preceding crop year, when its wheat purchases of 1933 crop wheat at minimum prices were largely responsible for the fact that large stocks remained in Argentina to be shipped after August 1, 1934. Before that date, however, the board had practically completed its purchases and sold four-fifths of its holdings. In August-January following, it gradually sold the balance of its stocks, but the quantities and prices were such as could not greatly affect wheat prices or the course of exports. When the new crop came forward in November-December 1934, wheat prices remained above the board's unchanged buying price and the wheat moved out freely.⁴

Argentina shipped the great bulk of her wheat to the United Kingdom and continental Europe. Though much of it was shipped "to orders," this did not, as in some years, reflect "distress wheat." Owing to the lack of pressure of other export wheats, Argentine grain was absorbed with reasonable readiness. During the year, intergovernmental clearing arrangements were made with Germany,⁵ Brazil, and various other countries by which Argentine wheat could be purchased.

Argentina continued to hold the great bulk of the Brazilian market (Table XXIV) in which her participation had been heavily reduced in 1931-33 while Brazil used up the 25 million bushels of United States stabilization wheat obtained in exchange for coffee.⁶ Argentina also continued to ship to China and Japan, whose markets her wheat first entered in 1932.⁷ Though comprehensive data are lacking, we infer that Argentine wheat and flour exports to the Orient in 1934-35 exceeded Canadian.

Australia.—Exports of 109 million bushels from Australia in 1934-35 were much less than in the years following the big crops of 1930-32, and had also been exceeded in some earlier years. They were, however, 23 million bushels larger than in 1933-34, though the crop of 1934 was 44 million bushels smaller than that of 1933. Australian farmers had sold

with reluctance in 1933-34, and large stocks remained on August 1; in 1934-35, sales by farmers and for export were more freely made until June, and stocks were drawn down to more usual levels by August 1. This situation explains why Australian exports almost completely failed to show in 1934-35 the seasonal variation that is usually so pronounced (see Chart 13, p. 122). Contributing to this same result was the exceptional fact that nearly one-third of the exports were shipped in the form of flour (see below, p. 134).

The geographical distribution of Australian exports was also unusual. Australia's exports to the Orient were again heavy, after a recession in 1933-34 because of competition of subsidized Pacific Northwest wheat. Though below high figures of the three years ending with 1932-33, her exports to Japan, areas under Japanese control, China, and Hong Kong totaled about 42 million bushels in July-June 1934-35. This constituted not only the lion's share of wheat and flour exports to the Orient, but about 40 per cent of Australia's total exports of these products (Tables XXII, XXIV). Because of quality considerations, most of the Victorian wheat exports were shipped to the Orient. In all, Australia exported to the Orient in 1934-35 about as much wheat grain, and nearly three times as much flour, as to the United Kingdom.¹

Other exporting countries.—Exports from the Danube countries were unusually small in 1934-35. This was largely because the 1934 crops were so short; indeed, net exports from the region as a whole, in total only 22 million bushels, were less than the amount by which we estimate that its wheat carryovers were reduced (Tables XII, XXI). While Hungary and Yugoslavia exported throughout the year, Rumania and Bulgaria permitted shipments only late in the season (Table XXVII) when good crops were in prospect for 1935. Almost all of the exports from this region, even from Hungary, were in the form of grain. Almost all were shipped under special intergovernmental arrangements which were negotiated, for example, by Hungary with Italy and Austria, by Yugoslavia with Germany and Aus-

tria, and by Rumania with Germany and Czechoslovakia. Such bargains, which have gradually evolved from preferential arrangements inaugurated in 1931 and have since been of increasing importance, are designed to afford outlets for grain surpluses of the exporting countries on preferential terms, and to insure to importing countries the liquidation of frozen credits or preferential outlets for their goods.

In *Poland*, early estimates indicated a crop too short to permit exports. It proved, however, to be of good size, and Poland exported 3.9 million bushels net—not much less than the record figure of 4.6 million in 1925-26. The exports moved with the aid of an export premium of 6 zloty per quintal (about 31 cents per bushel). Much went to Germany, under an extension of the German-Polish rye agreement, and was imported duty-free by the Reich Grain Office.

Three of the *Baltic states*, which have been stimulating expansion of their wheat acreage and had good yields in 1934, were net exporters in 1934-35: Lithuania as for several years past, but in larger volume; Estonia for the first time; and Latvia for the first time in appreciable amounts. Some of this wheat moved (e.g., to Finland) under special intergovernmental agreements. The net total, however, was little over 2 million bushels.

Sweden, which has followed a similar policy, had big crops both in 1933 and in 1934 and faced a surplus problem in 1934-35. Imports for blending were reduced to the lowest level in years—about 1.5 million bushels; and 3.3 million bushels were exported with the aid of a bounty, chiefly in March-July 1935 (Table XXVII).

The outstanding European exporter in 1934-35 was *France*, hitherto almost invariably a net importer; in terms of gross or net exports, indeed, she ranked fourth among the exporting countries—ahead of the United States, Russia, Hungary, and India. This extraordinary situation resulted in part from the unusual conjuncture of three big crops in succession in 1932-34, and in part from government measures regulating milling, restricting imports, and lowering the quality while holding up prices of flour and bread.

¹ See data in the *Quarterly Summary [of] Australian Statistics*, Bull. No. 140, June 1935, p. 40.

The crop of 1934, after the official estimates had been raised, was ample to cover usual domestic use; but carryover stocks had been at the record height of over 100 million bushels, and her northern African dependencies chanced to have excellent crops and record supplies for export. Their combined net exports, in fact, slightly exceeded those of the Danube basin (Table XXII).

To cope with this serious surplus problem, the French government took a series of steps modifying and supplementing those in force in 1933-34.¹ In August-September, licenses were issued for the export of 13 million bushels.² The export bounty was raised from 80 francs per quintal to 90 (about \$1.63 per bushel). Exports of bread wheat from French Morocco to France were permitted only under terms which required that, for every 100 quintals so exported, 60 must be exported outside of France or stored for carryover.³ Other measures designed to hold down exports from northern Africa to France, except of durum, were taken.⁴ When the international Wheat Advisory Committee met in November 1934, France secured approval of other exporting countries for the export of 33 million bushels of domestic wheat, two-thirds of which was to be denatured.⁵ Substantial premiums for denaturing wheat, first provided for under a decree of August 5, 1933, were continued.

The statistics of French trade in wheat and

flour for August-July 1934-35 may be summarized thus, in thousand bushels:

	Durum	Other wheat	Flour as wheat	Total
Imports:				
N. Africa	6,745	9,835	3,636	20,216
Others	1,770	8,703	64	10,537
Total	8,515	18,538	3,700	30,753
Exports, total . .	26	38,051	10,159	48,236
Net exports	(8,489) ^a	19,513	6,459	17,483

^a Net imports.

Wheat grain exports thus reached about 38 million bushels,⁶ against imports of 27 million bushels. In addition, flour exports exceeded flour imports (mainly from northern Africa) by the equivalent of 6.5 million bushels. Through most of the crop year French wheat was a significant factor in European markets, wherever it was admitted. Much of the wheat, and some of the flour exports, went into feed use in Denmark, the United Kingdom, Germany, and elsewhere.

Other exporting countries.—Net exports of French Morocco, Algeria, and Tunis in August-July 1934-35 exceeded French imports from these dependencies in the same period by about 4 million bushels; and we infer that some such amount was exported to Italy and other Mediterranean countries. The Netherlands, though still one of the largest wheat importers of continental Europe, has sold abroad some of its surplus domestic wheat at only a fraction of the price paid to wheat growers by the official agency. Exports were reported as 2,172,000 bushels in 1933-34 and 1,352,000 bushels in 1934-35. Turkey was reported to have sold 625,000 bushels to the Reich Grain Office, Germany,⁷ and actually exported more than this. Uruguay presumably exported, with the aid of an export bounty, some of the surplus wheat from the big crop of 1933 which was bought up by the Bank of the Republic at prices fixed by law.⁸

THE UNITED STATES AS A NET IMPORTER

For the first year but one since colonial days, the United States was a net importer

¹ See articles in *Foreign Crops and Markets*, Sept. 24, 1934, pp. 332-43; Feb. 18, 1935, pp. 157-81; Oct. 7, 1935, pp. 492-96; and *International Review of Agriculture*, March 1935, XXVI, E 97-108. See also above, p. 113, and below, pp. 140, 143, 153.

² *Foreign Crops and Markets*, Nov. 12, 1934, p. 500.

³ *World Wheat Prospects*, Oct. 31, 1934, p. 12.

⁴ *Ibid.*, and *Commerce Reports*, Aug. 11, 1934, p. 93; Dec. 15, 1934, p. 380; Jan. 26, 1935, p. 60.

⁵ International Institute of Agriculture, *Monthly Crop Report* . . . , March 1935, XXVI, 178. At the May 1935 meeting of the committee, this was altered to permit over two-thirds to be exported without denaturing.

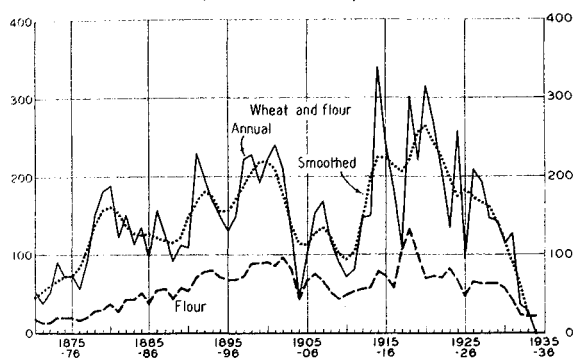
⁶ Broomhall reported that export licenses were issued for a total of 5.1 million quarters (40.8 million bushels). *Corn Trade News*, Sept. 18, 1935.

⁷ *World Wheat Prospects*, Dec. 29, 1934, p. 19.

⁸ *Commercial Intelligence Journal*, Aug. 25, 1934, p. 305. After the small 1934 crop was harvested, minimum prices and export bounties were continued. *Commerce Reports*, Jan. 26, 1935, p. 61.

of wheat.¹ The precise difference between imports and exports cannot be ascertained, for we lack some essential data on stocks of wheat and flour and on actual rates of milling extraction. Roughly, wheat imports exceeded exports of wheat and flour (including shipments to United States possessions) by 2 to 4 million bushels. The net import balance was clearly insignificant, yet it is in striking contrast with our past record as a net exporter of wheat and flour, as shown by Chart 14. Moreover, several component elements call for elucidation.

CHART 14.—UNITED STATES NET EXPORTS OF WHEAT AND FLOUR, FROM 1870-71*
(Million bushels)



* Chiefly official data for July-June years, such as given in Table XVII, and including shipments to Alaska, Hawaii, and Puerto Rico; for certain war years, our revisions as given in *WHEAT STUDIES*, December 1927, IV, 101.

Though our 1934 crop was extremely short, primarily because of drought, initial stocks of wheat were so large that total supplies were statistically ample for food, seed, and liberal feed use for a year and a carryover above "normal." Yet 14 million bushels were imported duty-paid for domestic use (Table XVIII). Of the total, nearly 6 million were imported paying the full duty of 42 cents per bushel. This consisted almost wholly of Canadian durum needed to supplement extremely short domestic supplies for semolina manufacture. Over 8 million bushels were imported, mainly for feed use, paying a duty of 10 per cent ad valorem.² This consisted chiefly of low-grade hard red spring wheat from Canada, where such wheat was abundant (Table IX) and could be had at heavy discounts. Over the low duty it was commer-

cially feasible to import such wheat because United States feed supplies were so short that feed prices were high (see p. 112). There were complaints that some wheat imported at the low duty was used in milling flour, but such volume must have been small, and very little bread wheat was imported over the 42-cent duty.³

Some wheat was brought into the country that appears not to have been included in import statistics up to the end of June 1935. Some of this, chiefly Argentine wheat, remained in bonded warehouses at the end of the year, and much of it may later have been re-exported.⁴ We infer that such imports in 1934-35, for a disposition not fully determined by June 30, 1935, amounted to about 2 million bushels, and that United States imports and net imports in 1934-35 (Tables XVII, XXII, XXX) were correspondingly understated.

About 11 million bushels of wheat—rather less than in most recent years—were imported for milling in bond.⁵ Nearly all of this was

¹ In the exceptional year ending Sept. 30, 1837, flour exports were unusually small (318,700 barrels) and wheat exports were negligible. These were more than counterbalanced, to the extent of 2.4 million bushels, by imports of 4 million bushels of wheat grain.

² These imports might well have been larger if the Administration had not delayed for several weeks, or made less conservative, its decision interpreting the clause in the Tariff Act providing for the low duty on wheat grain "unfit for human consumption," or if the Canadians had denatured such wheat before shipment.

³ In the present crop year, by contrast, imports (larger in volume) are predominantly of bread wheat.

⁴ Treasury data on stocks in bonded *customs* warehouses, presumably awaiting importation and payment of duty, increased nearly 400,000 bushels during the year, to 459,762 bushels on June 30, 1935. Other wheat stocks in bonded warehouses in the United States (U.S. Department of Agriculture weekly reports of *Commercial Grain Stocks in Store at Principal United States Markets*) were first reported to include Argentine wheat on Dec. 29, 1934. In the middle of March 1935 Argentine wheat first exceeded 300,000 bushels, on June 1 reached a peak of 1,449,000 bushels, and fell from near this level on July 20 to negligible quantities by mid-August. Data are not yet available on how much Argentine wheat was brought in and just how it was disposed of.

⁵ Table XVIII shows the amounts so imported for grinding in bond, from 1925-26, as well as dutiable imports for domestic use. The Tariff Act of 1922 (effective Sept. 21) authorized wheat to be imported duty-free for milling in bond for export as flour. The Tariff Act of 1930 (effective June 17) modified this by re-

hard red spring wheat from Canada, hitherto practically the only source of such imports. Disregarding changes of stocks in bonded mills during the crop year, and applying the average Canadian rate of extraction (4.48 bushels per barrel), these imports correspond to 2,470,000 barrels of flour.

Assuming that this much of our flour exports was so milled from imported wheat, and deducting it from reported flour exports of 3,939,000 barrels, we have a balance of 1,469,000 barrels representing approximately the total exports of flour milled from domestic wheat. Adding flour shipments to Alaska, Hawaii, and Puerto Rico, the larger total is 2,049,000 barrels.

Of the flour milled from domestic grain, 637,000 barrels were exported under subsidy through the North Pacific Emergency Export Association: 338,000 barrels to China, sold largely if not wholly in July-August 1934, under the RFC loan to the Chinese government; and 299,000 barrels of other exports under subsidy, on sales effected largely in the preceding crop year. Unsubsidized commercial exports of flour milled from Pacific Northwest wheat amounted to some 482,000 barrels, probably about half of which went to the Philippines; and 177,000 barrels moved to Alaska and Hawaii. From other areas, flour shipments to Puerto Rico were 404,000 barrels¹ and commercial exports about 350,000.

The foregoing provisional calculations suggest that in 1934-35 our flour exports plus shipments to possessions were the product of about 9.4 million bushels of domestic wheat.

Wheat grain exports were only 3 million bushels. This was almost wholly white wheat

(Table XVI), and nearly all of this represented export sales made through the North Pacific Emergency Export Association before June 30, 1934, but not shipped till after the port tie-up was ended on July 31.² Wheat export sales under this subsidy arrangement were negligible in 1934-35, for the Secretary of Agriculture turned a deaf ear to repeated requests from Washington and Oregon that its operation be continued or resumed. Wheat prices in the Pacific Northwest (even on discount wheats), and elsewhere even more, were above levels at which appreciable exports of wheat could be commercially made.

Altogether, including shipments to possessions, exports of domestic wheat grain and flour milled from domestic wheat amounted in 1934-35 to about 12.4 million bushels, made up about as follows: unshipped subsidized sales in the preceding crop year, 3.9 million; additional exports under subsidy, 1.8 million; shipments to possessions, 2.6 million; and commercial exports, 4 million.

TRADE OF OTHER IMPORTING COUNTRIES

The *British Isles* imported less wheat and flour (net) than in any year since 1925-26, though we estimate domestic disappearance, feed included, to have reached a record total of nearly 300 million bushels. Under the favor of nature and the governments of the United Kingdom and the Irish Free State, domestic wheat production was unusually high; and there were heavy stocks to draw upon. Hence net imports of the United Kingdom were reduced 21 million bushels below the average for the five preceding years, and those of the Irish Free State by 2 million.³ British imports are subject merely to a low duty (2s. per quarter, or about 6 cents a bushel) on wheat from outside the Empire. Irish imports were limited only by quotas and milling regulations until a duty of 6d. per cwt. (also about 6 cents per bushel) came into effect on May 15, 1935.⁴

Germany, which had been a small net exporter of wheat in 1933-34, resumed her normal position of a net importer in 1934-35. Her net imports, however, were only 10 million bushels (Table XXII), and in view of her carryover (see p. 142) it appears that she

quiring that a compensatory duty be collected on such wheat if the flour was to be exported to a country which accorded a preference on United States milled flour. This provision, inserted at the instance of export millers in the Southwest, has applied to milling in bond for export to Cuba; and various changes in the Cuban preference have led to corresponding changes in the rate of duty applied to this wheat.

¹ Some of this may have moved from the Pacific Northwest.

² See WHEAT STUDIES, August 1934, X, 398-99, and J. S. Davis, *Wheat and the AAA*, p. 456.

³ See Tables II-IV, XXII, XXXI, and below, p. 155.

⁴ *Commercial Intelligence Journal*, June 22, 1935, p. 1158. In both countries flour imports are dutiable.

might have got along with less. Early in the season there was acute fear of shortage of food and feed. Wheat exports were prohibited. Imports through the Reich Grain Office, set up to administer rigid control of the grain trade, were admitted duty-free.¹ And contracts were made for imports from Argentina, France, Poland, Yugoslavia, Rumania, Turkey, and perhaps other countries, through various forms of clearing agreements.² Wheat consumption in Germany, though much lower than at its peak of around 200 million bushels in 1927-30, was about equal to the average for 1929-34 (Table XXXI).

Belgium was the leading importer of continental Europe, with net imports of about 40 million bushels. Unlike most other countries, Belgium has not seriously undertaken to expand her wheat production. Wheat imports are admitted duty-free,³ though low license fees on imports (10 francs per quintal or about 9 cents a bushel) were collected through most of the year⁴ to provide funds to pay domestic wheat growers a bounty of double this amount.

The Netherlands has stimulated domestic production to an embarrassing extent, and subjected the grain trade and milling industry to rigid control. Her net imports in 1934-35 were under 20 million bushels, less than two-thirds as much as they averaged in the five years before the wheat policy inaugurated in July 1931 had time to be effective.

Denmark had net imports of 19 million bushels, a record quantity; but this was only because feed grains were relatively dear and cheap wheat could be had from France, Sweden, and Poland as well as Argentina. *Norway* continued to control wheat and flour

imports through its state monopoly; but, as heretofore, these were not subjected to restrictions and consumption was permitted to continue its upward trend (Tables XXII, XXXI).

In *Czechoslovakia*, under a governmental order of July 31, 1934, there was formed a Czechoslovakian Cereal Company with shares held by grain dealers, millers, agricultural co-operators' and consumers' societies, and with an executive committee of five, consisting of a chairman appointed by the government and vice-chairmen appointed by each of the groups mentioned. This company was given a monopoly of imports of grain and grain products (subject to the authority of the Minister of Commerce), exports of grain, purchase of grain from farmers, and first sale of such domestic or imported grains. Initially the government fixed prices, "Prague parity," and "supplements" beginning September 1 and extending to June 1, 1935. On this basis the company fixed local purchase prices. It also determined selling prices of domestic and imported cereals. The government reserved the right to fix selling prices for flour, other milling products, and bread.⁵

The monopoly took over the stocks held by a former semi-official syndicate, and operated under contracts arranged with Yugoslavia and Bulgaria. Despite what was considered a very poor crop, net imports were only 1.4 million bushels, and what were considered burdensome stocks remained to be carried over. We can ill believe that domestic use of wheat declined to anything like the extent that the sum of crop and net imports shows (Table XXXI); it seems more probable that the crop was somewhat underestimated.

In *Italy*, a short crop in 1934 more than overbalanced the large initial stocks. Wheat consumption appears to have been radically reduced, doubtless facilitated by a good crop of maize. Net imports were held down to 11.5 million bushels. Much of this was obtained through intergovernmental negotiations with Hungary and France, and in part from northern Africa. Italy continued a large exporter of wheat products, and exports of semolina and *paste di frumento* are not deducted in our calculations of the net import balance.

¹ Effective Oct. 22, 1934, the tariff on wheat otherwise imported was raised to a prohibitive level (\$3.86 per bushel). *World Wheat Prospects*, Oct. 31, 1934, p. 12.

² *Ibid.*, July 23, Nov. 24, Dec. 29, 1934.

³ Flour imports for food use are prohibited, except under restricted quotas for manufacture of certain products chiefly for re-export; but imports for feed use are subject to a low duty of 4.6 francs per quintal.

⁴ Suspended on Mar. 31 and reinstated on Aug. 18, 1935.

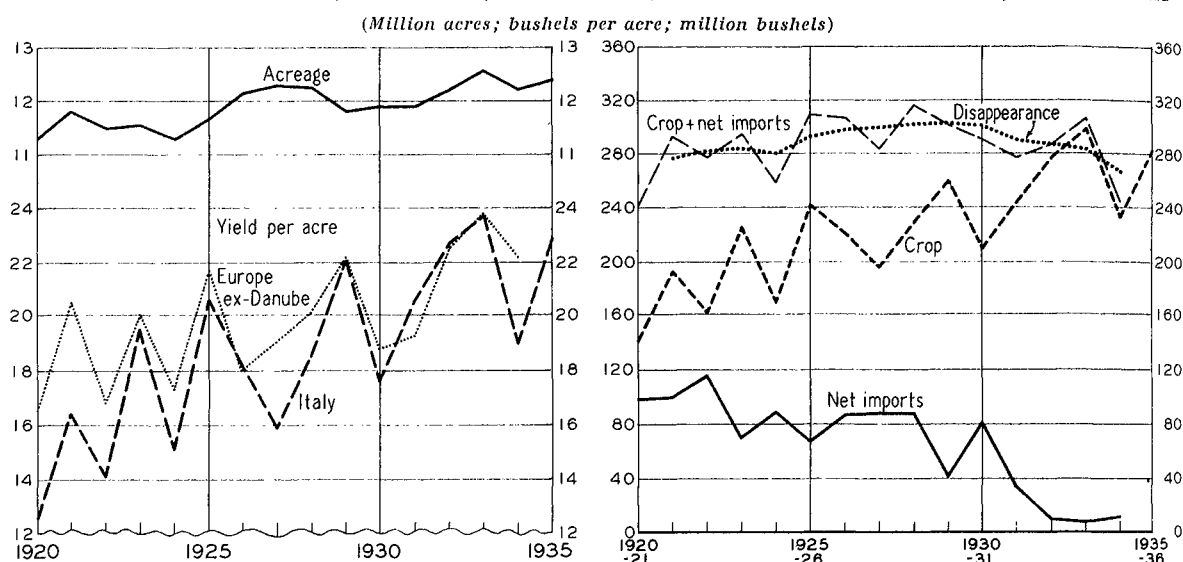
⁵ H. Böker, "Measures of Planned Economy in Agriculture in Czechoslovakia," *International Review of Agriculture*, November 1934, XXV, E 511-15.

Italian Fascist leaders have recently celebrated the close of a decade of the "wheat campaign" inaugurated under the decree-law of July 4, 1925.¹ The goal of this *battaglia del grano* was self-sufficiency in wheat. A Permanent Wheat Committee was set up, headed by Il Duce, Mussolini. It declared at the outset that the objective could be attained by im-

million acres. To this end the committee promptly took numerous measures² which have been persistently followed up. These have been supplemented by high tariffs on wheat flour (first reimposed on July 24, 1925, and subsequently raised), milling regulations, and other controls of various kinds.

Chart 15 summarizes the relevant statisti-

CHART 15.—WHEAT ACREAGE, PRODUCTION, NET IMPORTS, AND DISAPPEARANCE IN ITALY, FROM 1920-21*



* Data for recent years in Tables II-IV, XXII, XXXI.

provement in yield without expansion of the wheat area above that sown for 1924—11.3

¹ See monthly survey of Italian trade and industry for Oct. 1, 1935, published by the Association of Italian Corporations and the Fascist Confederation of Industrialists.

² See an excellent article by Giulio Costanzo in *International Review of Agricultural Economics*, January-March 1926, IV, 70-86.

³ Late in October, however, it was reported that the Fascist government is encouraging Italian farmers to sow a "full" acreage, doubtless in response to the threat of "economic sanctions" and possibilities of worse.

⁴ A significant part of the improvement in yield is attributed to important progress in the use of varieties better adapted to growing conditions in different sections of the country. These have been developed largely by Nazzareno Strampelli and since 1919 by the government-supported Grain Breeding Institute (Istituto Nazionale di Genetica per la Cerealicoltura) in Rome, of which Strampelli is the founder and director. See N. von Gescher, "Cereal Selection in the Mediterranean Countries. (1) Italy," *International Review of Agriculture*, December 1934, XXV, T 528-36.

cal data for a period beginning six years before the campaign was inaugurated. Acreage in wheat has been increased slightly: in 1935 it was 10 per cent higher than in 1924 and some 5 per cent above the pre-war average; but again the Permanent Wheat Committee considered the present area adequate.³ Yields per unit of area have risen strikingly, though still fluctuating violently from year to year.⁴ One observes, however, that the upward trend of yields per acre is merely a continuation of that in the early post-war years; and also that the increase in the past decade has been little greater than that for importing Europe as a whole (see dotted curve of yield), although several countries of western Europe had previously attained much higher standards of cultivation than prevailed in Italy. This achievement is worthy of celebration, though it is impossible to ascertain how much of it is attributable to the wheat campaign. The

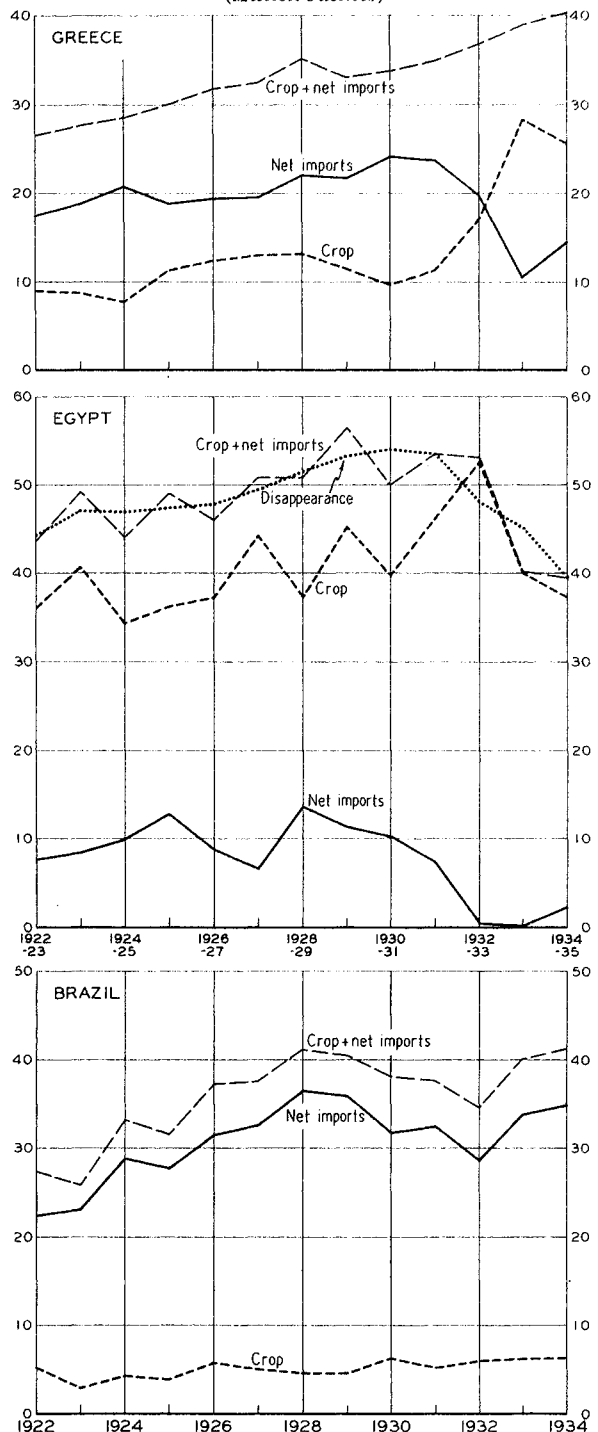
second half of the chart shows how impressively, as the annual outturn has risen, Italy's net imports have shrunk—from around 80 million bushels a year to around 10 million a year in the past four crop years. From this standpoint the efforts have succeeded.

Italy's close approach to self-sufficiency in wheat, however, has probably been due at least as much to incidental restraint of consumption as to government measures to intensify production. It was no part of the program of the wheat campaign to restrict Italian consumption of wheat. Such restriction has certainly occurred in recent years and apparently most notably in 1934–35. For some thirty years prior to the great depression, Italy showed a strong upward trend in domestic utilization of wheat, briefly interrupted only during the war. This was the result of fairly rapid increase in population coupled with shifts from corn and other food-stuffs to wheat in improvement of the food standard of living.¹ This upward trend has been reversed; and in 1934–35, if the crop estimate is accepted, per capita consumption for food appears to have been only about five-sixths as large as the average for 1924–29.

It is naturally impossible to allocate responsibility for this decline. The depression itself has doubtless tended to restrict wheat consumption in Italy, as in various other countries (see p. 136); and some of the forces that elsewhere have made for declining trends in per capita consumption are presumably at work there also. With due allowance for these factors, however, we consider that official measures making wheat, flour, bread, and spaghetti dear (and to some extent of inferior quality) have been potent factors in the decline in consumption and consequently in net imports.

Some pertinent data on three countries that lie outside of western Europe are presented in Chart 16, to illustrate various circumstances in which net imports have declined.

CHART 16.—WHEAT SUPPLIES AND DISAPPEARANCE IN GREECE, EGYPT, AND BRAZIL, FROM 1922–23*
(Million bushels)



* See Tables II, VIII, XXII, XXV, XXXI.

Greece is one of the few countries in which an upward trend of wheat utilization, if one

¹ See the 50-year record as computed by M. K. Bennett, in "Per Capita Wheat Consumption in Western Europe . . .," *WHEAT STUDIES*, March 1935, XI, 289, 302; and cf. J. H. Shollenberger, "Bread Grain Consumption and Trade in Italy," *Foreign Crops and Markets*, June 24, 1935, pp. 762–71.

accepts official data at their face value, was promptly resumed after only a slight break early in the world depression.¹ Under protective measures, wheat acreage has expanded, yields per acre have been raised, and production has remarkably increased (Tables II-IV). Imports of wheat and flour have been greatly curtailed, yet by no means eliminated.

Egypt presents a striking contrast. In 1928-29, following a small crop, her net imports were 13.6 million bushels; in 1934-35, after a crop equally small, they were only 2.2 million bushels. Domestic use of wheat has fallen strikingly in recent years, under the influence of reduced income of the masses, prices of flour and bread kept up by extreme protective duties, and other factors.² To counteract price advances brought about by speculative purchases of the short crop of 1934, the government set up a committee to import Australian wheat on government account duty-free, store it at government expense, and sell it to consumers. This it did to a limited extent, at a profit on sales below prevailing market prices. Also, by decree of February 7, 1935, import duties were somewhat reduced.³

Brazil remains a heavy net importer of wheat and flour; and her crop, though slightly increased, furnishes a small fraction of her consumption. The striking increase in consumption in the first post-war decade was followed, however, by a decline; and her imports fell correspondingly. In 1933 and 1934 there was some recovery, but it is too early to

be certain that the upward trend is being resumed.

South Africa presents a picture intermediate between that of Egypt and Brazil. Under high tariffs imposed on March 18, 1930, wheat production in the Union has increased greatly, while the former upward trend of consumption has been reversed. In the six calendar years 1924-29, South Africa used an average of 14 million bushels of wheat a year, of which net imports of wheat and flour made up nearly one-half. In the five years 1930-34 domestic use averaged 12.7 million bushels, to which net imports contributed only 1.6 million (Table XXV). The bumper crop of 1934 created a wheat surplus problem, and imports have latterly been negligible.

Japan presents a striking case, which we have recently discussed at length.⁴ Before the war, she was a small net importer of both wheat grain and flour. Since then, her domestic use of wheat has risen materially. Under the influence of the war and her tariff policy, however, flour imports have shrunk to negligible amounts.⁵ After the end of the war, with the aid of a drawback of duty paid on imported wheat when flour is exported, flour exports rose notably, particularly to China. Japan also ships substantial amounts of flour to her dependencies, Chosen and Taiwan.

Imports of wheat grain have varied greatly from one year to another, but until 1932-33 they were well maintained and on the whole enlarged. In increasing measure, however, they were milled into flour for export. Net imports of wheat and flour (inclusive of trade with Chosen and Taiwan as well as with foreign nations, Kwantung Leased Territory, and Manchukuo) averaged 13.5 million bushels a year in the eight years ending with 1932-33.⁶ During this period, the Japanese wheat crop was fairly constant at around 30 million bushels, while domestic utilization of wheat failed to expand as it had in earlier decades; on the whole, the margin between domestic consumption and production narrowed.

Chart 17 illustrates these statements and shows the striking changes that have occurred in the past three years: notable expansion of the Japanese wheat crop under government stimulus and favoring conditions; shrinkage

¹ Combined data for the Baltic states—Finland, Lithuania, Estonia, and Latvia—show a resumption of the upward trend after a somewhat longer check, but a reduction of net imports accompanying expansion of production. See Tables XXII, XXXI.

² *Commercial Intelligence Journal*, Nov. 24, 1934, pp. 777-78. Another factor has been the increasing admixture of rice with wheat flour.

³ *Commerce Reports*, Mar. 16, 1935, p. 177.

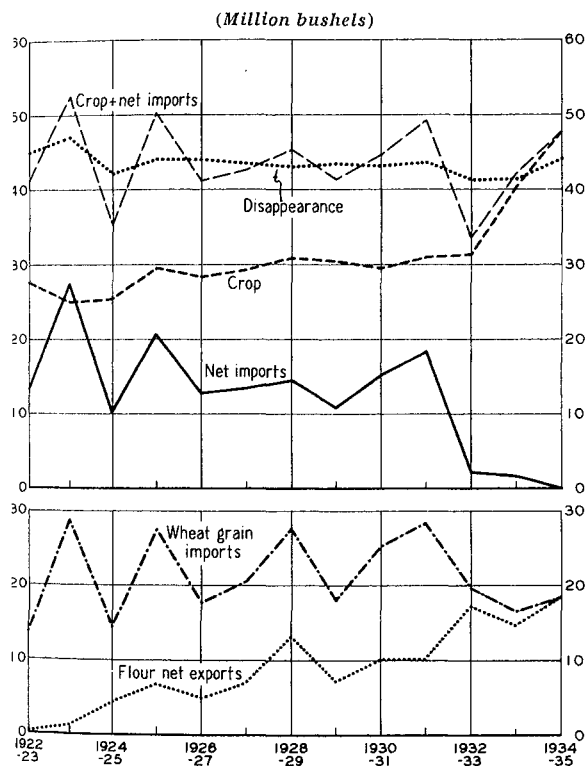
⁴ See charts, data, and discussion in C. L. Alsberg, "Japanese Self-Sufficiency in Wheat," *WHEAT STUDIES*, November 1935, XII, 57-100.

⁵ Some high-gluten flour, imported (chiefly from Canada) for manufacture in bond into *ajinomoto* for domestic use and export, is not included in Japanese trade statistics. *Ibid.*, pp. 82-83.

⁶ It is proper to include 1932-33 in this average, since the small net imports of that year were a consequence of imports for stock in the preceding crop year.

of net imports to the vanishing point; and maintenance of wheat grain imports, at a level well below the earlier average, only through substantial enlargement of flour exports. The imperialistic advance in Manchuria has been accompanied by expansion of flour exports to Manchukuo, at the expense of Chinese mills; but in 1934-35 Australia exported more flour to the new kingdom than Japan did. Japanese exports of flour beyond her sphere of influence are relatively small, though latterly some Japanese flour has "invaded" the Philippines.

CHART 17.—WHEAT SUPPLIES, TRADE, AND DISAPPEARANCE IN JAPAN, FROM 1922-23*



* Data in WHEAT STUDIES, November 1935, XII, 98, and below, Table XXXI. Trade data here include trade with Chosen and Taiwan. Flour converted to wheat equivalent at 4.5 bushels per barrel.

In China, Shanghai is by far the principal wheat importing center, with more milling capacity than all the rest of the country combined. Its mills are reported to have used the following amounts of wheat in recent crop years, in thousand bushels of 60 pounds:¹

July-June	Imported	Chinese	Total
1931-32	38,000	4,222	42,222
1932-33	33,556	7,555	41,111
1933-34	18,667	21,111	39,778
1934-35	14,888	26,667	41,555

Total millings have thus been fairly constant, but imports have lost ground to native wheat since 1931-32, when the flood disaster followed years of political disturbance and imported wheat could be had very cheap.

Wheat grain imports into Shanghai and into China as a whole are summarized below, in thousand bushels, for 2½ years ending June 30, 1935, with separate figures for imports by principal countries of export:²

Calendar year	Shanghai	Total	From Australia	From Argentina	From Canada	From United States
1933	31,377	39,367	30,850	4,940	3,573	30
1934	15,000	17,067	1,583	3,550	317	11,333
1935 (6 mos.) ..	14,033	16,283	12,100	3,867	37	177

Commercial imports from the United States have been negligible in this period, and from Canada in the past two years. Most of the subsidized imports from the Pacific Northwest arrived before August 1, 1934. In 1934-35 the great bulk of the wheat imports came from Australia, though Argentine wheat constituted a larger fraction (24 per cent) than ever before.

China proper is reported to have had net imports of wheat and flour of 18.45 million bushels, or a little more than in 1933-34. Of the flour imports reported as 746,000 barrels, 338,000 were purchased through the North Pacific Emergency Export Association³ and nearly as much from Australia. Japan has latterly had but little share in this trade, so far as customs statistics of the two countries reveal. Flour exports from China to Manchu-

¹ *Commercial Intelligence Journal*, Nov. 30, 1935, p. 954.

² *Ibid.*, p. 955. Cf. *World Wheat Prospects*, Dec. 29, 1934, p. 23.

³ This was bought at an average price of \$3.27 per barrel, f.o.b. Pacific Coast ports. The total cost (\$1,105,385.80) represented little over one-fourth of the loan commitment (\$4,000,000) available for flour purchases, whereas the full amount of the loan available for wheat purchases had been used in the preceding crop year. See J. S. Davis, *Wheat and the AAA*, pp. 283-84, 287, 290.

kuo, which in 1933-34 had substantially exceeded total flour imports, fell from 1,170,000 barrels to 500,000 in 1934-35; and with increasingly rigid Japanese control in Manchukuo this outlet is rapidly being closed to Chinese mills.¹

THE FLOUR TRADE

International trade in wheat flour shrank further in 1934-35, to the lowest level since 1920-21. Aggregate net exports of net-exporting countries have run about as follows, in million barrels:

1920-21 25.1	1925-26 35.7	1930-31 34.5
1921-22 32.6	1926-27 35.8	1931-32 29.4
1922-23 35.7	1927-28 34.3	1932-33 26.6
1923-24 46.4	1928-29 42.0	1933-34 27.2
1924-25 41.0	1929-30 35.3	1934-35 26.3

The latest figure is in striking contrast with those for peak years such as 1923-24 and

¹ F. J. Rossiter, Shanghai, reported to the Bureau of Agricultural Economics (*Press Release 546-36*, Sept. 30, 1935) figures from which the following are computed:

Year	Net imports (thousand bus.)		Flour (thousand bbls.)	
	Total	Wheat	Flour	Imports Exports
1933-34	17,855	19,911	(2,056)	713 1,170
1934-35	18,451	17,444	1,107	746 500

The flour exports are given as to Manchuria, and the figure in parentheses represents our computation of net exports in terms of wheat.

² See A. E. Taylor, "Decline in Wheat-Flour Export during the Depression," *WHEAT STUDIES*, October 1934, XI, 39-73.

³ A notable illustration is that of the Irish Free State, which imposed a duty of 85 cents a barrel, effective July 7, 1931, on wheat flour imported without special license; beginning Nov. 22, 1932, prohibited imports of British flour as part of her economic war with the United Kingdom; and from May 31, 1933, put flour imports under strict licensing and restrictive quotas with a view to milling all her own flour.

Brazil prohibited flour imports for eighteen months beginning Aug. 28, 1931, while she was using wheat obtained from the U.S. Grain Stabilization Corporation in exchange for coffee; this prohibition affected chiefly United States and Argentine millers.

⁴ So also did the French dependencies in northern Africa, taken together.

⁵ Both totals would be slightly larger if Japanese exports to her possessions were included.

⁶ Official data for annual average values of Australian flour production and exports, for the ten years ending with 1932-33, show export values per ton lower than those for domestic use in all but one year (1924-25) and the largest percentage difference in the depression years when values per ton were lowest. See data cited on p. 138, footnote 1, and others occasionally reported in the *Commercial Intelligence Journal*.

1928-29, and even for the less exceptional years from 1922-23 to 1930-31. Since the latter year, net imports of almost every flour-importing country have declined notably (Table XXIII); most extreme have been the declines in the Irish Free State, the Netherlands, Austria, Czechoslovakia, Finland, and Egypt. Exceptions showing recovery in 1934-35 include Cuba and a few other ex-European countries.

The general shrinkage of flour imports in recent years has most adversely affected North American, British, French, and Hungarian millers. It is due mainly to three diverse factors:² (1) import prohibitions or restrictions of many kinds imposed by flour-importing countries, often with a view to building up their domestic milling industries;³ (2) reduced incomes and import purchasing power in numerous countries, including those which have little or no milling industry; and (3) relatively high prices of wheat in North America, as the joint result of governmental or quasi-governmental measures and drought. In the second respect there was some improvement in 1934-35; in the others, the position was the most restrictive since the war.

Among flour-exporting countries, reductions since 1929-30 have been general and drastic, with a few notable exceptions. Australia, Japan, Italy, and Poland have expanded their flour exports; each exported record quantities in 1934-35,⁴ and their combined net exports represented 13.2 million barrels out of the total of 26.3 million.⁵ Australia's flour exports have exceeded those of Canada each year since 1931-32 and those of the United States since 1932-33, and in 1934-35 they were four-fifths as large as those from her two major competitors combined. Though no formal subsidy is given, export sales have been made at prices below those ruling within Australia, even before taxes on flour for domestic use were imposed.⁶ The expansion of Japanese flour exports, already discussed, has been favored by poor crops in Manchukuo. Japan and Australia both shipped heavily to that market in 1934-35. Italy's exports have consisted mainly of flour, semolina, and wheat pastes, in amounts more than covered

by imports of superior wheats; some low-grade Italian flour has been used in Great Britain for manufacture of dog biscuits. Poland's flour exports have moved with the aid of an export bounty. United States flour exports in 1934-35, as we have seen (p. 128), consisted predominantly of imported wheat milled in bond; the rest comprised mostly flour milled from Pacific Northwest wheat for export under virtual subsidy, and shipments to United States possessions.

Imports of Australian and British flour into Canada, particularly into Vancouver, have attracted considerable attention in late years, and aroused agitation for curtailing such imports in the interests of Canadian growers and millers.¹ The movement is, of course,

very small in proportion to Canadian millings and exports: in 1934-35 flour imports were only about .2 million barrels as compared with flour exports of 4.75 million and production of over 14 million. Three factors chiefly account for the recent rise in flour imports: (1) the imported product is almost wholly the product of soft wheat, of which western Canada produces very little while eastern Canada had a very small crop in 1934;² (2) Canadian prices of soft wheat flour have been held up, partly by shortage of domestic "Ontarios" and partly by the measures taken to support wheat prices in Canada as a whole; and (3) ocean freight rates from both Australia and Great Britain to Canada have fallen very low.

IV. DISAPPEARANCE AND CARRYOVER

Wheat "disappearance," for the world ex-Russia, seems to have been lower in 1934-35 than in any of the six years preceding except 1929-30 (Table XXXII). Still, it was only about 65 million bushels less than the average for those six years, and higher than in any year prior to 1928-29.

It is hardly to be doubted that on the whole, outside of Russia, slightly less wheat was

used for human food in 1934-35 than in 1933-34, or than in the two or three years before the depression began, despite the increase of population over this period. In the past year, however, as in the depression years that preceded it, feed use of wheat was much heavier than in any year prior to 1930-31.³ In several countries such disposition in 1934-35 was favored by shortage of feed supplies, by very low prices of wheat and low-grade flour (absolutely or relatively), and/or by direct government intervention as in France. Moreover, exports to China, Manchukuo, Hong Kong, and Kwantung were larger than in 1933-34, close to the average for six preceding years, and more than double the lower level that had characterized all but exceptional years prior to the depression (Table XXIV).

Disposition for seed use has not greatly changed in recent years, though it varies from year to year. In general, contraction of sown acreage in the major exporting countries has been much less than the reduction of harvested acreage, and it has been partly offset by acreage expansion in various importing countries where more seed per acre is customarily used.

With no pretense to accuracy, we venture to present the following "guestimates"⁴ of wheat disappearance in three major channels,

¹ On June 12, 1934, the Dominion government announced that Australian flour imported into Canada would be dutiable at \$1.35 per barrel, the "general rate." Before this order went into effect on Sept. 12, however, the Australian government agreed to prohibit further shipments of such flour to eastern Canadian ports, and Canada agreed that it should continue to enter western Canada duty-free. *Commerce Reports*, Sept. 15, 1934, p. 169.

² Production outside the Prairie Provinces had averaged 21 million bushels a year in 1929-33; the crop was 19 million bushels in 1933 and only 12 million in 1934. The Ontario crop of 1934, about 8.5 million bushels, was only half as large as in several preceding years.

³ In 1930-31 and 1931-32, wheat prices were very low, the United States corn crop harvested in the fall of 1930 was short, and unusually large amounts were used in this country and Canada for feed (Table XXX). In 1934, an even shorter corn crop in the United States was preceded by two small ones in Argentina, then followed by a bumper Argentine crop.

⁴ Using the word "guestimate" to mean something better than a guess but resting on too slender a basis to be called an estimate.

in million bushels, comparing two 3-year periods ending about July 31:

	Total	Food	Seed	Feed
World ex-Russia:				
1927-30 average	3,550	2,950	400	200
1932-35 average	3,600	2,880	390	330
Change	+50	-70 ^a	-10	+130
Europe ex-Danube:				
1927-30 average	1,670	1,440	115	115
1932-35 average	1,675	1,370	128	177
Change	+5	-70	+13	+62

^a This is shown despite an increase of about 20 million bushels in average shipments to China, Hong Kong, Manchukuo, and Kwantung.

The margin of error in these figures is, we think, not so wide as to throw doubt on the broad indications which they bring out.

In Europe ex-Danube as a whole, total wheat disappearance has not varied much in the past seven years, but there has been no general resumption of the upward trend that marked the first decade after the war (see Table XXXII and Chart 10, p. 119). Growth of population in "importing Europe," in the aggregate, has been overbalanced by decline in per capita consumption of wheat for food, which in 1934-35 probably reached the lowest in nearly a decade.¹ On the other hand, seed use had risen slightly over a period of years, owing to expansion of wheat acreage; and feed use was heavier in 1934-35 than in any other recent year, and absorbed much more wheat than was used for seed.

FOOD USE OF WHEAT

Wheat consumption for food has declined per capita since 1929 in most wheat-consuming countries; and in many countries, as well as in the aggregate, even in absolute amounts. The per capita decline has occurred not only in most European countries, where devices for protecting domestic wheat growers have incidentally often made flour and bread relatively dear, and in many cases less palatable. It has occurred also in the United States, Can-

ada, and Australia and in ex-European countries such as Egypt, South Africa, Brazil, Japan, and Chosen. It has occurred where per capita wheat consumption is high, as in Great Britain and France, and where it is low, as in Germany and the ex-European importing countries just mentioned. Unfortunately, annual data on production and stocks of flour are nowhere good enough—even in the United States, Canada, and the United Kingdom—to permit one to arrive at precise figures on flour disappearance in food channels, to say nothing of total wheat ingestion for food; but incomplete data and divergent estimates covering periods of years are adequate to support these conclusions. This phenomenon of the latest depression is in striking contrast to the tradition among millers in Anglo-Saxon countries that hard times make for increased bread consumption.²

At present one can only guess at the relative importance of the factors that have been responsible, in varying degree in different countries, for reduced per capita consumption in the recent years of depression; but several are clearly distinguishable. Decreased physical needs for food, not merely because of increased mechanization but with lessened physical labor associated with unemployment and part-time employment, are presumably one of the more important. Also, since fewer have been actively employed in factories and these on the average at fewer hours per day, fewer luncheons have been taken to work. To some extent, presumably, the use of lower-grade flours (particularly in households) has made baked products less palatable and therefore caused less to be consumed. This has been important in many countries of Europe, notably in Germany, France, and Italy, despite efforts of millers to improve their technique to offset great reductions in (or even elimination of) the harder wheats in their mill mix. There too, and probably in the United States in the past two years, relative dearth of wheat products as compared with alternative foods has been a major or minor factor. At least in the more prosperous countries reduced patronage of hotels and restaurants, reduced consumption of sweet goods, and reduced waste in households—all forced

¹ In the Danube basin, aggregate consumption for food was unusually low in 1934-35, for wheat crops were short and the corn crop was good.

² How far careful study would bear out this widespread conviction, we are unable to say.

by reduced income—are doubtless other factors. In countries with low standards of living, as in Italy, Egypt, the West Indies, and much of ex-Europe, reduced incomes and restrictions on imports have been important.

For the *United States*, Holbrook Working's standing estimates of wheat milled less the wheat equivalent of flour exported (or shipped to possessions) increased from 468 million bushels in 1922–23 to 512 million in 1928–29—an average increase of about 7 million bushels a year (Table XXX). At this rate of increase, the corresponding figure for 1934–35 would have been over 550 million bushels;¹ actually, the latest estimate is only 459 million bushels—some 90 million less. The average for the five years ending with 1934–35 (476 million bushels) is 22 million bushels less than that for the five years ending with 1928–29, though the population had increased about 7.2 per cent between the two periods. Other estimates differ in detail but point to a broadly similar result.

¹ Or 537 million, at the average per capita consumption of 1922–23 to 1928–29.

² Accelerated milling in the months preceding the imposition of the wheat processing tax effective July 9, 1933, resulted in an accumulation of flour stocks, which were drawn upon in 1933–34. Hence net mill grindings and domestic disappearance in that crop year were less than consumption. See J. S. Davis, *Wheat and the AAA*, pp. 200–201, 355–56.

³ See Table XXVIII, and *WHEAT STUDIES*, December 1927, IV, 101.

⁴ With the evidence now available, one is surprised to note that experts of the U.S. Department of Agriculture, writing in its *Yearbook* for 1921 (p. 159), should have found a long-time trend toward increasing per capita consumption of wheat in this country, which rising trend they believed had already been resumed after an interruption during the war.

⁵ President J. B. Smith of the Millers National Federation, the new leader of the movement in this country, recently said in his address before the American Bakers Association: "The public is not going to eat more bread just because some group advocates it. They will only eat more of it because they like the quality of it better . . ."—*Southwestern Miller*, Oct. 22, 1935, p. 21.

⁶ Based on data of Bureau of Internal Revenue. Because of permitted delays in payments, collections in August–July represent processing in July–June.

⁷ See *Monthly Bulletin of Agricultural Statistics*, April 1926, p. 100; April 1935, p. 106; and August 1935, p. 245. We use these figures in preference to those for flour production less net exports (in wheat equivalent), since they take account of unreported grindings for consumption.

Wheat grindings in the United States rose slightly in 1934–35 from the low point to which they had fallen in the preceding crop year.² But the total, which Working estimates at 480 million bushels, was about 80 million less than the average for the five years preceding the latest depression, and lower than in any other year since 1897–98 except 1920–21, when a huge carryover of flour remained to be sold.³ In 1934–35 the high quality of the grain available enabled mills to use slightly less wheat per barrel of flour; flour exports continued severely restricted; and flour consumption remained at a low level, though perhaps 1 per cent above the round figure of 100 million barrels in 1933–34. At .8 of a barrel, the estimated flour consumption per capita was about 12 per cent lower than it averaged in the five pre-depression years, and only about three-fourths as large as the average in the five years before the World War.⁴ Millers have embarked on a vigorous campaign designed to arrest and if possible reverse the downward trend in flour consumption.⁵

It is thus far impossible to ascertain how much of the wheat milled in the United States in 1934–35 was (a) processed for wheat growers under tax-exemption provisions, (b) processed for charitable distribution without net payment of the processing tax, and (c) subject to tax but illicitly escaping it. In the year ending July 1935 wheat processing taxes were collected, net, on about 344 million bushels;⁶ but this understates, by a substantial amount, wheat grindings subject to the tax on which the tax will eventually be paid if the Supreme Court does not interfere. Since the decision on the Schechter (NRA) case on May 27, 1935, many millers have refused to pay further processing taxes into the Treasury; and gross collections of the tax have dropped from an average of 10.6 million dollars in August–May 1934–35 to an average of 1.3 millions in August–October 1935.

Other countries.—Wheat milled for food use within Canada increased fairly steadily, according to official estimates,⁷ from 40.9 million bushels in 1922–23 to 44.1 million in 1928–29—an average increase of .6 million bushels per year. At this rate of increase, the

corresponding figure for 1934-35 would have been 47.5 million bushels; the preliminary estimate is 42.8, nearly 5 million bushels less. The average for the five years ending with 1934-35 (42.64 million bushels) is less than that for the five years ending with 1928-29 (42.96 million), though the population had increased about 9.4 per cent between the two periods. In the past three crop years, per capita consumption for food in Canada has averaged about 4 bushels, as compared with about 4.5 bushels a decade earlier.

For Australia the available evidence is insufficient to yield conclusive support to trade convictions that per capita consumption of flour there continues to decline. Official data on flour production and exports, for July-June years through 1933-34, point to a declining trend of per capita retention over a period of some years but to some recovery since 1930-31.¹ If data on flour stocks were available for June 30 as well as November 30, the recovery would probably appear slight instead of considerable. The wheat equivalent of the flour retained for domestic use appears to have been a little higher in the past three years than in several that preceded (Table XXX, C); but this appears to be due in part to an increase in flour stocks.²

In Argentina, alone among the major exporting countries, domestic flour consumption appears to have risen considerably during the depression, at a rate not much slower than in the years preceding (Table XXX, D); and if we may trust official estimates of the population, per capita consumption has remained at about the level it had reached in 1927-29.

In the Danube basin, particularly in Rumania and Yugoslavia, a marked though temporary reduction in food use of wheat seems

to have occurred in 1934-35, as it had two years earlier. Chiefly responsible was the conjuncture of short crops of wheat—coupled with measures in support of wheat prices—and good crops of corn. The same conjuncture led, somewhat surprisingly, to a similar result in Italy, where wheat control measures were even more restrictive of consumption.

In the United Kingdom the flour levy was collected in 1934-35 on 33.1 million sacks of flour destined for domestic consumption, or about 2½ per cent less than in the preceding year. The average for the two years (9,386 million pounds) represents about 220 million bushels of wheat, or 4.72 bushels (201 pounds of flour) per capita. This relatively low figure is in harmony with the widespread impression among millers and bakers in the United Kingdom that food consumption of wheat has continued to decline during the depression and subsequent recovery. There, as in the United States, millers are engaged in a vigorous campaign to stimulate the public to increase the use of baked goods.

We have already referred (pp. 128-32) to the situation in various other countries. Probably the greatest shrinkage in wheat for food since 1928-29 has taken place in Germany, where wheat had gained heavily at the expense of rye in the first decade after the war. Wheat consumption there, however, appears to have been somewhat enlarged in 1934-35, despite the reduced domestic crop in 1934. Broadly speaking, food use of wheat may be presumed to have been fairly liberal in 1934-35 in Poland, the Baltic states, Greece, Spain, Portugal, and the exporting countries of northern Africa, where 1934 crops were large; and to have been relatively low in Czechoslovakia, Austria, and Egypt. For France, Belgium, the Netherlands, and the Scandinavian countries, the position is obscure because of fairly important feed use, to which further reference is made below; as well as because of imperfect data on stocks, such as obscure the position in Japan. In New Zealand, total domestic utilization for food and feed has averaged about the same in the five crop years ending November 30, 1935, as in the five calendar years 1926-30.³ Since a large part of the crop goes into feed use, it is

¹ See Commonwealth Bureau of Census and Statistics, Canberra, *Production Bulletin No. 28*, September 1935, pp. 26, 115, and *Milling* (Liverpool), Oct. 12, 1935, p. 410.

² Since 1929-30, moreover, slightly more wheat has been used to mill a ton of flour. The common rate of conversion officially employed is 48 bu. per ton of flour. The average for six years ending with 1929-30 was 47.6 bu., and for the next four years 48.2 bu.

³ Based on computations made with the aid of stocks data for Nov. 30, 1930-34, given in International Institute of Agriculture, *Monthly Crop Report*, February 1934, XXV, 149; and January 1935, XXVI, 70.

not yet clear whether food use has risen or declined.

FEED USE OF WHEAT

Statistical data on the use of wheat for feed to poultry and other livestock (including dogs) are comparatively scarce, and nowhere satisfactory.¹ Our comments on the larger importance of feed use in recent years, however, call for some summary of rough figures for several countries, with the aid of Bennett's recent studies.² We believe that in the aggregate feed use of wheat was about as large in 1934-35 as the average for the three years ending July 31, 1935, though the distribution by countries was different. High quality of the 1934 crops in general militated against heavy feed use, and so did regional shortages in the Danube basin, Germany, and parts of the United States. On the other hand, the feed shortage in the United States, the relatively tight international position of feed grains, low wheat prices in Great Britain, the subsidized denaturing and export from France, and similar steps by other normally importing countries of Europe, all favored increased diversion of wheat into feed channels. We feel safe in concluding that at least 300 million bushels, and possibly 350 million or more, were fed to livestock in 1934-35 in the world ex-Russia.

In the United States, feed use of wheat, domestic and imported, on farms of wheat growers and others, probably amounted to between 90 and 100 million bushels in 1934-35. This was rather more than in 1933-34, when corn and other feed crops were not nearly so short; but it was not as large as in the three preceding years when wheat was much more abundant and cheaper (Table

XXX, A). Generally high quality of the 1933 and 1934 wheat crops doubtless reduced the volume fed, but we infer that some inferior wheat stored from earlier crops was diverted to feed use.

Early in 1935 plans were formulated for disposing of part of the Pacific Northwest surplus of discount wheats through subsidized shipments for feed use — of cracked wheat to the Dakotas, at reduced freight rates, and of whole wheat to New England; and for amending or supplementing the North Pacific export agreement so as to carry these plans into effect through the Export Association. Shortly, however, winter-wheat prospects east of the Rockies so gravely deteriorated that the AAA feared another crop failure. On March 20 contract restrictions on spring-wheat seedings were relaxed, and the Secretary of Agriculture withheld his approval of the Pacific Northwest arrangements.³

In Canada feed use of wheat was about as heavy as in 1933-34 but rather less than in the three preceding years. The total may have reached 25 million bushels, including loss in cleaning (Table XXX, B). More might have been so used there if the United States had not afforded a good market for considerable amounts of low-grade and feed wheats.

In Australia feed use of wheat, especially for poultry, has been tending upward, and appears to have been heavy in one or two recent years of large crops and low prices. We infer that less was so used in 1934-35 than a year or two earlier, but that the total may have approached or exceeded 8 million bushels. In Argentina, for which the evidence is still scantier, possibly as much — if so, an exceptionally large amount for Argentina — was so used in 1934-35; during much of the year pasturage was very poor, there was a good export demand for feed grains, and large supplies of maize were not available until April 1935.

Feed use of wheat has evidently continued to increase in the United Kingdom. In 1934-35 most of the crop that was not sold by farmers (about 3 million bushels) and probably over half of the sales certified as millable was used for feed as grain (chiefly for poultry) or meal. In addition to some 35 million

¹ The same is true of the much smaller fraction that is diverted to manufacture of beverages and a variety of minor industrial uses.

² M. K. Bennett, "Per Capita Wheat Consumption in Western Europe," *WHEAT STUDIES*, March 1935, XI, 255-305.

³ Davis, *op. cit.*, pp. 300-302, 140. Subsequently, the Federal Surplus Relief Corporation arranged for the purchase of Pacific Northwest wheat for relief disposition in the southeastern states; but almost none was bought before June 30 and up to the end of September 1935 only about 2 million bushels had been purchased.

bushels of domestic wheat, a good deal of imported wheat and some flour (particularly from France) were used for feed. In all, we estimate that from 50 to 55 million bushels of domestic and imported wheat and flour went into feed use in the United Kingdom in 1934-35.

Denmark also used wheat heavily for feed during 1934-35, as in several previous years. The wheat crop was of record size; other feed grain was relatively dearer than usual; and wheat imports at the record level of 19 million bushels included much subsidized wheat from France and Sweden.¹ Food use presumably accounted for only 9 to 10 million bushels,² and seed use is small. Probably at least 20 million bushels—two-thirds of the 31.5 million of crop plus net imports—was used for feed.

In the Netherlands, until the new wheat policy was adopted in 1931,³ nearly all of the domestic crop was used for feed. Since millers were required in 1934-35 to use 35 per cent domestic wheat in their mixes, something like 10 million bushels of the record crop of 18 million bushels was ground for flour. Seed use took around half a million bushels more. Part of the rest was exported (see p. 126), but something like 6 million bushels—much as before 1931—went to feed use, and possibly some imported wheat besides.

In Sweden, the policy of denaturing wheat presumably gave an impetus to feed use in 1934-35, and probably something like 10 million bushels was so used domestically, in addition to exports of 3.3 million. Imports of maize and maize products were restricted from July 1, 1934; and late in the crop year, maize importers were constrained to agree to buy denatured Swedish wheat or rye to the extent of 90 per cent of their purchases of imported maize and maize products plus their local purchases of wheat and rye.⁴

In France, feed use of wheat presumably reached record heights in 1934-35, under the influence of the denaturing policy. Trustworthy data on the amount of wheat denatured, and how much of this was exported, are not yet available to us. Including denatured wheat, probably 40 million bushels, more or less, were used for feed in France.

In Belgium, where feed use of wheat has risen greatly in the past decade, some 13 to 15 million bushels of domestic and imported wheat (and feed flour) were probably so used in 1934-35. In Switzerland the corresponding figure was probably 3 or 4 million bushels. In other European countries including Germany, we infer that very little wheat was used for feed in 1934-35 except what could not be used in milling.

CARRYOVERS

Largely owing to the short world crop of 1934 and exceptionally heavy diversion of wheat to feed use, the world wheat carryover ex-Russia⁵ was reduced by some 275 million bushels in 1934-35. Of this total reduction, about 125 million bushels were recorded in visible supplies (Table XI) and German commercial stocks, and around 150 million in the larger volume of stocks for which records are incomplete. The reduction was five times as great as in 1929-30, when the world wheat crop was short but feed use and exports to the Orient were both much smaller than last year. The 1935 total was lower than in any year since 1928. Still it was much higher than in any earlier year, except possibly in 1916 following the huge world crop of 1915.⁶

Early in the crop year 1934-35 there were hopes, and even expectations in responsible quarters, that reductions in wheat output and a tight position in other grains would cause the abnormal surplus of wheat stocks to be absorbed within the year.⁷ These hopes and

¹ In 1933-34 Denmark had imported a good deal from Germany for feed use.

² Bennett, *op. cit.*, pp. 272, 304.

³ See articles by J. C. MacGillivray in *Commercial Intelligence Journal*, Feb. 9, 1935, pp. 192-94; Mar. 30, pp. 511-18; June 1, pp. 964-68.

⁴ *Ibid.*, June 1, 1935, pp. 991-93.

⁵ See p. 103, footnote 1.

⁶ We feel safe in saying this, though our detailed estimates run back only to 1922.

⁷ This view was forcibly expressed by the late Sir Herbert Robson, leading British grain importer, in a letter to the *London Times*, July 19, 1934, and it was held by some leading delegates to the international Wheat Advisory Committee in London Aug. 14, 1934. See Davis, *op. cit.*, p. 342. *World Wheat Prospects* dated Sept. 27, 1934, began its summary thus: "World wheat supplies promise to be adequate for prospective utilization in spite of small yields in some of the im-

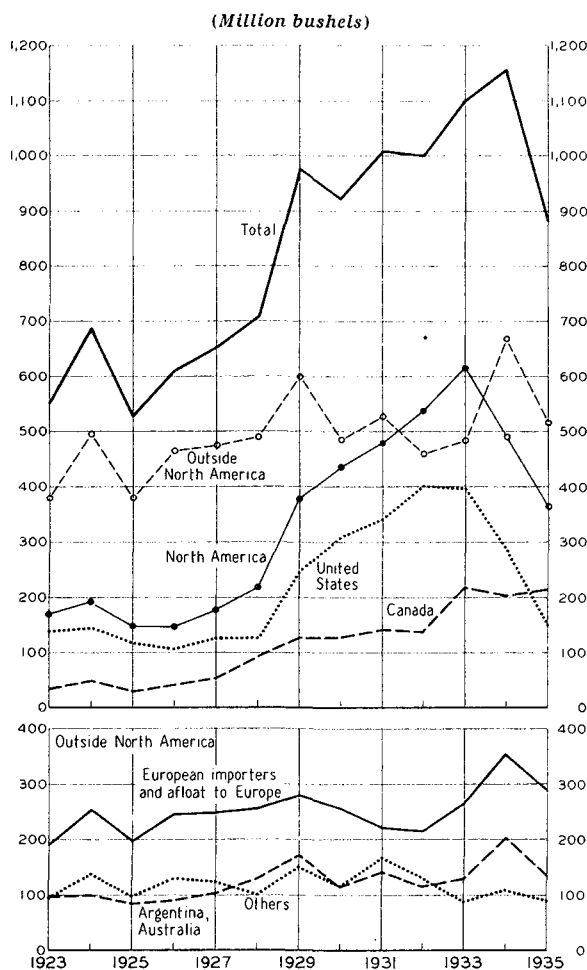
expectations vanished within a few months, as the size of initial stocks came to be more correctly judged,¹ as European crop estimates were revised upward, as restraints on imports and consumption were in general rigorously maintained, and as shipments to Europe from overseas countries disappointed all forecasts. The reduction in stocks that took place represented a substantial step toward the readjustment of current supplies to current disappearance; but it was by no means radical enough to change the world wheat position from surplus to scarcity, as a moderately greater crop reduction had strikingly done in 1924.²

As shown by Chart 18, all the major components except Canadian stocks in North America declined substantially; but almost everywhere except in the Danube basin, in India, and afloat to Europe wheat stocks remained above pre-depression "normal" levels at the end of the crop year.

The most striking reductions in carryover in 1934-35 were in the United States³ and the Danube basin, where very short crops were the principal cause; in Argentina and Australia, whence heavy shipments were made from

available supplies; and afloat to Europe, in consequence of drastic curtailment of import purchases in the closing weeks of the crop year. The aggregate reduction in these five items was 254 million bushels, according to

CHART 18.—WHEAT STOCKS IN IMPORTANT AREAS EX-RUSSIA, AS OF AUGUST 1, 1923-35*



portant wheat producing countries according to the United States Bureau of Agricultural Economics. By the end of the season, however, it is to be expected that stocks will be reduced to about a normal level so that there will be a basic improvement in the general wheat situation, the influence of which will extend beyond the current crop year." As the picture gradually changed, *World Wheat Prospects* gave no prominence to the revised views which its writers presumably held. Our own forecast in mid-September 1934 (WHEAT STUDIES, XI, 29-30) was that world wheat stocks would be reduced substantially, but by "nearer to 310 than to 410 million bushels," leaving the world carryover still far above normal levels.

¹ *World Wheat Prospects* for July 23, 1934, said: "The world wheat carryover now appears to be about 50,000,000 bushels smaller than last year." Our own estimates, on a slightly different basis, pointed in September 1934 to an increase of 45 million bushels, now revised to 58 (Table XII).

² See our review of the crop year 1924-25, WHEAT STUDIES, November 1925, II, 1-64.

³ Judging by official estimates for the past seven years (Table XV), the United States carryovers of hard red spring wheat and durum were very small, those of soft red winter and white wheats not excessive, and that of hard red winter by no means above a reasonable level in view of the small production of hard red wheats in the 1935 crop (Table VI).

* Data in Table XII; mainly our estimates except for United States (as of July 1) and Canada. See footnote 1, p. 103.

our present estimates (Table XII). On the other hand, Canada's carryover was 215 million—including Canadian wheat in the United States—only slightly under the peak of July 31, 1933 (see below, p. 142). Even so, stocks in the four chief exporting countries as of August 1, 1935, were down to about 500 million bushels for the first time since 1928.

Carryovers in European importing countries remained excessively high. Though perhaps 47 million bushels below their peak on August 1, 1934,¹ they were otherwise at probably record levels. These contained a very small proportion of imported wheat, except in the United Kingdom.² Stocks of domestic wheat were abnormally heavy in France, Spain and Portugal, Sweden, the Netherlands, and probably several minor countries. Stocks in commercial elevators and mills in Germany, which had run much heavier throughout 1934-35 than even in the preceding year of large crop, fell sharply in May-July to slightly below the record level of July 31, 1934, but remained far above customary levels.³ Stocks

¹ The Bureau of Agricultural Economics has recently published estimates of carryovers of old wheat in Europe and elsewhere, as of about Aug. 1, 1934 and 1935, in comparison with estimated "normals" and forecasts of carryovers on Aug. 1, 1936 (*World Wheat Prospects*, Oct. 29, 1935, pp. 7-9). These estimates differ in detail from ours (published only in summary) covering a longer series of years; but the totals for importing Europe show a decline of 51 million bushels in 1934-35, which agrees closely with our own figure.

² Commercial stocks in Antwerp, Rotterdam, and Amsterdam about Aug. 1, 1935, were only 1,144,000 bushels as compared with 3,671,000 and 5,238,000 on corresponding dates of 1934 and 1933. See International Institute of Agriculture, *Monthly Crop Report* . . . , August 1935, XXVI, 654. A somewhat different series reported to the U.S. Department of Agriculture, and summarized from time to time in *World Wheat Prospects*, gives confirmatory evidence of light stocks of import wheat in continental European ports in July-August 1935.

³ See International Institute of Agriculture, *Monthly Crop Report* . . . , August 1935, XXVI, 653. Total grain stocks in these positions (including wheat and rye flour for bread) were as follows, in million units of 60 lbs.:

Year	Wheat	Rye	Barley	Oats	Total
1932	10.4	7.3	2.6	.9	21.2
1933	19.1	13.9	3.6	1.2	37.8
1934	48.7	29.6	3.2	.9	82.4
1935	45.3	39.2	4.8	3.7	93.0

Stocks of rye, barley, and oats on July 31, 1935, were thus higher than on the corresponding date of any preceding year for which data are available. See below, p. 143.

⁴ From speech of Mr. Ralston, member of a special committee on Bill 98, the Canadian Grain Board Act: *House of Commons Debates* (Official Report—unrevised edition), July 4, 1935, p. 4570.

⁵ See J. S. Davis, *Wheat and the AAA*, pp. 25-26.

⁶ *Ibid.*, pp. 137-38; and *AAA Press Releases* 734-35, 1094-35, and 1547-35, Oct. 6, Dec. 3, 1934, and Feb. 8, 1935.

in farmers' hands in Germany as of July 31 were estimated at 3.9 million bushels in 1934 and only 1.7 million in 1935. Carryovers of old wheat were evidently light in Italy but heavy in northern Africa.

We infer that in Japan stocks of native and imported wheat were both fairly large (Table XII), and that stocks of native wheats in Uruguay and South Africa, which are not covered in our estimates, were also (see below, p. 143). There are indications that in Russia, where stocks had been reduced to a low point after the short crop of 1932, considerable stocks were built up from the big crops of 1933 and 1934 (see p. 111); but for lack of specific data we make no attempt to include this item in our totals.

Of the wheat carried forward in midsummer 1935, a considerable fraction consisted of holdings by government or quasi-governmental agencies. The largest block, of course, was that of Canadian wheat held by Mr. McFarland. As of May 31, 1935, these holdings totaled 228,562,000 bushels.⁴ While they were doubtless reduced during the next two months, we infer that as of July 31, including futures, they approximately equaled the total Canadian carryover reported as 215 million bushels. This figure is comparable with the 256 million bushels of United States wheat which the Grain Stabilization Corporation held on July 1, 1931.⁵

In the United States, 4 to 5 million bushels of the carryover were in government hands. In the summer and fall of 1934, to insure against scarcity of suitable seed wheat for 1935 sowings, a Seed Conservation Committee purchased in trade channels quantities of selected spring wheat.⁶ Actually, very little of the durum and less than half of the hard red spring were disposed of for seed use, though some was distributed to farmers on relief through orders issued by state emergency relief administrators in the northwestern states. In the eastern half of the spring-wheat belt, seed was in general commercially available at prices more attractive than the cost prices fixed by the committee for its sales through county drought committees (\$1.35 for Marquis and Ceres, and \$1.60 for durum varieties, including storage charges to January 1, 1935).

The act providing for seed loans to growers without free cash or other credit was approved late in the season (March 31, 1935), and to many potential borrowers the regulations seemed rigid, the terms harsh, the amount obtainable too limited, and the delays irritating and serious.¹ After the end of the sowing season, the committee sold part of its surplus wheat on the open market. Early in August it announced that the remainder (then including about 3.1 million bushels of hard red spring and 1 million of durum) would be held pending determination of need for these reserves in 1936.²

In France, the government had acquired some 22 million bushels as a "security stock" and then "took in charge," at prices attractive to sellers, much of the rest of the carryover (in total estimated at 74 million bushels) with a view to working it off on millers in the early months of the new crop year.³ Under pressure from France, some bread wheat was carried over on government account in French Morocco (see p. 126). In Czechoslovakia the grain monopoly, which early in August 1934 had taken over stocks of about 7 million bushels each of wheat and rye, found itself with embarrassingly large stocks on July 31, 1935.⁴ In Italy almost all of the government-financed

stocks from the big crop of 1933 had been disposed of before August 1.

Even in small wheat-producing countries there are numerous examples of reserves in government hands. Toward the end of the crop year the state grain office in Latvia offered price reductions to millers who agreed to purchase their bread grain requirements solely from government stocks.⁵ In Uruguay, where the Bank of the Republic had bought up at fixed prices most of the exportable surplus from the big crop of 1933, these stocks were not fully disposed of by the end of 1934⁶ or even by July 31, 1935. In South Africa the bumper crop of 1934 created a wheat surplus problem, and a holding policy was determined upon. Under the Wheat Industry Control Act of 1935, the Union set up a board of nine members representing wheat growers, millers, consumers, and the government. Its principal functions are to levy and collect processing taxes of not over 7.3 cents per bushel, and to employ the funds so raised to compensate wheat growers, under specified conditions, for losses sustained in withholding wheat from the market.⁷

In Germany, though the Reich Grain Office probably held little wheat on July 31, its regulations were largely responsible for the heavy reserves of grain carried over by the mills.⁸ Similar measures were applied in Spain⁹ and elsewhere.

Some omissions from the foregoing list deserve passing mention. Australia has not yet resorted to the device of financing wheat holding, though some of its financial aid to wheat growers (see below, p. 157) may have helped in this direction. The Argentine Grain Regulating Board, which had held 32 million bushels on August 1, 1934, held no wheat a year later. In the United Kingdom it was again found unnecessary to call upon the Flour Millers Corporation to take over any stocks of millable wheat at the end of the crop year.

The distribution of the 1935 carryovers, and the degree to which they were held subject to government control, have considerable significance for 1935-36. Special importance attaches to the concentration of exportable carryovers in Canada and of heavy stocks in European importing countries.

¹ Harsh criticisms of the government procedure are set forth in A. W. Erickson, "Seed Loans and the Devil in the Dakotas," *Northwestern Miller*, Sept. 11, 1935, pp. 715, 724-25. We have inadequate basis for saying how far these reflect the actual situation.

² A few weeks later it was decided to sell about two-thirds of these balances. *AAA News Digest*, Aug. 10, Sept. 7, 1935.

³ *Foreign Crops and Markets*, Oct. 7, 1935, pp. 492-96.

⁴ *World Wheat Prospects*, Sept. 27, 1934, pp. 19-20; *Commercial Intelligence Journal*, Oct. 12, 1935, p. 629.

⁵ *Northwestern Miller*, July 3, 1935, p. 49. Cf. *World Wheat Prospects*, May 31, 1935, p. 25.

⁶ *Commercial Intelligence Journal*, Aug. 25, 1934, p. 305; *Commerce Reports*, Jan. 26, 1935, p. 61.

⁷ U.S. Department of Agriculture, *Press Service Letter* No. 23-36, July 6, 1935. See further below, p. 158.

⁸ See H. Böker, "Regulation of the Cereal Market in Germany," *International Review of Agriculture*, August 1934, XXV, E 342-46.

⁹ E. Martínez de Bujanda, "The Wheat Trading Commissions . . . in Spain," *ibid.*, October 1934, XXV, E 472-77.

V. PRICES AND PRICE SPREADS

Wheat price developments have latterly been exceptionally complex. For some years prior to 1929-30, the world wheat market was comparatively open and free. Under these circumstances, regional price differences and price spreads between types always merited consideration, but they were usually kept within limits in the changing price structure. Moreover, some form of the gold standard was so nearly universal that fluctuations in international exchanges were so small that series of wheat prices could be expressed, without being misleading, in single units such as cents per bushel, shillings per quarter, or francs per quintal. Since the onset of depression in 1929, however, national measures affecting trade, currencies, and exchanges have so multiplied that we no longer have a world wheat market in the former sense, and more or less independent national "management" of numerous currencies has swept away the former bases for expressing price series in any single currency unit.

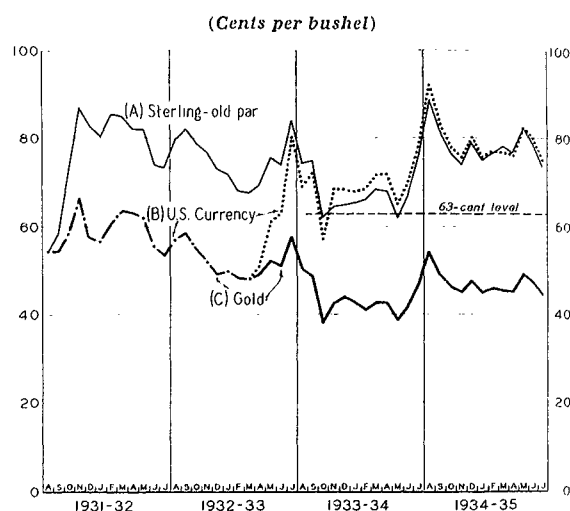
This condition persisted in 1934-35. Exchange fluctuations, fortunately, were less pronounced than in the two crop years preceding, though stability of international exchanges was by no means attained. But trade barriers and national controls were on the whole maintained or intensified, and were unusually effective. Of special importance during the year were semi-official market support in Canada, export dumping of wheat by several European countries, and unusual price relations among wheats of different types (e.g., durum, hard red spring, and Pacific Northwest types) and origins (e.g., Canada, Argentina, and France). Under the circumstances, it is especially difficult to get a clear picture of the salient features of wheat price movements and the price structure. Representative complexities and divergences are brought out in Tables XXXIII and XXXIV and in several charts in this section.

WHEAT PRICE LEVELS

In Chart 19 monthly average prices of wheat "parcels" (less than full cargoes) imported into the United Kingdom¹ are shown (A) in

British currency converted to cents per bushel at the old *par* (£1 = \$4.8665), reflecting prices as quoted in shillings per 480 pounds; (B) converted to current U.S. cents per bushel at sterling rates of exchange in New York; and (C) in terms of pre-devaluation gold cents

CHART 19.—BRITISH PARCELS PRICES, AVERAGED MONTHLY FROM AUGUST 1931, ON THREE BASES*



* Our computations from data in *London Grain, Seed and Oil Reporter*; see Table XXXIV, footnote b. For explanation of bases A-C, see accompanying text.

with the use of London prices of gold. Curve A rises sharply after the British abandoned the gold standard in September 1931. Curve B rises sharply after the United States followed suit in April 1933. Each of these sharp advances was accompanied by a much smaller advance in curve C; but each time the latter subsequently sank to fresh low points. In 1934-35, as in much of 1933-34, curves A and B run fairly close together, while curve C is on a much lower level throughout. The three

¹ British parcels prices are a convenient rough index of "world wheat prices," so far as there is such a thing; but the index is defective in that, since the composition of the "parcels" varies greatly from year to year and within a year, its course is materially influenced by such variations, considering the very different levels at which different wheats sell. See M. K. Bennett, "British Parcels Prices: A World Wheat Price Series," *WHEAT STUDIES*, July 1928, IV, 289-306; and A. E. Taylor, "World Wheat Prices, Canadian-Argentine Spreads, and the Ottawa Agreement," *ibid.*, October 1935, XII, 35-56.

curves show the course of this series of prices as it might appear, respectively, in Liverpool, Chicago, and Paris. Unfortunately, none of these three viewpoints is adequate, and even all together are not. We should like also to see a wheat price series refined by removal of the influence of such major currency changes as the British and American departures from the gold standard. This we cannot get. Unquestionably the so-called "gold price" of wheat would be different if these policies had not been resorted to; and we believe such a curve *D* would be higher than curve *C* throughout its course, and in 1934-35 perhaps nearer to curves *A* and *B* than to curve *C*.

In the International Wheat Agreement signed late in August 1933, the signatory importing countries undertook to begin lowering their tariff barriers when British parcels prices in terms of gold cents had averaged over 63.02 cents per bushel for sixteen consecutive weeks, and to make effective alterations in other import restrictions in 1934-35 "if world prices have taken a definitely upward turn from the average price of the first six months of the calendar year 1933."¹ From Chart 19 one can observe how far short of these goals were actual "gold" prices in the two years to which the agreement was designed to apply.

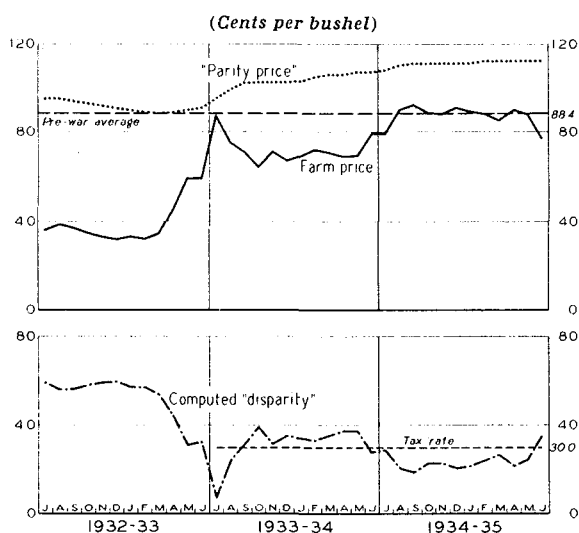
An outstanding fact of the crop year, indeed, was that the net advance of wheat prices in 1934-35 was so slight, in the face of so many bullish factors including a marked reduction in accumulated wheat stocks. Almost all forecasters materially overestimated the extent of the price recovery, initially in part because supplies were underestimated and throughout because European demand was overestimated. The crop-year average price of wheat imported into Great Britain was only a little above its low point in 1933-34: in current U.S. cents it rose from 68 to 77 cents per bushel; in pre-devaluation gold cents from 43 to 46 (Table XXXIV). In terms of gold, and also in terms of current prices deflated by a British wholesale price index, the 1934-35 average was otherwise the lowest for much more than a century. In terms of gold, prices in Buenos Aires and Melbourne (Australia)

averaged only 34 cents in 1934-35, practically at the low level reached in 1933-34.

In the United States the average farm price of wheat rose to only 87.2 current cents, as compared with 72.0 cents in 1933-34 and a pre-war 5-year average of 88.4—despite the fact that in 1934-35 the United States became a net importer, the tariff was unusually price-effective, and visible supplies and year-end stocks were strikingly reduced. When, in the twelve months ending March 1933, the depression was about at its worst, American wheat stocks were at their peak, and price-supporting measures were least effective here, the United States farm price averaged 36.1 cents a bushel. After devaluation of the dollar by 40 per cent, the inauguration of acreage restriction and surplus disposal, two exceptionally short wheat crops in succession, and extremely short feed supplies, the large absolute advance to 87.2 cents in 1934-35 seems very moderate. It was much below expectations.

As shown by Chart 20, farm prices hung close to the pre-war average through the crop

CHART 20.—UNITED STATES FARM PRICE OF WHEAT COMPARED WITH "PARITY PRICE," MONTHLY FROM JULY 1933*



* Data of Bureau of Agricultural Economics. See J. S. Davis, *Wheat and the AAA*, pp. 191-98.

year 1934-35, except for one month at the beginning and one at the end of the year. Since the index of prices that farmers pay for commodities bought was considerably

¹ See J. S. Davis, *Wheat and the AAA*, pp. 323-24.

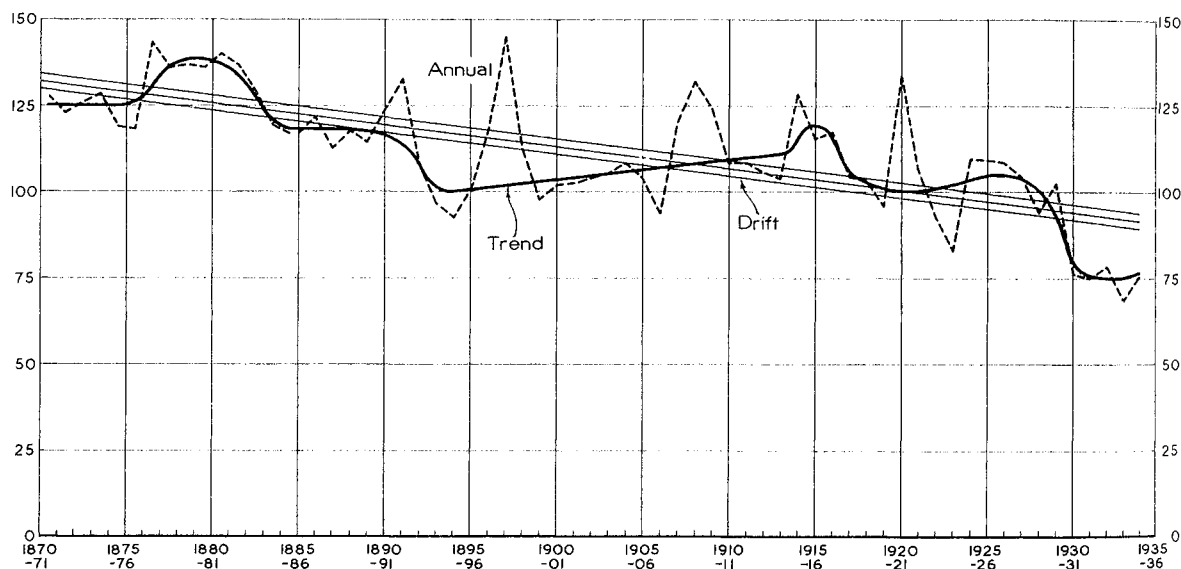
above its pre-war average (touched on March 15, 1933), the computed "parity price" of wheat kept well above average farm prices. Until June 1935, however, the "disparity" was less than the wheat processing tax rate, which has been held at 30 cents a bushel since it became effective July 9, 1933.¹

It is appropriate to view wheat prices in 1934-35 in a longer perspective. For this purpose, actual prices or price averages are less suitable than average prices for some important country adjusted, however crudely, for changes in commodity price levels. Chart 21

pressed in U.S. cents per bushel of purchasing power in 1910-14.

On the basic curve is superimposed another. This represents a free-hand smoothing of the annual data, to get an approximation to changing *trends* over periods of several years; this curve is of major interest and importance, but need not be discussed here. In addition is shown a band, 5 cents wide, centered on a straight line mathematically calculated from all the annual data shown. This shows the broad *drift* of this series of deflated prices over an extended period of time. If corre-

CHART 21.—DEFLATED PRICES OF BRITISH IMPORT WHEAT, ANNUALLY FROM 1870-71*
(U.S. cents per bushel, 1910-14 basis)



* Averages of monthly data for calendar years 1870-85, and for August-July years from 1885-86. Price averages in sterling are divided by corresponding averages of the Sauerbeck-Statist index of wholesale commodity prices expressed in terms of its average for 1910-14. The results are converted to U.S. currency at \$4.8665 to the dollar. See Chart 7 in *WHEAT STUDIES*, December 1934, XI, 149.

gives such a series for the past sixty-five years. It shows annual averages of monthly average prices of wheat imported into Great Britain, the outstanding import market, "deflated" by the Sauerbeck-Statist index of wholesale prices. Roughly speaking, prices are here ex-

sponding data were available for earlier years, some such long-term drift would be shown to extend much farther back.² Though the slope of the line would vary with the period covered, there would be no question that the "secular trend" has been downward rather than horizontal or upward. The decline is such as to suggest a drop averaging about 6 cents of pre-war purchasing power per decade. Ample reasons for some such downward drift in "wheat values" per unit can be found: the expansion and expansibility of world wheat production at reduced real costs per bushel;

¹ In 1933-34, as the lower section of the chart shows, the processing tax rate failed to cover the calculated "disparity" except in July-August 1933 and June 1934.

² See chart based on prices of British domestic wheat, in A. F. Wyman and J. S. Davis, "Britain's New Wheat Policy in Perspective," *WHEAT STUDIES*, July 1933, IX, 334.

cheapening of ocean transport;¹ and latterly, falling rates of population increase in important wheat-consuming countries, and declining per capita consumption of wheat for food. Extrapolation of even well-established secular trends is hazardous; yet there is no present ground for expecting this long-term drift to be reversed, though the trend line may rise as it did for twenty years prior to the World War.

At actual levels of recent depression years, as in the middle 'nineties, wheat has been abnormally cheap in relation to other commodities, just as it has been abnormally dear in occasional other years or periods of years. The relative cheapness was most extreme in 1933-34, but not much less in 1934-35. For the past five crop years the price, thus deflated, has averaged about 75 cents per bushel (1910-14 basis) as compared with an average of about \$1.07 for the four crop years that preceded the World War. We venture to suggest that something like half of this drop is a reflection of the long-time downward drift of wheat "values."

It is not premature to predict that the corresponding figure for 1935-36 will be higher, though probably not within the "drift zone." Yet, we think it safe to say, the "economic normal" level for the years immediately ahead must be several cents below the average for the decade ending with 1929-30, and even farther below that for the five years that immediately preceded the World War. If this view is well founded, one cannot accept pre-war averages as "normal" for either the present or the near future, even when prices are adjusted for changes in commodity price levels.²

While the data shown are for Great Britain, and data for other countries would result in different trends, the broad inferences drawn

from them hold in some degree for the United States³ and major exporting countries such as Canada, Argentina, and Australia. In retrospect, those who regarded wheat price levels as abnormally low in the years preceding this depression were wrong; and those who expect wheat prices to recover to "pre-war parities" are presumably equally wrong. Political measures aimed at restoring prices to such "parities" are directed against the powerful pressure of economic forces.

THE COURSE OF FUTURES PRICES

One cannot well speak of *the* course of wheat prices in 1934-35. Different series show not only widely different levels but often widely divergent courses, and the course of a single series depends partly on the currency unit in which it is expressed. In various European countries prices were fixed by governmental edict, often on a rising scale through the season, as in Germany and Czechoslovakia. In others they were subject to influence from purchases by governmental agencies, as in Poland, France (after mid-December), and several of the Danube states. In Canada there were not only government-supported purchases but price pegs in the futures market.

If one plots the monthly data for the series shown in Tables XXXIII and XXXIV, the several curves reveal striking departures from the courses already shown for 1934-35 in Charts 19 and 20. Peak prices of the year were reached in August 1934 by British parcels, various wheats in Liverpool, and in Winnipeg, Buenos Aires, and Melbourne; in September by most of the American series and in France; in February 1935 in Hungary; in May in Italy; in June in Germany and Yugoslavia; in June-July in Great Britain (native wheats). For most of the series significant in connection with international trade the low was in one of the winter months, while for most of the American series it was in June or July 1935. With full awareness of such diversities, we turn to consider the course of prices in the world's four leading futures markets, as shown by daily quotations in the respective currencies in Chart 26 (p. 182) and by selected daily series expressed in current cents in Chart 22.⁴

¹ For recent years, see p. 117. This factor, like the one first mentioned, was of great importance in 1870-1900.

² Cf. Davis, *Wheat and the AAA*, pp. 433-38.

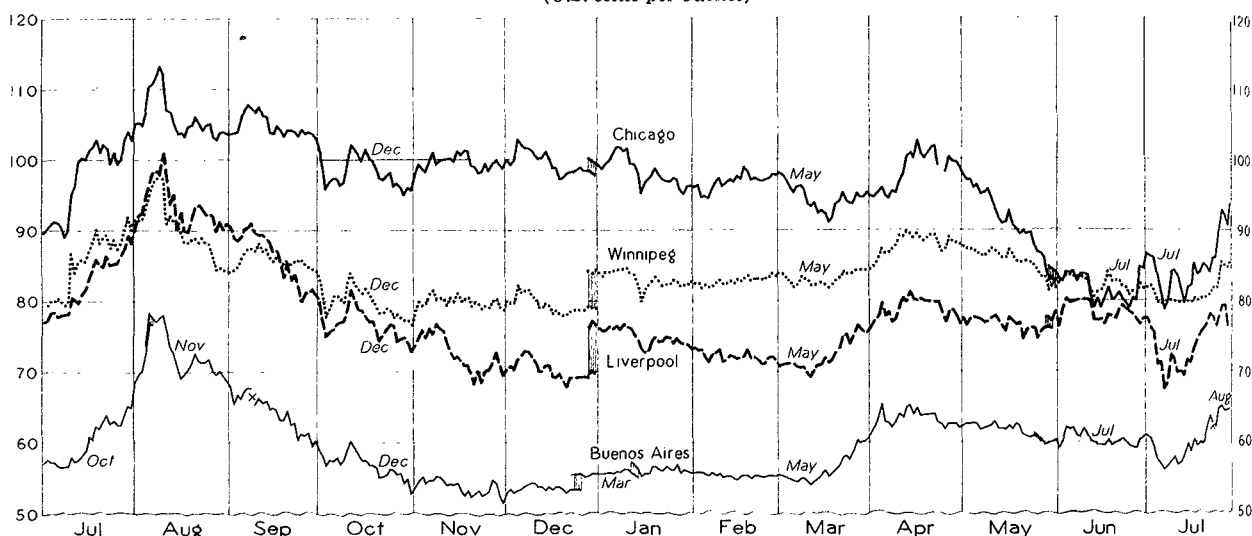
³ Deflated Chicago prices would show a much slighter downward drift through the same 65-year period. See chart in H. C. Farnsworth, "Decline and Recovery of Wheat Prices in the 'Nineties," *WHEAT STUDIES*, June-July 1934, X, 291.

⁴ For more detailed discussion covering minor fluctuations, see our "Survey" issues in *WHEAT STUDIES* for September 1934 and January, May, and September 1935: XI, 8-12, 209-14, 338-43, and XII, 7-13.

Futures prices reached their peak for the crop year on August 10, 1934. They had risen sharply in May. The gain was held in June, except in the United States where the May rise had been most spectacular. In July and early August all markets advanced by around 20 cents a bushel. This advance came chiefly in response to sensational drought and crop news from North America. Eventually har-

much less than the December, which dropped 31 cents a bushel between August 10 and December 31. The downward drift in the Liverpool May future continued through February.¹ The lowest closing price in American currency, on March 12, was 37 cents below the corresponding peak of August 10, 1934, and prices had not been much higher for several weeks preceding.

CHART 22.—DAILY CLOSING PRICES OF SELECTED WHEAT FUTURES IN LEADING MARKETS, 1934-35*
(U.S. cents per bushel)



* See footnote under Chart 26, p. 182.

vests bore out these bullish reports and similar but less striking ones from the Danube basin and Australia. From late in May, moreover, these influences were powerfully reinforced by growing convictions that importing Europe would harvest crops substantially smaller than in 1933. In the last two weeks of the advance the Liverpool market led the others, as British importers and speculators acted on their judgment that the time had come to buy wheat heavily.

A sharp recession ensued in the week beginning August 11, as a few bearish news items made their impact on a vulnerable market position. The recession was resumed in September, and by early October practically the whole advance from early July had been wiped out. In Liverpool and Buenos Aires the drift continued downward through December, though the Liverpool May future declined

This extreme price decline was basically attributable in large part to ripening convictions that wheat supplies of importing Europe, from carryovers and new crops both larger than earlier anticipated (see p. 104), were so abundant that the drafts on accumulated world wheat stocks would be far less than had been expected. International shipments, which had held up remarkably in April-June 1934 and increased more than usual until mid-August, remained low in the ensuing months and in November-December declined more than in 1933 (see p. 121). Pressure of Argentine and French exports was heavier than had been expected. Growing assurance

¹ In terms of U.S. currency, the decline continued into March, but a substantial fall of sterling exchange in February and early March was a complicating factor. Compare Charts 22 and 26, and *WHEAT STUDIES*, May 1935, XI, 339.

that ample supplies for importers would be available, even with Canada selling reluctantly, destroyed the foundation for the earlier price advance. This done, liquidation of an unusually heavy volume of speculative accounts (notably in Liverpool) greatly magnified the extent of the recession and naturally affected its course.¹

In Winnipeg the price decline was checked in mid-course. About September 30, Mr. McFarland publicly asserted that supply and demand relations did not justify "any such absurd prices" as were currently quoted in Liverpool or Buenos Aires, blamed the decline on a speculative "bear raid," and called for investigation and appropriate action.² No extended investigation was made; but under pressure from the Dominion government, presumably on Mr. McFarland's advice, the Winnipeg Grain Exchange shortly announced that beginning November 1 trading in futures would be prohibited below fixed limits set as follows: December future, 75 cents; the May, 80, the July, 80¼.³ When the May future ran out, the peg for the July was lowered to 80 cents. This was also made the minimum for the August future when trading in it was first permitted on June 14, 1935.⁴

In the light of the year as a whole, the price decline against which Mr. McFarland protested appears to have been due, not to tempo-

rary speculative pressure, but to correctly revised views of supplies and requirements. The price pegs (though they were seldom actually touched) served for the time to hold up prices in Canada; but this limited exports of Canadian wheat and flour, and also compelled Mr. McFarland to increase his holdings to take up the hedges that speculators usually carry.

Support of prices in Canada helped indirectly to hold up futures prices in Chicago, for it reduced the risk of duty-paid imports of milling wheats. From October till early April Chicago prices fluctuated within a comparatively narrow range, with only a slight sagging tendency after early December. At its lowest point on March 18, Chicago May was 25 cents below its peak of August 9 preceding, but only 5 cents below the close on October 3 (the low of early October). New-crop futures in Chicago fluctuated more widely than the May future, as prospects for the 1935 crop changed; and from mid-January to mid-April, as dry weather continued, July and December futures rose toward the May.

Advances were the rule from March 12 to April 13, when the Liverpool May future rose about 12 cents a bushel and other markets except Winnipeg rose nearly as much from their recent lows. This advance appears to have been initiated mainly in response to a mild war scare in Europe following Hitler's announcement on March 16 that Germany was about to re-establish compulsory military training. The advance was sustained by evidence of continued large sales to the Orient and improvement in European purchases. In North American markets, however, the rise was slight until, after severe dust storms early in April, the official forecast of the United States winter-wheat crop gave the surprisingly bullish figure of 435 million bushels.⁵ This striking price advance had a marked influence in stimulating export shipments, which reached a notably high peak in mid-May (see Chart 12, p. 121).

Again, however, the bullish appraisal of the position was short-lived; and by the end of May most of the price advance had been lost except in Buenos Aires, where heavy shipments of exportable stocks had been made. In Chicago, indeed, improving pros-

¹ See our "Survey" covering that period, *WHEAT STUDIES*, January 1935, XI, 209-12.

² *Northwestern Miller*, Oct. 3, 1934, and *WHEAT STUDIES*, January 1935, XI, 209 n., 213. Compare Secretary of Agriculture Hyde's outburst in September 1930 with reference to Russian short-selling on the Chicago market, and the subsequent action by the Chicago Board of Trade. *WHEAT STUDIES*, February 1931, VII, 262-66.

³ See Chart 26, p. 182. In the preceding crop year, following the collapse of the speculative advance in July 1933, the Winnipeg Grain Exchange had prohibited trading in futures from Aug. 15 to Sept. 14 at prices below closing prices on Aug. 14. When those pegs were removed, futures prices fell. See Chart 11 in *WHEAT STUDIES*, December 1934, XI, 155.

⁴ After a subsequent rise in world market prices, the new Canadian Wheat Board, on Sept. 7, 1935, fixed its buying price for the year at 87½ cents—like futures quotations, on the basis of No. 1 Manitoba Northern, Fort William.

⁵ Private estimates published April 1 had averaged 490 million, and ranged from 470 to 508 million. The post-harvest estimate, 432 million as of August 1, was close to the forecasts as of April 1 and May 1.

pects for 1935 domestic crops of both winter and spring wheat¹ led to a striking decline from mid-April to mid-June, as traders veered to the view that Chicago prices could not remain in 1935-36 as far above Liverpool as they had in 1934-35, if they did not even fall to an export basis. Neither advance nor recession was pronounced in Winnipeg, where price-supporting operations had checked earlier declines, the opportunity to export was welcomed as price relationships improved, and price support again came into play on the recession.

In late June 1935, wheat crop prospects were such as to point to another big world harvest, and a large surplus over prospective disappearance in 1935-36. Six weeks later, maturer prospects pointed to a short crop like that of 1934. This abrupt and striking reversal was due mainly to the rapid spread of severe rust epidemic in North America, particularly in the spring-wheat belt, and to inadequate rainfall in Argentina and Australia.² The price influence of this development, however, was for a time offset by one that proved temporarily powerful and of no small influence for a longer period.

Early in July, Liverpool prices broke sharply. The July future dropped from 80 on June 11 to 68 on July 6—the lowest point of the year, and a little lower than the July 1934 future had stood a year earlier. In Chicago the break was nearly as large, but there it merely canceled an earlier brief advance based on alarming reports of rust infection in the spring-wheat belt. In Winnipeg the break was halted by price pegs. In Buenos Aires also, where only a moderate export surplus remained, it was also much less than in British markets.

The break was due to European interpre-

¹ The official forecast of winter wheat was raised from 432 million bushels as of May 1 to 441 as of June 1 and 458 as of July 1. With an initial forecast of 273 million bushels of spring wheat on July 1, the total United States crop was then officially forecast at 731 million bushels. The final estimates, published Dec. 18, 1935, are shown in Table II.

² "World Wheat Survey and Outlook," *WHEAT STUDIES*, September 1935, XII, 1-7. ³ *Ibid.*, pp. 9-10.

⁴ We include very few comments on the spreads between near and more distant futures in individual markets, which are represented in Chart 26, p. 182.

tation of news from Canada, where a bill to set up a Canadian Grain Board (approved July 5) was the outstanding issue before the Dominion Parliament and the public.³ This news led British traders to expect that the new board would adopt a policy of much freer selling, in order to dispose of the huge stocks accumulated through earlier price-supporting operations (see p. 142), and that such selling would necessarily force down prices in importing markets.

In the second half of July, Liverpool prices rose enough to wipe out the loss. This advance was due primarily to increasingly general acceptance of the fact that North American crops had seriously deteriorated and that early-season prospects in Argentina and Australia were poor. In Winnipeg and Buenos Aires, prices closed higher than a month earlier; and in Chicago, where domestic crop news was worst, most definite, and most influential, prices closed 8 cents above the peak of July 3 and 15 cents above the low of July 6. The smaller advance in markets outside the United States was due to the facts that the crop scare was as yet taken less seriously abroad and that the fear of free Canadian selling was not dispelled. Also, with Canadian policy still undetermined, vivid memories of two successive years of costly bullishness before mid-August may have limited the extent of price recovery.

SIGNIFICANT PRICE SPREADS

A full discussion of price divergences during 1934-35—between countries, between markets, between types and grades, and between different futures—would require almost a volume in itself. Here only a few outstanding comparisons can be made.⁴

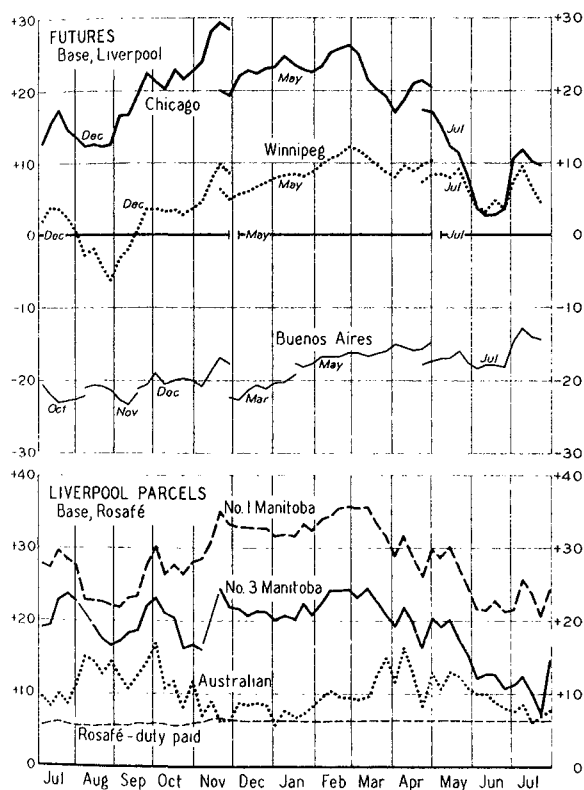
Futures prices.—Price differences among the leading world wheat futures markets in 1934-35 are graphically represented in Chart 22 (p. 148) by spaces between selected curves of daily futures data, and in the upper section of Chart 23 by weekly average spreads above and below a Liverpool future as a base.

Through most of the year Liverpool and Buenos Aires futures moved roughly parallel, with Buenos Aires of course below. The spread was wide in most of July-December

1934, when Argentina was shipping freely from her heavy stocks. It was somewhat narrower in most of January–May 1935, when shipments from the moderate new crop were fairly steady instead of showing a marked seasonal increase followed by marked decline. In July 1935 the spread narrowed as Liverpool futures first sank abruptly and then recovered with evident reluctance.

CHART 23.—SIGNIFICANT WHEAT PRICE SPREADS, WEEKLY, 1934–35*

(U.S. cents per bushel)



* Futures spreads are computed from weekly averages of data plotted in Chart 22, using Liverpool December, May, and October futures as successive bases. Cash spreads are computed from Liverpool prices in U.S. currency; see Table XXXIV, and corresponding weekly data in our "Survey" issues covering the period.

More striking is the fact that Winnipeg futures (based on No. 1 Manitoba Northern) were above corresponding Liverpool futures after mid-September 1934, whereas with huge stocks of wheat in Canada Winnipeg futures normally run below Liverpool. Mr. McFarland's operations and the price pegs in Winnipeg prevented futures there from following

Liverpool futures closely; the relations, indeed, were such as ordinarily reflect short supplies of at least high-grade wheat in Canada. The spread between Winnipeg and Buenos Aires was far wider than usual, whereas in the absence of control measures in either market it might well have been narrower than usual. The Winnipeg–Liverpool spread narrowed late in May 1935, as Winnipeg prices sagged moderately while North American prospects for 1935 harvests improved, and again in June, as Liverpool prices rose. This spread widened again early in July as the peg kept Winnipeg prices from falling when Liverpool dropped.

Chicago futures continued, as in 1933–34, far above Liverpool, by a spread that was on the whole wider than in that year but varied even more. With the United States off an export basis, despite the absence of government stabilization operations, Chicago futures fluctuated within narrower limits than Liverpool. In May, however, when United States crop prospects pointed to fairly good harvests in 1935, the spread narrowed greatly as Chicago prices declined heavily while Liverpool remained fairly stable. The spread remained narrow through most of June, but later widened sharply when crop prospects strikingly deteriorated.

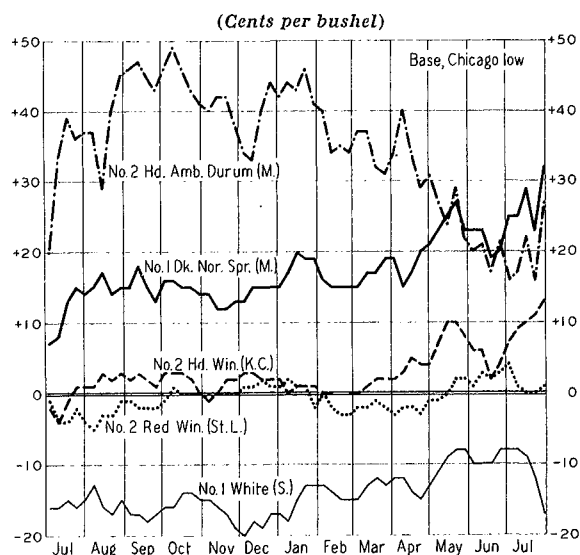
Liverpool cash prices.—The lower section of Chart 23 shows weekly spreads in prices of two Canadian grades and Australian f.a.q. wheat from Argentine Rosafé, as reflected in Liverpool prices of parcel shipments. As usual, Australian wheats sold generally several cents above duty-paid Rosafé. The striking feature of this chart, however, is the size of the premium on No. 3 Manitoba, which British millers consider for most purposes not greatly superior to Rosafé. Examination of various possible explanations leaves no doubt that price-supporting operations in Canada resulted in prices for Canadian wheats in Liverpool that reflected relative scarcity of available supplies of these wheats there,¹ even though the Liverpool price level was held down by knowledge that large sup-

¹ A. E. Taylor, "World Wheat Prices, Canadian–Argentine Spreads, and the Ottawa Agreement," *WHEAT STUDIES*, October 1935, XII, 35–56.

plies remained in Canada. For August-July 1934-35, parcels prices averaged as follows, in current U.S. cents per bushel: Rosafé, 69 (plus duty about 75); Australian f.a.q., 79; No. 3 Manitoba, 88 (Table XXXIV); No. 1 Manitoba, 97. Through most of the year No. 1 Manitoba sold in Liverpool at unusually wide premiums over No. 3, although there was no real shortage of No. 1 in Canada, and at Winnipeg monthly average spreads were only 5 to 8 cents a bushel (Table XXXIII).

United States cash prices.—Chart 24 illustrates the unusually wide and varying spreads of cash prices of five distinct types of United States wheat, calculated from quotations in the leading market for each type, all measured

CHART 24.—CASH WHEAT SPREADS IN UNITED STATES MARKETS, WEEKLY, 1934-35*



* See Table XXXIII, and corresponding weekly data in our "Survey" issues covering the period.

from the lowest-priced wheat deliverable without premium or discount on Chicago futures contracts. For the broad divergences displayed, the prime factors were the varying degrees of shortage in the 1934 crops and initial stocks (Tables VI, XV), in relation to the demand for the various types—with soft red wheats most abundant and durumms most scarce.

Durum wheats were extremely high, with their "ceiling" fixed largely by imports of Canadian durum duty-paid, until spring pros-

pects were interpreted as foreshadowing a much larger crop in 1935. Hard red spring wheats were also unusually high, though not at levels permitting competitive imports for food use. Toward the end of the season they rose to still higher premiums as severe rust damage blighted early prospects for a big crop in 1935; indeed, since durum varieties were more resistant to rust, premiums on durum fell below those of hard red spring in June.

Since both hard winter and hard spring wheats in 1933 and 1934 ran very high in protein, premiums for protein content were extremely small in 1934-35. The rough parallelism between prices of representative bread wheats in Minneapolis and Kansas City reflects the fact that at some such difference southwestern wheats could and did move to northwestern milling centers. Such demands for hard winters, resulting from short supplies of spring wheat for northwestern mills, were partly responsible for keeping Kansas City futures unusually close to Chicago futures during the year.

Hard red winters in Kansas City sold generally above soft red winters in St. Louis, contrary to the usual existing relationship. In the spring months, as supplies of bread wheats ran low, they rose to unusually high premiums over the Chicago basis, except for an interruption in June when prospects for the 1935 crop of hard winter temporarily improved.

In the Pacific Northwest, prices of representative soft white and western white wheats (at Seattle and Portland) practically never fell more than 20 cents per bushel below Chicago basic cash prices. The average spread (about 15 cents a bushel) was not much greater than it had been in 1933-34—despite the cessation of the export-subsidy scheme after August 8, 1934, and the very limited government aid in removing the surplus. Throughout the year, Pacific Northwest wheats were selling too high to move into export in substantial amounts; and toward the close of the season they sold for several weeks at a smaller discount below Chicago than in all but a brief period in 1933-34.¹

¹ See Chart 12 in our previous "Review," WHEAT STUDIES, December 1934, XI, 159.

The great bulk of the regional surplus, including the large carryover from the preceding year, went into domestic consumption—in the Pacific Northwest and California, eastward by rail, or by coastal routes to Atlantic and Gulf ports.¹ The hard white wheats of this region sold at moderate premiums over the soft wheats, and were shipped heavily to Minneapolis, Chicago, and other points. The surplus soft white wheats (other than club) found a ready market not only in the southeastern states, but in midwestern milling centers for blending with the very hard red winters of the 1934 crop.

European domestic wheats.—In Great Britain, domestic wheats were available in such abundance that they sold at unusually heavy discounts under prices of import wheats. Whereas in 1930–31 and 1931–32 prices of domestic wheat had averaged higher than import wheats, and in 1932–33 as high, averages for August–July 1934–35 were (in current U.S. cents) 77 cents for all imported wheat and 66 cents for native wheat (Table XXXIV). In percentage terms so heavy a discount is without precedent. Converted into gold, the annual average price of British wheat fell still lower than in 1933–34—to 39 cents per bushel. The seasonal low is usually reached shortly after harvest. In 1934–35 it was much later. Under the joint influence of the decline of import prices and the fact that it only gradually came to be realized that domestic marketings would be as heavy as they proved (see p. 114), prices of British wheats kept on declining through March 1935.

In the Irish Free State, the ascertained

average price of domestic wheat sold to registered millers and dealers ran slightly over 17s. per barrel of 280 pounds (about 85 cents a bushel).² Undoubtedly the requirement that mills use certain minimum percentages of home-grown wheat³ enhanced the domestic price.

In France, quoted prices of domestic wheat were held up by government action through most of December, despite the burdensome stocks, close to \$2.00 a bushel in current U.S. cents. Thereafter, with a change in government policy, they averaged around \$1.40 per bushel. The computed average for the crop year, 97 cents gold, was certainly the lowest for many years. There is no doubt that French wheat growers felt the decline in prices severely. In view of the peculiar complexity of wheat marketing and milling arrangements in 1934–35, however, one cannot well compute what growers actually received for what they sold or what French mills had to pay for what they milled.

In Germany and Italy, with reduced wheat supplies and stringent government control, prices of native wheats in leading markets were held up to prices that averaged about \$2.20 a bushel (Table XXXIV), rising steadily in Germany through the year, and in Italy sharply in February–May to decline in June–July as a big crop matured. In terms of gold, these prices averaged higher than in 1933–34, but lower than in most preceding years since 1923–24 or in the five years before the war. In Hungary, government measures maintained prices at levels that averaged \$1.35 per bushel (Tisza wheat, 78-kilo, in Budapest) in U.S. currency and 80 cents in gold—the highest since 1929–30. For Yugoslavia, corresponding figures were 77 cents and 46 cents. For the other Danube states the data are much less satisfactory.

These few examples imperfectly illustrate the virtual independence of wheat price structures in the various European countries. They were all subject to common influences arising from the world wheat situation, but in continental countries these influences were relatively slight as compared with those exerted by controls or manipulations of imports, exports, milling, stocks, and prices.

¹ Rail shipments, for which data are not available, were exceptionally heavy. Shipments of wheat and flour by water totaled 39.8 million bushels, including 11.9 million to California, 19.9 million to Atlantic and Gulf ports (a record quantity). Of the export shipments of slightly under 7.0 million bushels, about 3.9 million represented sales made before July 1, 1934. See above, p. 128; and, for comparable earlier data, *WHEAT STUDIES*, August 1934, X, 421–22.

² See *Commercial Intelligence Journal*, June 22, 1935, p. 1128. Growers were paid a subsidy covering the difference between 23s. 6d. and the ascertained average price of August–December, and between 26s. and the ascertained average price of January–July.

³ For 1935–36 this was fixed in August at 25 per cent, as compared with 4 per cent in 1933–34 and 10% per cent in 1934–35. *Ibid.*, Sept. 21, 1935, pp. 502–03.

VI. CONCLUDING OBSERVATIONS

FALLIBILITY OF FORECASTS

Ten years ago, after reviewing the striking events of the crop year 1924-25, we commented upon the radical errors in appraisals and forecasts which had characterized that season, and concluded:¹

. . . . No technique has yet been developed for forecasting the quantities that will be demanded at various levels of price, taking into account the complicating factors, or for asserting what prices are or are not warranted by a particular set of conditions The outcome of the year's experience should lead growers, traders, and governments alike to realize their need for ampler statistical material and improved methods of analysis.

Instances of serious misjudgments have appeared in several subsequent years. Despite notable improvements in scope and quality of information and analyses in the past decade, such misjudgments were numerous and important in 1934-35. As one example among many that have been touched upon in this review of the crop year, we venture to quote from a public address in mid-season by Mr. McFarland, the dominant figure in Canadian wheat operations. Speaking at Moose Jaw on February 14, 1935, he concluded a detailed analysis of Canada's immediate wheat position thus:

It is therefore evident [that] from whatever angle you approach the question of exports, our carryover will be well under 100 millions on August 1st next, which contrasts with the whispering campaign going around recently, to the effect that Canada's foolish policy will leave us with a carryover of 200 millions.

With a prospective carryover down to around 80 million bushels, as compared with 194 millions last year, and 211 in 1933 following the big crop

of 1932, and finally as compared with 127 millions in 1930 [compare Table XIII], there is surely ample proof that "the scene has completely changed" for this season at least.

With the world wheat situation nearer to normal than at any time for the past six years; with present subsoil moisture conditions on this continent far below normal, we should not regard a probable carryover in Canada of 80 million bushels, or even more, as a calamity to be avoided by now attempting to force our wheat on world markets at a price below what it has cost to produce.

The carryover of Canadian wheat in Canada proved to be, not around 80 million bushels, but 203 million—very close to the forecast of the whisperers whose opinions Mr. McFarland flouted. As the crops of 1935 finally turned out, however, this seemed to the new Canadian Wheat Board by no means the calamity that Mr. McFarland might have deemed it in February. A year hence we shall see how far other forecasts for 1935-36, on the basis of which that board fixed its buying prices in September 1935 above the pegged levels of the preceding year, have been borne out by events.

Excusably erroneous forecasts helped to wreck the Federal Farm Board, the International Wheat Agreement,² and various wheat programs in France and elsewhere, and have caused "the best-laid plans" of the AAA to "gang aft agley." With the price stabilization operations financed by the Farm Board³ and those which are not yet ended in Canada, it is pertinent to contrast Argentina's brief and conservative experiment.

The Argentine Grain Regulating Board began operations December 4, 1933, shortly after the government had undertaken, through manipulation of foreign exchange, to "reflate" Argentine commodity prices by 20 per cent. The grain board thereupon offered to buy all wheat, maize, and linseed offered to it at detailed schedules on the basis of prices f.o.b. Buenos Aires, 20 per cent above the very low prices that prevailed on November 28. The basic buying prices were: wheat, 5.75 pesos per quintal; maize, 4.40; linseed, 11.50. Prices of the two latter grains quickly

¹ WHEAT STUDIES, November 1925, II, 49.

² See J. S. Davis, *Wheat and the AAA*, pp. 328-33.

³ These were very inadequately covered in the three annual reports of the Federal Farm Board, and also in brief portions of a 37-page report by Senator McNary for the Committee on Agriculture and Forestry pursuant to S. Res. 42 and 364 (72d Cong.): "Activities and Operations of the Federal Farm Board," 74th Cong., 1st Sess., *Sen. Rep. No. 1456*, July 29, 1935.

rose above these levels, and the board was offered only negligible amounts.¹

For six months, however, the board's buying prices for wheat were attractive to farmers, and it bought in all some 147 million bushels of that grain. During this period of heavy purchases, although the board sold wheat for export at about 10 per cent below its basic price, only limited amounts were sold; and Argentine exports were thereby held far below normal levels considering the supplies available. When world market prices rose in the spring of 1934, however, the board had to purchase very little more, and was able to sell more freely at a moderate profit. By August 1, 1934, it held only 32 million bushels, and this volume was gradually worked off in succeeding months. Purchases of old-crop wheat were ended on November 1. The board had the courage to resist pressure to raise its basic prices on the new crop, and at the old basic price no more wheat was offered to it. A preliminary report was issued after the first twelve months of operations, and a detailed analysis was published soon after liquidation was completed on January 15, 1935.²

From the outset, the board was reasonably assured of financial resources (from profits on exchange control) with which to cover all prospective losses. As it turned out, the losses amounted only to about 3 million dollars, and most of the exchange profits remained to be appropriated to other uses. Apparently the board accepted this as good fortune, was con-

tent to let well enough alone, and made no attempt to prolong the experiment with or without prognostications regarding crops, carryovers, import demands, or prices.³

We do not condemn forecasts, and shall continue our own efforts to make both appraisals and forecasts as best we can. Yet we believe that the time has come to recognize frankly that, at best, such appraisals and forecasts not only are but will remain fallible—too fallible, in fact, to afford a reliable basis for several types of economic planning and attempts at control that have come into vogue.

THE MODERATE BRITISH SCHEME

Of the various national wheat policies adopted, that of Great Britain may be considered one of the few that is regarded as satisfactory to the country itself and is only mildly harmful to the world situation. Convinced, rightly or wrongly, that British wheat growers were under-remunerated, the government evolved an ingenious scheme of subsidizing them. This was embodied in the Wheat Act, 1932.⁴ The scheme in operation has stimulated re-expansion of wheat acreage and production from the low point in 1931, but with a limiting factor mentioned below. Even with good yields in 1934, the crop was only about 25 million bushels above the low average for 1928–32, and no large further expansion is in prospect. The scheme stimulates the sale of all domestic millable wheat but involves no governmental interference with the trade. It does not force domestic wheat into food use, interfere with its extensive use for feed, or adversely affect the quality of wheat food products. Their price is raised, but only slightly, by a moderate tax called a "quota payment" levied on flour destined for British consumption.

This levy provides the "Wheat Fund" out of which the Wheat Commission pays growers a subsidy per bushel of millable wheat sold. This "deficiency payment" varies with two factors. It is designed to cover the difference between a standard price of 10s. per cwt. (about \$1.34 per bushel) and the "ascertained average price" of British millable wheat sold during a season, but on not over 27 million

¹ In July 1935 the board bought and quickly resold 150,000 tons of maize; and since early September it has acquired additional amounts as market prices have ruled at or below its basic price.

² For the second of these, see a valuable article in the publication of the Bank of the Argentine Nation (Buenos Aires), *Economic Review*, October–December 1934, VII, 143–48. Subsequently the Ministry of Agriculture has published a well-documented report: *Memoria de la Junta Reguladora de Granos, Campaña 1933–34* (Buenos Aires, 1935).

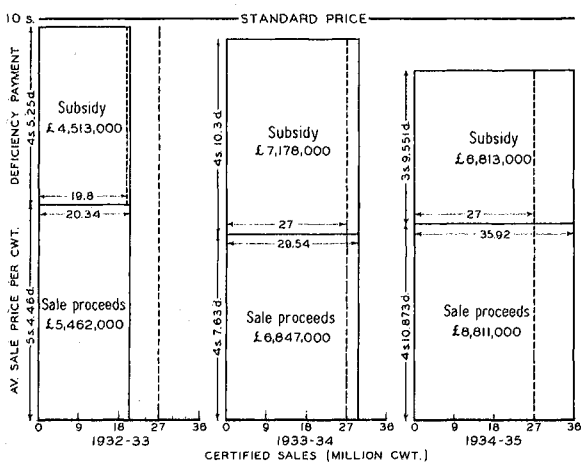
³ On Dec. 13, 1935, however, the board announced new basic buying prices of 10 pesos per quintal for the short crop of 1935.

⁴ See Ada F. Wyman and J. S. Davis, "Britain's New Wheat Policy in Perspective," *WHEAT STUDIES*, July 1933, IX, 305–50. The low duty on imports from ex-Empire countries, levied in accordance with the Ottawa Agreement, is no part of the domestic wheat program.

cwt. (50.4 million bushels). If certified sales exceed this, the total subsidy is calculated on the limited figure and the deficiency payment per unit sold is correspondingly less.

Chart 25 summarizes some salient facts in the experience during the past three years. In

CHART 25.—THREE YEARS OF RESULTS UNDER THE BRITISH WHEAT ACT, 1932*



* Latest available data of the Wheat Commission, received too late for plotting this chart, warrant slight changes in some figures but confirm the graphic picture. See text for explanations.

1932-33, when sales fell far short of 27 million cwt., the total subsidy was figured on nearly the total sales,¹ and the deficiency payment brought the average grower's total return almost up to 10s. per cwt. In 1933-34, with a marketed supply well over 27 million cwt., the realized price plus deficiency payment was only 9s. 6d. In 1934-35, with a marketed supply of nearly 36 million cwt., the corresponding sum was 8s. 8d., or only 87 per cent of the standard price.²

The chart brings out how impressively large have been the deficiency payments in comparison with actual average prices, and how large the subsidy has been in comparison

¹ Not all, since it was calculated not on actual sales in 1933-34, but on the slightly lower figure (19.8 million cwt.) that had been officially forecast in February 1933.

² Small amounts are deducted to cover administrative expenses, and interest on invested funds is credited to the Wheat Fund.

³ See Wyman and Davis, *op. cit.*, p. 344, footnote 1, and Charts 9 and 10, pp. 334, 339.

with growers' returns from sales. This is due, of course, mainly to the fact that the standard price was set at what proved to be a generous figure³ while import prices have continued low. The expansion of British wheat outturn, however, has forced the price of native wheat farther than usual below prices of imported wheats (see above, p. 153). This expansion appears uneconomic, at least in some significant senses; and one may question whether there is economic justification for subsidizing British wheat growers so liberally, at the expense of flour consumers, with the effect of inducing them to raise more wheat that goes so largely into feed use. The subsidy per grower has averaged as follows: 1932-33, £59; 1933-34, £83; 1934-35, £72. The total subsidy has averaged £6,168,000 or, say, \$30,000,000 a year in the first three years' operations.

If a redistribution of the national income of this magnitude is acceptable to the nation, however, the British wheat plan has merits of a negative sort: it does only limited damage to British consumers, British agriculture as a whole, or the world economic situation. Obviously this particular plan could not be applied universally, but some of its principles seem worthy of attention elsewhere. Two questions remain: How far are governments really justified in subsidizing their wheat growers? Can liberal subsidies be given without tending to expand wheat production and contract wheat consumption?

OTHER BOUNTIES TO WHEAT GROWERS

The outstanding example of subsidies to wheat growers occurs in the United States. Both in 1933-34 and 1934-35, sums approximating 100 million dollars a year have been distributed as "adjustment payments" to wheat growers who were under contract to restrict their sown acreage within limits annually fixed by the Secretary of Agriculture. Similar payments are being made in 1935-36. Unlike the British scheme, the American wheat adjustment program makes the grower's "bonus" independent of his sales or selling price; instead, it is paid on a volume representing 54 per cent of the average wheat crop on his land in 1928-32, and at rates per bushel depending largely on specific revenues avail-

able.¹ Thus far the payments have been financed by processing taxes of 30 cents per bushel levied on wheat milled for domestic consumption (with certain exceptions); but the constitutionality of this tax is being challenged and since May 1935 millers have tended to withhold payment of their assessments. New four-year contracts have recently been signed by wheat growers. Under the new contract and recent amendments to the Agricultural Adjustment Act,² the program is modified in various particulars but the AAA contemplates no reduction in the huge subsidies to wheat growers.

Canada paid wheat growers a bonus of 5 cents per marketed bushel of the 1931 crop, to a total of about 15 million dollars; but owing partly to fiscal stringency, there has been no renewal of this direct bounty.

For the past four crop years³ the Commonwealth government in Australia has given subsidies to wheat growers in amounts summarized by fiscal years (July–June) in the tabulation below, in thousand pounds:⁴

Year	Total	Bounty	Relief	Special relief
1931–32	3,429	3,429	....	...
1932–33	2,000	....	2,000	...
1933–34	3,053	....	3,053	...
1934–35	4,066	1,482	2,011	573

¹ See J. S. Davis, *Wheat and the AAA*, especially chaps. v and vi.

² Public No. 320, 74th Cong., 1st Sess., approved Aug. 24, 1935. See AAA, *Compilation of Agricultural Adjustment Act as Amended and Acts Relating Thereto*, as of August 27, 1935.

³ For the crop of 1930 an export bounty had been promised but could not be financed.

⁴ Commonwealth Bureau of Census and Statistics, *Production Bulletin No. 28*, September 1935, pp. 121–23. Data for 1934–35 are subject to revision.

⁵ The commission submitted a supplement to the first report on Nov. 27, 1934, and its second and final report on Feb. 2, 1935.

⁶ The commission had estimated that about 50 per cent of the crop was produced at costs of 3s. a bushel or less at railway stations, and that interest on debt (included in this) represented over 7d. per bushel.

⁷ *Commercial Intelligence Journal*, June 1, 1935, pp. 968–70.

⁸ See *ibid.*, July 13, 1935, p. 59; *Wheat and Grain Review* (Melbourne), Oct. 9, Nov. 9, 1935. In mid-October proposals for a federal compulsory pool and continuation of the flour excise were rejected, and agreement reached on plans involving a fixed price of 4s. 9d. (about 93 cents) per bushel, f.a.q., f.o.r. seaboard, for wheat milled for use in Australia.

In 1931 a bounty of 4½d. per bushel was offered to growers on wheat marketed before October 1, 1932, and was paid on 182 million bushels out of the crop estimated at 191 million. In 1932–33 the Commonwealth grant was distributed by the states on the basis of acreage sown, though not necessarily uniformly; and the New South Wales share was supplemented by a state appropriation from the proceeds of a tax on flour. A similar policy, with a larger Commonwealth appropriation, was followed in 1933–34.

In its first report, dated July 30, 1934, the Royal Commission on the Wheat, Flour and Bread Industries⁵ recommended that the Commonwealth government grant to growers a bounty on wheat produced in 1934, to be financed in part by a variable tax on flour. On August 2, 1934, the Commonwealth Premier announced, in accordance with this recommendation, that such a bounty would be paid in the amount of £4,000,000 (about \$16,000,000), on the basis of a price of 3s. per bushel (60.3 cents) at ports of export, increasing if the price were lower and decreasing if it were higher. In effect, this was to guarantee a minimum return of about 3s. 7d. per bushel, f.o.b. ports, or about 3s. on farms.⁶ Actually, a bounty of 3d. per bushel marketed was paid in addition to large sums for relief. A flour excise tax was imposed during the year, but about three-fourths of the cost of the bounty was met from customs revenues, which had exceeded budget estimates.⁷ Fresh decisions on future policy have recently been reached subject to sanction by the several parliaments.⁸

In most countries of Europe and ex-Europe, price support through a great variety of mechanisms and devices has been the commonest form of aid to wheat growers, with an increasing drift toward the practice of high fixed prices to growers for a season or part of a season and but few instances of cash bounties. There is also a growing prevalence of taxes on domestic and imported wheat used for domestic food consumption, or equivalent high prices charged to mills for such wheat. To keep the cost of direct or indirect subsidies from falling on overstrained national budgets, the burden is shifted increasingly to consumers of wheat products, with a consequent tend-

ency to restrain their consumption—in varying degrees in different countries.

ACREAGE RESTRICTION

With the passage of the Agricultural Adjustment Act of May 12, 1933, the United States inaugurated a policy of wheat acreage restriction. This has since been pursued, though with successive relaxations of the limits initially fixed.¹ Under the International Wheat Agreement, signed late in August 1933, the four major exporting countries apparently agreed to cut down their acreage sown for the 1934 crop, and the signatory European countries agreed (with some reservations that have not been published) to take no further steps to expand their wheat acreage. As we have seen, those measures were responsible for little of the acreage contraction that actually occurred in 1934, and the wheat acreage of European countries which did not sign the International Wheat Agreement increased somewhat in that year.² Nevertheless, this undertaking marked the turning point of a trend toward stimulated expansion of wheat acreage in parts of Europe, and more countries are taking steps toward restraint of further expansion if not of contraction.

Under the British Wheat Act, 1932, a special committee was appointed in February 1935 to consider whether a change should be

made in the standard price in a sense guaranteed to British wheat growers on maximum certified sales of 27 million cwt. This committee unanimously reported, on June 6, 1935, that no change was advisable;³ and no increase in the quantitative basis is contemplated. Since further increase of marketed supply might entail still more reduction of the realized price plus subsidy per bushel sold, the stimulus to further expansion of acreage in Great Britain is limited.

France, after difficult experiences with an acute and persistent surplus problem, has taken various steps to enforce restrictions on acreage sown to wheat, which were first provided for in the law of December 28, 1933.⁴ Czechoslovakia, faced with embarrassing stocks and a large new crop, has recently taken measures to reduce the wheat acreage for 1936 to 92 per cent of the 1935 level.⁵ In the Netherlands, where domestic wheat production has increased to an embarrassing extent, mild measures are being applied to keep the acreage within limits.⁶ In the Union of South Africa, which now faces a wheat surplus problem, the government vainly besought farmers to hold down their sowings in 1935.⁷ The Japanese government has recently moderated its efforts to increase domestic wheat production further.⁸

In Italy the official attitude unfavorable to further expansion of wheat acreage has been temporarily reversed since economic sanctions have been invoked to hamper her campaign in Ethiopia. The Irish Free State is vigorously pursuing a policy of transforming that country from a heavy net importer of wheat and flour into one that will be self-sufficient in wheat; and the wheat acreage, which had dwindled to almost nothing, rose in 1935 to the highest point since 1871.

Broadly speaking, however, national and international efforts toward control of wheat acreage give no sign of contributing significantly to solve the world wheat problem. It is far easier to stimulate expansion than to enforce limits or contraction, particularly while other measures are in operation tending to keep farmers from going out of wheat. While anything approaching real "control" of acreage sown to wheat is difficult, control of

¹ Davis, *op. cit.*, especially chaps. iii, iv. Contract signers were called upon to restrict their sown acreage to stated percentages of their base acreage (typically the average sown for harvest in 1930-32). These percentages were: 1934-85; 1935-90 (restrictions largely removed in March 1935); 1936-95.

² *Ibid.*, pp. 334-41, and above, pp. 109-10.

³ Wheat Act, 1932, *Report of the Standard Price Committee* (Cmd. 4932). The committee recommended that a fresh inquiry be made after a further period of years.

⁴ See references cited on p. 126, footnote 1.

⁵ *World Wheat Prospects*, Sept. 28, 1935, p. 16; *Northwestern Miller*, Nov. 27, 1935, p. 588; and *Commercial Intelligence Journal*, Nov. 30, 1935, p. 979.

⁶ *Commercial Intelligence Journal*, Mar. 30, 1935, p. 513.

⁷ *Ibid.*, Sept. 14, Nov. 30, 1935, pp. 411, 959. The Canadian trade commissioner reported late in October that the new crop was expected to reach 20 million bushels. The latest official estimate (Table II) is lower.

⁸ Alsberg, "Japanese Self-Sufficiency in Wheat," *WHEAT STUDIES*, November 1935, XII, 90.

wheat yield per sown acre, and therefore of wheat production, seems beyond hope of achievement.

THE PERSISTING SURPLUS PROBLEM

One who looks merely at statistical totals is tempted to ascribe to low wheat prices and/or to government efforts to restrict acreage the responsibility for the declines in world wheat acreage that occurred in 1933 and 1934, and the low level that 1935 data will show, and for the short world crops of 1934 and 1935. Actually the effective influence of these factors on acreage has been slight in comparison with that of adverse weather, which reduced sowings and caused heavy abandonment of sown acreage (notably in North America). The reductions in harvested area by no means represent a durable readjustment; and with only average weather conditions, a "snap-back" of world wheat acreage is to be expected even without the stimulus of higher world wheat prices. Low average yields in 1934 and 1935 were clearly accidents of nature, and government measures were in no sense responsible for them.

Small world crops in these two successive years have gone far toward correcting the *current* wheat surplus condition that has persisted since the huge world harvest of 1928. This, however, will not suffice to eliminate the wheat surplus *problem*. This problem arises from the fact that wheat producers in the world as a whole are "geared" to produce larger crops than can be sold, under prevailing and prospective conditions, at prices that growers and governments regard as remunerative. With average abandonment of sown acreage, and average yields per harvested acre, the next world wheat crop may well exceed what will disappear during 1936-37 except by diversion into feed use and the Orient under stress of low prices. In this larger sense, it is hardly too much to say, no significant net progress has yet been made toward a genuine economic equilibrium in the world wheat economy.

Data and estimates of feed use of wheat in recent years indicate that with higher prices a considerable contraction in this outlet must be expected. With higher prices in world

markets, or even apart from this, the Orient will probably afford a smaller outlet than it has in recent years. Japan as we have seen, has become practically self-sufficient in wheat, and her larger neighbor has caught the same fever.

In China the Minister of Industry, Chen Kung-Po, considers how to attain *self-sufficiency in food supply* one of the pressing problems facing his country and his own office.¹ At his request, experts on rice (Chao Lien-Fang) and on wheat (Shen Chia-Han) have outlined ten-year plans involving expansion of Chinese production and gradual reduction of imports. Among the six steps listed as essential to success in "our plan for self-sufficiency," number 5 reads: "we have to adopt a protective tariff policy to stop the dumping operations of foreign wheat and flour dealers."² The Minister himself, beyond giving the experts' recommendations his broad endorsement, proposed that Chinese millers should

¹ See his article with this title in *Chinese Economic Journal*, August 1935, XVII, 97-135, and his article in the preceding issue (July 1935) on "The Place of Agriculture in National Reconstruction."

² *Ibid.*, p. 133. The wheat expert, referring to under-selling of native wheat by imported, observed (pp. 131-32): ". . . Surplus supplies abroad are often shipped to China for sale at sacrifice prices with which Chinese dealers cannot compete on account of the high freight they must pay owing to inadequate means of transportation. The heavy taxes on wheat, coupled with the high commission charged by middlemen and the exorbitant interest which farmers are forced to pay, also all help to send the price of Chinese wheat to higher levels. The methods of relief are twofold—to diminish as much as possible the cost of production, transportation, and marketing, and to adopt immediately a protective tariff policy. The latter measure, however, has the objection that it is an international question, and may lead to retaliatory measures by other countries. The best thing to do, therefore, is to make only a moderate increase in the import tariff, while adopting a 'milling regulation' system as has been done in many European countries. Chinese mills, by such a regulation, would be restricted in regard to their use of imported wheat, and be required to consume a minimum quantity of domestic grain. Shanghai mills, which are the principal buyers of foreign wheat, would be thus deprived of their present freedom of action and be forced to take a certain definite proportion [of] Chinese wheat. This increased purchase of home supplies, in addition to may [*sic*] other advantages, will have the effect of causing silver to flow from the big ports to the interior. As to the mills in provinces away from the coast, the use of foreign wheat can be even more easily stopped by controlling the supply."

be required to cut down their use of foreign wheat by 10 per cent a year, adding: "These suggestions are not without precedent in other countries, and are reasonable only when the domestic supply is sufficient to meet the entire demand, and the products are at least of equal quality to the imported varieties."¹ At a meeting on October 2, 1935, the Central Political Council "adopted the general principle of a plan to improve wheat and rice produc-

tion in China," and proposed immediate creation of a bureau to study the subject with an annual budget of 500,000 yuan.²

Food-use data and estimates for the world ex-Russia, however, suggest that if wheat consumption were no longer effectually restricted by governmental policies,³ a substantial expansion of this outlet is possible and even probable, in many countries and the world as a whole, if not everywhere. Now, as heretofore, we venture no prediction as to when government policies will be reoriented in the direction of allowing wheat to flow with the former substantial freedom into channels of trade and consumption; but we continue to believe that the solution of the world wheat problem is to be found in this direction, and that it is not to be found in the national policies which have been applied with increasing assiduity and frequent change since 1929.⁴ One by one these policies have been tried, with more or less temporary local success, but at heavy cost in many forms. One by one, with rare exceptions, they have proved wanting.

¹ Chen Kung-Po, *op. cit.*, p. 135.

² *Commerce Reports*, Oct. 12, 1935, p. 259.

³ Professor Emil Laur of Switzerland, in a recent protest against a publication of the Economic Committee of the League of Nations, argues (*Journal of Farm Economics*, November 1935, XVII, 748-53): "Agricultural protectionism [in Europe] evidently was not the cause but a consequence of the agricultural crisis." So far as it goes, this statement is largely correct; but in our view the intensification of European protective measures since 1929 has profoundly accentuated and prolonged the world agricultural crisis, notably with respect to wheat. This they have done by enlarging wheat production and diminishing wheat consumption within Europe.

⁴ See J. S. Davis, "The World Wheat Problem," *WHEAT STUDIES*, July 1932, VIII, 437-43.

This review was written by Joseph S. Davis

APPENDIX

TABLE I.—WHEAT PRODUCTION, ACREAGE, AND YIELD PER ACRE IN PRINCIPAL PRODUCING AREAS, 1924-34*

Year	World ex-Russia ^a			Four chief exporters					India	North- ern Africa ^b	Europe ex-Russia			Others ^c	USSR
	Total	North- ern Hemi- sphere	South- ern Hemi- sphere	Total	United States	Can- ada	Aus- tralla	Argen- tina			Lower Danube ^c	Other Europe	Total		
A. PRODUCTION (<i>million bushels</i>)															
1924.....	3,055	2,652	403	1,458	840	262	165	191	361	51	204	853	1,057	128	480
1925.....	3,302	2,946	356	1,370	669	395	115	191	331	68	296	1,100	1,396	137	764
1926.....	3,365	2,924	441	1,632	834	407	161	230	325	57	294	922	1,216	137	898
1927.....	3,580	3,118	462	1,755	875	480	118	282	335	60	272	1,002	1,274	156	792
1928.....	3,903	3,337	567	1,989	913	567	160	349	291	69	367	1,042	1,409	145	807
1929.....	3,424	3,070	354	1,417	822	305	127	163	321	77	303	1,146	1,449	160	694
1930.....	3,705	3,214	491	1,757	890	421	214	232	391	64	353	1,006	1,359	134	989
1931.....	3,669	3,206	463	1,664	932	321	191	220	347	69	370	1,064	1,434	155	753
1932.....	3,703	3,193	510	1,644	746	443	214	241	337	75	221	1,269	1,490	157	744
1933.....	3,616	3,082	534	1,274	529	282	177	286	353	70	367	1,379	1,746	173	1,019
1934.....	3,295	2,859	436	1,147	497	276	133	241	351	97	251	1,281	1,532	168	1,117
Average 1929-33...	3,623	3,153	470	1,551	784	354	185	228	350	71	323	1,173	1,496	156	840
1909-13...	2,998	2,721	277	1,126	682	197	90	147	352	58	330	1,016	1,346	116	757
B. ACREAGE (<i>million acres</i>)															
1924.....	215.2	185.2	30.0	101.4	52.5	22.1	10.8	16.0	31.2	7.2	18.1	49.3	67.4	8.0	54.4
1925.....	218.1	186.7	31.3	101.0	52.4	20.8	10.2	17.6	31.8	7.9	18.5	50.8	69.3	8.1	61.5
1926.....	227.4	193.2	34.2	110.4	56.8	22.9	11.7	19.0	30.5	8.1	18.7	51.3	70.0	8.4	73.9
1927.....	233.3	196.8	36.5	114.6	59.6	22.5	12.3	20.2	31.3	7.1	18.9	52.4	71.3	9.0	77.4
1928.....	241.4	200.2	41.1	120.5	59.2	24.1	14.8	22.4	32.2	8.4	19.6	51.8	71.4	8.9	68.5
1929.....	239.2	204.1	35.0	119.5	63.3	25.3	15.0	15.9	32.0	8.5	18.4	51.7	70.1	9.1	73.5
1930.....	248.3	206.5	41.8	125.3	62.7	24.9	18.2	19.5	31.6	8.9	20.0	53.6	73.6	8.9	83.5
1931.....	240.2	204.8	35.4	114.2	57.1	26.4	14.7	16.0	32.2	8.1	20.9	55.0	75.9	9.8	91.1
1932.....	244.9	207.1	37.8	117.9	57.1	27.2	15.8	17.8	33.8	8.8	18.8	56.4	75.2	9.2	85.3
1933.....	236.3	198.5	37.8	106.8	47.9	26.0	14.9	18.0	33.0	9.0	19.9	57.9	77.8	9.7	82.0
1934.....	228.2	193.4	34.7	96.0	42.2	24.0	12.6	17.2	36.0	9.0	19.3	57.8	77.1	10.0	87.1
Average 1929-33...	241.8	204.2	37.6	116.7	57.6	26.0	15.7	17.4	32.5	8.7	19.6	54.9	74.5	9.3	83.1
1909-13...	196.1	170.9	25.2	80.5	48.1	9.9	7.6	14.9	29.2	6.5	19.6	53.2	72.8	7.1	74.0
C. YIELD PER ACRE (<i>bushels</i>)															
1924.....	14.2	14.3	13.4	14.4	16.0	11.8	15.2	12.0	11.6	7.1	11.3	17.3	15.7	16.0	8.8
1925.....	15.1	15.8	11.4	13.5	12.8	19.0	11.2	10.8	10.4	8.7	16.0	21.7	20.1	16.9	12.4
1926.....	14.8	15.1	12.9	14.8	14.7	17.8	13.8	12.1	10.7	7.0	15.7	18.0	17.4	16.3	12.2
1927.....	15.3	15.8	12.6	15.3	14.7	21.4	9.6	14.0	10.7	8.5	14.4	19.1	17.9	17.3	10.2
1928.....	16.2	16.7	13.8	16.5	15.4	23.5	10.8	15.6	9.0	8.2	18.8	20.1	19.7	16.3	11.8
1929.....	14.3	15.0	10.1	11.9	13.0	12.1	8.5	10.2	10.0	9.1	16.5	22.2	20.7	17.6	9.4
1930.....	14.9	15.6	11.7	14.0	14.2	16.9	11.8	11.9	12.4	7.2	17.6	18.8	18.5	15.1	11.8
1931.....	15.3	15.7	13.1	14.6	16.3	12.2	12.9	13.7	10.8	8.5	17.7	19.3	18.9	15.8	8.3
1932.....	15.1	15.4	13.5	13.9	13.1	16.3	13.6	13.5	10.0	8.5	11.8	22.5	19.8	17.1	8.7
1933.....	15.3	15.5	14.1	11.9	11.0	10.8	11.9	15.9	10.7	7.8	18.4	23.8	22.4	17.8	12.4
1934.....	14.4	14.8	12.6	11.9	11.8	11.5	10.6	14.0	9.8	10.8	13.0	22.2	19.9	16.8	12.8
Average 1924-33...	15.0	15.5	12.7	14.1	14.1	16.2	11.9	13.0	10.6	8.1	15.8	20.3	19.1	16.6	10.6
1909-13...	15.3	15.9	11.0	14.0	14.2	19.8	11.8	9.9	12.0	8.9	16.8	19.1	18.5	16.3	10.2

* Data summarized from Tables II and III. Yield per acre averages for 1924-33 are simple averages of annual yields, while those for 1909-13 are computed from average production and acreage data.

^a Excludes China and other countries listed in Table VIII and Turkey, Asia Minor, Manchukuo listed in Tables II-IV. U.S. Department of Agriculture estimated totals for the world ex-Russia ex-China average 3,766 million bushels for 1929-33.

^b Morocco, Algeria, Tunis.

^c Hungary, Yugoslavia, Rumania, Bulgaria.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1924-35*

(Million bushels)

Year	U.S. total	U.S. winter	U.S. spring	Can- ada	Aus- tralia	Argen- tina	Uru- guay	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis
1924.....	840.1	571.6	268.5	262.1	164.6	191.1	9.9	24.5	51.6	57.8	70.4	24.7	28.8	17.3	5.1
1925.....	669.1	401.1	268.0	395.5	114.5	191.1	10.0	26.7	71.7	78.6	104.7	41.4	23.9	32.7	11.8
1926.....	833.5	631.9	201.6	407.1	160.8	230.1	10.2	23.3	74.9	71.4	110.9	36.5	20.6 ^a	23.6	13.0
1927.....	874.7	547.7	327.1	479.7	118.2	282.3	15.4	30.6	76.9	56.6	96.7	42.1	23.5 ^a	28.3	8.1
1928.....	913.0	577.4	335.5	566.7	159.7	349.1	12.3	29.7	99.2	103.3	115.5	49.2	24.7 ^a	30.3	13.7
1929.....	822.2	586.1	236.1	304.5	126.9	162.6	13.2	33.5	75.0	95.0	99.8	33.2	31.8	33.3	12.3
1930.....	889.7	631.2	258.5	420.7	213.6	232.3	7.4	21.2	84.3	80.3	130.8	57.3	21.3	32.4	10.4
1931.....	932.2	818.0	114.3	321.3	190.6	219.7	11.3	21.2	72.6	98.8	135.3	63.8	29.8	25.6	14.0
1932.....	745.8	478.3	267.5	443.1	213.9	240.9	5.4	28.7	64.5	53.4	55.5	48.1	28.0	29.2	17.5
1933.....	529.0	350.8	178.2	281.9	177.3	286.1	14.7	35.3	96.4	96.6	119.1	55.5	28.9	32.0	9.2
1934.....	486.9	405.5	91.4	275.8	133.5	240.7	9.7	30.1	64.8	68.3	76.6	41.6	39.7	43.5	13.8
1935.....	603.2	433.4	169.8	274.0	140.0	150.0	...	...	74.0	73.1	91.9	47.9	17.8	31.2	17.3
Average 1929-33...	783.8	572.9	210.9	354.3	184.5	228.3	10.4	28.0	78.6	84.8	108.1	51.6	28.0	30.5	12.7
1909-13...	681.7	436.1	245.7	197.1	90.5	147.1	6.5 ^b	20.1	71.5	62.0	158.7 ^b	37.8	17.0	35.2	6.2

Year	United Kingdom	Irish F.S.	France	Italy	Ger- many	Czecho- slovakia	Aus- tria	Switzer- land	Bel- gium ^c	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Portu- gal
1924.....	52.9	1.03	281.2	170.1	89.2	32.2	8.5	3.33	13.3	4.6	5.9	.49	6.8	121.8	10.6
1925.....	52.9	.75	330.3	240.8	118.2	39.3	10.7	3.76	15.0	5.6	9.7	.49	13.4	162.6	12.5
1926.....	51.0	1.16	231.8	220.6	95.4	39.9	9.4	4.04	13.4	5.5	8.8	.59	12.2	146.6	8.6
1927.....	55.8	1.42	276.1	195.8	120.5	47.2	12.0	4.12	17.0	6.2	9.4	.60	15.3	144.8	11.4
1928.....	49.8	1.19	281.3	228.6	141.6	52.9	12.9	4.24	17.9	7.3	12.2	.80	18.3	122.6	7.5
1929.....	49.8	1.18	337.3	260.1	123.1	52.9	11.6	4.21	13.5	5.5	11.8	.75	19.0	154.2	10.6
1930.....	42.2	1.09	228.1	210.1	139.2	50.6	12.0	3.60	13.7	6.1	10.2	.72	20.8	146.7	13.5
1931.....	37.8	.78	264.1	244.4	155.5	41.2	11.0	4.04	14.2	6.8	10.1	.59	17.0	134.4	13.0
1932.....	43.6	.83	333.5	276.9	183.8	53.7	12.2	4.00	16.1	12.8	11.0	.75	26.5	184.2	23.8
1933.....	62.4	1.98	362.3	298.5	205.9	72.9	14.6	4.96	16.1	15.3	11.7	.76	29.2	138.2	16.0
1934.....	69.8	3.80	338.5	232.8	166.5	50.0	13.3	5.34	15.5	18.0	12.5	1.20	28.4	173.6	24.7
1935.....	62.8	3.50	278.8	283.5	171.8	62.1	15.6	5.82	14.8	15.9	12.9	1.71	23.2	149.5	15.9
Average 1929-33...	47.2	1.17	305.1	258.0	161.5	54.3	12.3	4.16	14.7	9.3	11.0	.71	22.5	151.5	15.4
1909-13...	59.6		325.6	184.4	131.3	37.9	12.8	3.31	15.8	5.0	6.3	.31	8.1	130.4	11.8 ^d

Year	Poland	Fin- land	Latvia	Esto- nia	Lithu- ania	Greece	Tur- key	Asia Minor ^e	Egypt	Japan	Chosen	Man- chukuo	Mexico	South Africa	New Zea- land
1924.....	37.5	.79	1.58	.54	3.3	7.7	....	12.3	34.2	25.4	10.3	29.6	10.4	7.1	5.45
1925.....	63.9	.93	2.16	.79	5.3	11.2	39.5	10.7	36.2	29.5	10.5	35.3	9.2	9.2	4.62
1926.....	52.5	.92	1.86	.88	4.2	12.4	90.7	13.9	37.2	28.4	10.2	35.6	10.3	8.3	7.95
1927.....	61.1	1.06	2.64	1.08	5.2	13.0	49.0	14.8	44.3	29.2	9.0	53.1	11.9	5.7	9.54
1928.....	59.2	1.00	2.50	1.04	6.3	13.1	59.2	6.7	37.3	30.8	8.6	54.0	11.0	7.2	8.83
1929.....	65.9	.76	2.34	1.26	9.3	11.4	99.9	16.8	45.2	30.5	8.3	47.8	11.3	10.6	7.24
1930.....	82.3	.87	4.06	1.64	9.0	9.7	93.9	19.4	39.8	29.5	9.0	49.8	11.4	9.3	7.58
1931.....	83.2	1.12	3.39	1.74	8.3	11.2	104.9	14.2	46.1	30.9	8.3	58.1	16.2	13.7	6.58
1932.....	49.5	1.48	5.29	2.08	9.4	17.1	69.0	9.8	52.6	31.3	8.6	41.6	9.7	10.6	11.06
1933.....	79.9	2.46	6.72	2.45	8.2	28.4	99.6	13.5	40.0	40.4	8.9	31.7	12.1	11.6	9.04
1934.....	76.4	3.28	8.05	3.11	10.5	25.7	99.7	14.5	37.3	47.7	9.3	23.5	11.0	15.3	6.50
1935.....	73.4	3.28	6.91	2.60	9.6	30.9	93.2	....	43.2	48.7	9.0	30.4	10.3	17.8	....
Average 1929-33...	72.2	1.34	4.36	1.83	8.8	15.6	93.5	14.7	44.7	32.5	8.6	45.7	12.1	11.2	8.30
1909-13...	61.7	.14	1.48	.36	3.3	16.3 ^d	....	....	33.7	25.1	6.9	....	11.5 ^b	6.3	6.92

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Figures for 1935 are preliminary; those in italics unofficial. Averages for 1909-13 are U.S. Department of Agriculture estimates for post-war boundaries. Dots (....) indicate that comparable data are not available.

^a Mean of maximum and minimum production reported.

^b Four-year average.

^c Including Luxemburg.

^d One year only.

^e Syria, Lebanon, Alouite; for Palestine, see Table VIII.

TABLE III.—WHEAT ACREAGE IN PRINCIPAL PRODUCING COUNTRIES, 1924-35*

(Million acres)

Year	U.S. total	U.S. winter	U.S. spring	Canada ^a	Australia	Argentina	Uruguay	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunisia
1924.....	52.46	35.42	17.04	22.06	10.82	15.98	.85	1.43	3.50	4.24	7.84	2.49	2.46	3.53	1.20
1925.....	52.44	31.96	20.48	20.79	10.20	17.62	.96	1.45	3.52	4.31	8.16	2.55	2.62	3.61	1.62
1926.....	56.82	37.60	19.22	22.90	11.69	18.95	.99	1.48	3.71	4.18	8.22	2.62	2.56	3.74	1.84
1927.....	59.63	38.20	21.43	22.46	12.28	20.20	1.15	1.84	4.02	4.52	7.66	2.67	2.30	3.47	1.38
1928.....	59.23	36.85	22.37	24.12	14.84	22.43	1.08	1.72	4.14	4.68	7.92	2.81	2.66	3.66	2.02
1929.....	63.32	41.19	22.13	25.26	14.98	15.90	1.10	1.72	3.71	5.21	6.76	2.66	3.01	3.80	1.73
1930.....	62.66	40.93	21.73	24.90	18.16	19.53	.96	1.61	4.19	5.25	7.55	3.01	2.96	4.03	1.90
1931.....	57.10	43.08	14.02	26.36	14.74	16.03	1.08	1.52	4.01	5.29	8.57	3.05	2.54	3.64	1.98
1932.....	57.11	35.22	21.90	27.18	15.77	17.79	.95	1.47	3.79	4.82	7.09	3.12	2.71	3.74	2.39
1933.....	47.91	28.48	19.42	25.99	14.90	18.04	1.19	2.10	3.92	5.14	7.70	3.10	3.21	3.99	1.75
1934.....	42.25	32.97	9.28	23.98	12.57	17.20	1.10	2.12	3.80	5.00	7.61	2.94	3.02	4.07	1.90
1935.....	49.83	31.00	18.83	24.12	11.97	....	1.23	2.05	3.84	5.19	7.65	2.84	3.21	4.08	1.83
Average															
1929-33..	57.63	37.78	19.84	25.94	15.71	17.46	1.06	1.68	3.92	5.14	7.53	2.99	2.89	3.84	1.95
1909-13..	48.08	29.06	19.01	9.94	7.60	14.88	.79 ^b	1.00	3.71	3.98	9.52 ^b	2.41	1.70	3.52	1.31

Year	United Kingdom	Irish F.S.	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^c	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1924.....	1.60	.033	13.62	11.28	3.62	1.50	.482	.111	.362	.118	.149	.021	.322	10.38	1.04
1925.....	1.55	.022	13.87	11.67	3.84	1.53	.484	.112	.392	.132	.199	.022	.363	10.72	1.05
1926.....	1.65	.029	12.97	12.14	3.96	1.80	.500	.127	.386	.132	.252	.022	.381	10.78	1.06
1927.....	1.71	.034	13.06	12.30	4.32	1.85	.505	.127	.427	.153	.274	.025	.561	10.83	1.06
1928.....	1.46	.031	12.96	12.26	4.27	1.92	.514	.127	.445	.148	.252	.028	.561	10.57	1.10
1929.....	1.38	.029	13.34	11.79	3.96	2.02	.515	.129	.377	.112	.260	.030	.574	10.62	1.08
1930.....	1.40	.027	13.28	11.92	4.40	1.96	.508	.134	.436	.142	.249	.030	.647	11.13	1.10
1931.....	1.25	.021	12.84	11.88	5.36	2.05	.517	.134	.404	.192	.259	.029	.683	11.24	1.27
1932.....	1.34	.021	13.43	12.18	5.64	2.06	.534	.137	.417	.297	.245	.028	.688	11.25	1.46
1933.....	1.74	.050	13.50	12.59	5.73	2.27	.543	.140	.406	.338	.265	.028	.799	11.17	1.42
1934.....	1.87	.094	13.35	12.24	5.43	2.30	.568	.165	.425	.366	.280	.046	.718	11.10	1.46
1935.....	1.88	...	13.21	12.39	5.20	2.39	.609	.164	.425	.377	.311	.059	.673	11.06	1.30
Average															
1929-33..	1.42	.030	13.28	12.07	5.02	2.07	.523	.135	.408	.216	.256	.029	.678	11.08	1.27
1909-13..	1.89	...	16.50	11.79	4.03	1.72	.635	.105	.431	.138	.154	.012	.255	9.55	1.21 ^d

Year	Poland	Finland	Latvia	Estonia	Lithuania	Greece	Turkey	Asia Minor ^e	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1924.....	3.16	.037	.106	.044	.210	1.15	4.13	1.46	1.42	1.15	.884	1.84	1.40	.76	.167
1925.....	3.20	.038	.119	.051	.277	1.15	7.06	1.31	1.38	1.15	.887	2.17	1.13	.97	.152
1926.....	3.25	.039	.122	.059	.303	1.30	7.99	1.28	1.53	1.15	.895	2.21	1.29	.88	.220
1927.....	3.36	.044	.145	.067	.297	1.23	5.05	1.29	1.66	1.16	.897	2.81	1.31	.77	.261
1928.....	3.19	.046	.164	.070	.393	1.33	7.06	1.10	1.59	1.20	.896	3.25	1.28	.82	.255
1929.....	3.53	.034	.145	.082	.488	1.24	6.36	1.00	1.61	1.21	.874	3.20	1.29	1.08	.236
1930.....	4.07	.035	.179	.090	.415	1.43	6.39	1.25	1.52	1.20	.848	3.41	1.22	1.27	.249
1931.....	4.50	.045	.215	.099	.478	1.50	8.77	1.27	1.65	1.23	.817	3.92	1.50	1.74	.269
1932.....	4.26	.059	.255	.128	.509	1.50	8.56	1.12	1.76	1.25	.793	3.45	1.10	1.53	.303
1933.....	4.19	.091	.309	.155	.499	1.71	7.26	1.21	1.43	1.51	.790	3.40	1.17	1.26	.286
1934.....	4.32	.125	.351	.161	.514	1.96	6.87	1.18	1.44	1.59	.789	2.04	1.22	1.52	.229
1935.....	4.40	.136	.347	.154	.521	2.02	5.48	1.29	1.46	1.63	...	2.37	1.20	...	.246
Average															
1929-33..	4.11	.053	.219	.111	.478	1.48	7.47	1.17	1.59	1.28	.824	3.48	1.26	1.38	.269
1909-13..	3.34	.008	.085	.023	.211	1.13 ^f	...	...	1.31	1.18	.574	...	2.17 ^g	.74	.241

* For general notes see Table II. See also Table VII. Mainly harvested acreage, but see note a.

^a Including sown acreage for spring wheat.^d Three-year average.^e Syria, Lebanon, Alouite.^b Four-year average.^f One year only.^c Including Luxemburg.^g Two-year average.

TABLE IV.—WHEAT YIELD PER ACRE IN PRINCIPAL PRODUCING COUNTRIES, 1924-35*

(Bushels per acre)

Year	U.S. total	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1924.....	16.0	16.1	15.8	11.8	15.2	12.0	11.7	17.1	14.7	13.6	9.0	9.9	11.7	4.9	4.3
1925.....	12.8	12.6	13.1	19.0	11.2	10.8	10.5	18.4	20.3	18.3	12.8	16.2	9.1	9.1	7.2
1926.....	14.7	16.8	10.5	17.8	13.8	12.1	10.4	15.7	20.2	17.1	13.5	14.0	8.0	6.3	7.1
1927.....	14.7	14.3	15.3	21.4	9.6	14.0	13.4	16.6	19.1	12.5	12.6	15.8	10.2	8.2	5.8
1928.....	15.4	15.7	15.0	23.5	10.8	15.6	11.3	17.3	23.9	22.1	14.6	17.5	9.3	8.3	6.8
1929.....	13.0	14.2	10.7	12.1	8.5	10.2	12.0	19.4	20.2	18.2	14.7	12.5	10.6	8.8	7.1
1930.....	14.2	15.4	11.9	16.9	11.8	11.9	7.7	13.2	20.1	15.3	17.3	19.1	7.2	8.1	5.5
1931.....	16.3	19.0	8.2	12.2	12.9	13.7	10.4	14.0	18.1	18.7	15.8	20.9	11.7	7.0	7.1
1932.....	13.1	13.6	12.2	16.3	13.6	13.5	5.7	19.5	17.0	11.1	7.8	15.4	10.3	7.8	7.3
1933.....	11.0	12.3	9.2	10.8	11.9	15.9	12.4	16.8	24.6	18.8	15.5	17.9	9.0	8.0	5.3
1934.....	11.8	12.3	9.8	11.5	10.6	14.0	8.8	14.2	17.1	13.7	10.1	14.1	13.1	10.7	7.3
1935.....	12.1	14.0	9.0	11.4	11.7	...	...	...	19.3	14.1	12.0	16.9	5.5	7.6	9.5
Average 1924-33..	14.1	15.0	12.2	16.2	11.9	13.0	10.6	16.8	19.8	16.6	13.4	15.9	9.7	7.6	6.3
1909-13..	14.2	15.0	12.9	19.8	11.9	9.9	8.2 ^a	20.0	19.3	15.6	16.7 ^a	15.7	10.0	10.0	4.8

Year	United Kingdom	Irish F.S.	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1924.....	33.1	31.2	20.6	15.1	24.6	21.5	17.6	30.0	36.8	39.2	39.4	23.5	21.1	11.7	10.2
1925.....	34.1	34.1	23.8	20.6	30.8	25.7	22.0	33.6	38.3	42.4	49.0	22.3	36.8	15.2	11.9
1926.....	30.9	40.0	17.9	18.2	24.1	22.2	18.9	31.9	34.8	41.6	34.8	26.6	31.9	13.6	8.1
1927.....	32.6	41.8	21.1	15.9	27.9	25.5	23.7	32.5	39.8	40.2	34.3	24.2	27.3	13.4	10.8
1928.....	34.1	38.4	21.7	18.6	33.2	27.6	25.1	33.4	40.3	49.6	48.5	28.5	32.7	11.6	6.8
1929.....	36.1	40.7	25.3	22.1	31.1	26.2	22.4	32.6	35.8	48.8	45.3	25.0	33.1	14.5	9.9
1930.....	30.1	40.4	17.2	17.6	31.6	25.8	23.6	26.9	31.4	42.6	41.0	24.0	32.2	13.2	12.3
1931.....	30.2	37.1	20.6	20.6	29.0	20.1	21.3	30.1	35.2	35.2	38.8	20.4	24.9	12.0	10.2
1932.....	32.5	39.5	24.8	22.7	32.6	26.1	22.8	29.2	38.6	43.1	44.9	26.8	38.5	16.4	16.3
1933.....	35.9	39.6	26.8	23.7	35.9	32.1	26.9	35.4	39.7	45.3	44.2	27.1	36.5	12.4	11.3
1934.....	37.3	40.4	25.4	19.0	30.7	21.7	23.4	32.4	36.5	49.2	44.6	26.1	39.6	15.6	16.9
1935.....	33.4	...	21.1	22.9	33.0	26.0	25.6	35.5	34.8	42.2	41.5	29.0	34.5	13.5	12.2
Average 1924-33..	33.0	38.3	22.0	19.5	30.1	25.3	22.4	31.6	37.1	42.8	42.0	24.8	31.5	13.4	10.8
1909-13..	31.6	...	19.7	15.6	32.6	22.0	20.2	31.6	36.7	36.1	41.1	25.5	31.8	13.7	...

Year	Poland	Finland	Latvia	Estonia	Lithuania	Greece	Turkey	Asia Minor ^c	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1924.....	11.9	21.4	14.9	12.3	15.8	6.7	...	8.4	24.1	22.1	11.7	16.1	7.4	9.4	32.6
1925.....	19.9	24.4	18.2	15.5	19.1	9.8	5.6	8.2	26.2	25.7	11.8	16.3	8.2	9.5	30.4
1926.....	16.2	23.7	15.2	14.9	13.8	9.5	11.4	10.9	24.3	24.7	11.4	16.1	8.0	9.4	36.1
1927.....	18.2	24.2	18.2	16.1	17.7	10.5	9.7	11.5	26.8	25.2	10.0	18.9	9.1	7.3	36.6
1928.....	18.6	21.7	15.2	14.8	16.1	9.8	8.4	6.1	23.5	25.7	9.6	16.6	8.6	8.8	34.6
1929.....	18.7	22.5	16.1	15.4	19.1	9.2	15.7	16.8	28.0	25.2	9.5	14.9	8.8	9.8	30.7
1930.....	20.2	24.7	22.7	18.2	21.7	6.8	14.7	15.5	26.1	24.6	10.6	14.6	9.4	7.3	30.4
1931.....	18.5	24.9	15.8	17.6	17.4	7.5	12.0	11.2	27.9	25.1	10.2	14.8	10.8	7.9	24.5
1932.....	11.6	25.1	20.7	16.2	18.5	11.4	8.1	8.8	29.9	25.0	10.8	12.1	8.8	6.9	36.5
1933.....	19.1	27.0	21.7	15.8	16.4	16.6	13.7	11.2	28.0	26.8	11.3	9.3	10.3	9.2	31.6
1934.....	17.7	26.2	22.9	19.3	20.4	13.1	14.5	12.3	25.9	30.0	11.8	11.5	9.0	10.1	28.4
1935.....	16.7	24.1	19.9	16.9	18.4	15.3	17.0	...	29.6	29.9	...	12.8	8.6	...	...
Average 1924-33..	17.3	24.0	17.9	15.7	17.6	9.8	11.0 ^d	12.7	26.5	25.0	10.7	15.0	8.9	8.5	32.4
1909-13..	18.4	17.1	17.4	15.8	15.5	14.4 ^e	...	...	25.6	21.3	12.0	...	...	8.4	28.7

* Computed from data in Tables II and III. Averages for 1924-33 are simple averages of annual yields; 1909-13 averages are computed from average production and acreage data.

^a Four-year average.

^b Including Luxemburg.

^c Syria, Lebanon, Alouite.

^d Average for 1925-33.

^e One year only.

TABLE V.—RYE, FEED GRAIN, AND POTATO PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1929-34*
(Million bushels)

Year	Rye												
	Europe ex-Russia	Ger- many	Poland	Czecho- slovakia	Austria	France	Spain	Danube basin	Baltic coun- tries	Scandi- navia	Nether- lands, Belgium	USSR	United States
1929....	939	321.0	276.0	72.2	20.1	36.5	22.9	60.3	47.7	27.2	40.9	802	35.5
1930....	923	302.3	273.9	70.4	20.6	28.4	21.5	67.1	62.8	27.8	34.0	929	46.3
1931....	775	263.0	224.5	54.6	18.9	29.5	21.1	53.9	40.1	19.9	35.0	866	32.3
1932....	931	329.3	240.6	85.7	24.2	33.9	25.9	58.2	54.4	26.4	38.0	867	40.6
1933....	1,003	343.6	278.5	82.1	27.0	35.3	20.7	74.6	59.1	28.5	38.5	952	21.2
1934....	893	299.5	254.5	60.0	22.6	33.0	22.2	47.0	67.2	32.1	41.1	792	16.0
Average 1929-33.	914	311.8	258.7	73.0	22.2	32.7	22.4	62.8	52.8	26.0	37.3	883	35.2
1909-13.	982	368.3	224.8	63.5	23.8	52.5	27.6	69.4	56.0	44.2	40.7	744 ^a	36.1

Year	CORN								BARLEY				
	Europe ex-Russia	Ru- mania	Yugo- slavia	Hun- gary	Italy	USSR	United States	Argen- tina ^b	Europe ex-Russia	Ger- many	Danube basin	USSR	United States
1929....	705	251	163	71	100	119	2,536	281	827	146	186	331	280
1930....	611	178	136	55	118	105	2,065	420	758	131	175	311	304
1931....	629	239	126	60	77	187	2,589	299	690	139	121	238	199
1932....	762	236	189	96	119	135	2,907	268	778	148	132	231	302
1933....	612	179	142	71	102	189	2,352	257	775	159	163	360	156
1934....	724	191	203	83	126	151	1,377	451	715	147	92	314	118
Average 1929-33.	664	217	151	71	103	147	2,490	305	766	145	155	294	248
1909-13.	581	193	112	61	103	52 ^a	2,712	192	701	134	125	418 ^a	185

Year	OATS							POTATOES					
	Europe ex-Russia	Ger- many	France	Poland	Scandi- navia	USSR	United States	Europe ex-Russia	Ger- many	Poland	Czecho- slovakia	France	British Isles
1929....	2,060	509	373	203	169	1,084	1,118	5,186	1,473	1,167	393	594	331
1930....	1,713	390	286	162	160	1,145	1,277	5,053	1,731	1,135	329	512	254
1931....	1,695	427	316	159	142	755	1,127	5,029	1,612	1,139	357	599	216
1932....	1,851	458	332	165	168	774	1,247	5,367	1,728	1,101	341	606	321
1933....	1,939	479	391	185	154	1,062	732	5,004	1,619	1,041	301	545	299
1934....	1,696	376	302	176	165	1,302	526	5,458	1,719	1,230	352	612	296
Average 1929-33.	1,852	453	340	175	159	964	1,100	5,128	1,633	1,117	344	571	284
1909-13.	1,929	527	368	194	157	925 ^a	1,143	4,183	1,374	911	245	527	254

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Averages for 1909-13 are U.S. Department of Agriculture estimates of production within post-war boundaries. Luxemburg included with Belgium.

^a Many Russian statisticians regard pre-war averages as too low for proper comparison with post-war figures.

^b Crops harvested in March-May of the following calendar year.

TABLE VI.—UNITED STATES WHEAT PRODUCTION
BY CLASSES, 1928-35*
(Million bushels)

Crop of	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1928....	392	128	93	202	98	913
1929....	370	166	85	145	56	822
1930....	403	179	88	161	59	890
1931....	516	254	70	70	21	932
1932....	280	150	83	191	42	746
1933....	169	148	85	109	18	529
1934....	202	168	66	54	7	497
1935....	198	185	83	110	28	603
Average 1928-32..	392	175	84	154	55	860

* Latest estimates of the U.S. Department of Agriculture from *Agriculture Yearbook*, 1935, and *Crops and Markets*.

TABLE VII.—WHEAT ACREAGE IN THE UNITED STATES
AND ARGENTINA, 1929-35*
(Million acres)

Harvest year	U.S. total		U.S. winter		U.S. spring		Argentina	
	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested
1929...	66.8	63.3	43.9	41.2	22.9	22.1	20.5	15.9
1930...	67.3	62.7	45.0	40.9	22.3	21.7	21.3	19.5
1931...	65.6	57.1	45.2	43.1	20.4	14.0	17.3	16.0
1932...	64.9	57.1	42.3	35.2	22.6	21.9	19.8	17.8
1933...	67.0	47.9	42.7	28.5	24.3	19.4	19.7	18.0
1934...	60.3	42.2	41.8	33.0	18.5	9.3	18.8	17.2
1935....	....^a	49.8	44.3	31.0	....^a	18.8	14.2	....
Average 1930-32	65.9	59.0	44.2	39.7	21.8	19.2	19.5	17.8
1931-33	65.8	54.0	43.4	35.6	22.4	18.4	18.9	17.3

* Latest official data.

^a Not yet available.

TABLE VIII.—WHEAT PRODUCTION IN MISCELLANEOUS COUNTRIES, 1929-34*

(Million bushels)

Year	China ^a	Persia	Palestine	Brazil	Peru	Cyprus
1929.....	...	...	3.23	6.27	4.47	2.20
1930.....	...	...	3.21	5.20	4.52	1.87
1931.....	873	44.1	2.93	6.04	3.48	1.62
1932.....	902	50.9	1.88	6.25	3.12	1.14
1933.....	869	...	1.63	6.43	2.67	1.64
1934.....	815 ^b	...	3.05	...	...	2.20
Average 1929-33..	865 ^c	...	2.58	6.04	3.65	1.69

* Available official estimates for countries not included in Table II and producing over 1 million bushels a year. For the last four countries, data for 1925-28 are given in WHEAT STUDIES, December 1934, Table VIII.

^a Exclusive of the three northern provinces now comprised in Manchukuo (not officially recognized by China and most foreign countries).

^b First estimated at 892 million bushels; see p. 107.

^c For 1931-34. The "normal" crop is stated to be 830 million bushels.

TABLE IX.—PROTEIN CONTENT AND GRADINGS OF CANADIAN HARD RED SPRING WHEAT, 1925-35*

Aug.-July	Protein content ^a	Percentage of inspections grading						
		No. 1 ^b	No. 2	Nos. 1-3	Nos. 4-5	No. 6, feed	Tough and damp ^c	Other ^d
1925-26..	....	23.0	27.7	64.8	4.2	.3	29.4	1.3
1926-27..	....	10.1	19.2	38.0	5.0	1.4	55.3	.3
1927-28..	....	1.0	8.0	32.2	17.9	4.2	45.3	.4
1928-29..	....	1.3	12.4	35.0	40.1	22.6	1.6	.7
1929-30..	13.3	41.3	39.2	93.5	2.9	.4	1.5	1.7
1930-31..	13.1	42.3	22.5	70.3	2.1	.1	25.3	2.2
1931-32..	13.7	34.5	35.9	81.4	4.1	1.0	12.3	1.2
1932-33..	14.0	57.5	30.8	92.0	2.7	.3	4.1	.9
1933-34..	13.9	48.3	30.5	83.5	4.2	.8	10.8	.7
1934-35..	14.1	43.1	24.5	74.8	11.9	2.4	10.2	.7

* Data from *Annual Reports of the Dominion Grain Research Laboratory and Canadian Grain Statistics*. Exclusive of durum, white springs, and winters, etc.

^a Average (by weight) of samples of No. 1 Hard to No. 3 Manitoba Northern, 13.5 per cent moisture basis.

^b Includes No. 1 Hard and No. 1 Northern.

^c Wheat of straight grades, but with higher moisture content. Before 1930-31 called "No grade."

^d Including "smutty," "rejected," "condemned," and "sample."

TABLE X.—WHEAT MARKETINGS IN NORTH AMERICA, MONTHLY, FROM 1929-30

Year	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Total
UNITED STATES: PERCENTAGE MARKETED BY FARMERS ^a															
1929-30...	5.1	25.5	22.3	14.0	8.6	4.8	4.5	3.1	2.9	2.5	2.5	2.6	1.6	...	100
1930-31...	3.9	25.2	21.0	12.3	7.1	4.5	4.7	4.7	4.7	3.5	3.1	3.9	1.4	...	100
1931-32...	6.0	27.6	18.5	9.5	7.5	4.3	4.4	4.0	5.8	3.4	3.5	4.0	1.5	...	100
1932-33...	4.8	18.7	19.6	14.0	7.8	5.5	4.8	3.6	3.4	3.4	4.3	5.4	4.7	...	100
1933-34...	9.0	21.5	20.4	13.8	7.0	5.0	3.6	3.6	3.3	3.4	2.7	3.0	3.7	...	100
1934-35...	12.2	29.6	15.4	9.5	5.3	4.3	4.5	2.9	3.5	2.9	4.4	3.5	2.0	...	100
UNITED STATES: RECEIPTS AT 14 PRIMARY MARKETS ^b (million bushels)															
1929-30...	...	94.2	101.7	47.0	36.3	20.6	22.9	17.5	19.9	16.7	13.4	16.5	18.7	...	425
1930-31...	...	99.0	85.5	62.6	28.9	24.6	21.5	29.5	30.7	30.8	21.2	30.9	29.7	...	495
1931-32...	...	104.0	61.5	38.9	32.7	26.4	13.8	17.1	25.0	13.4	13.2	15.3	13.5	...	375
1932-33...	...	41.0	40.7	38.4	27.2	17.6	13.9	12.8	9.9	12.7	15.8	23.3	28.6	...	282
1933-34...	...	37.2	26.7	22.6	17.6	11.6	11.2	8.7	10.0	9.1	8.4	12.5	23.4	...	199
1934-35...	...	49.7	23.0	19.1	12.9	9.2	7.8	5.1	3.8	4.7	6.4	8.3	10.0	...	160
CANADA: RECEIPTS AT COUNTRY ELEVATORS AND PLATFORM LOADINGS ^c (million bushels)															
1929-30...	...	...	14.2	109.6	52.9	19.5	10.9	5.8	4.9	5.5	2.7	4.0	4.4	3.0	237
1930-31...	...	...	21.2	105.1	53.8	52.4	17.3	9.3	9.8	9.6	8.4	6.4	8.2	5.4	307
1931-32...	...	...	11.9	47.4	74.1	43.1	19.7	10.9	12.2	12.9	6.0	8.2	15.0	3.8	265
1932-33...	...	...	17.6	120.5	82.7	36.5	18.5	11.3	11.5	20.8	10.3	10.8	19.5	10.5	371
1933-34...	...	...	25.6	55.6	46.4	23.0	10.3	10.4	8.3	9.1	7.3	8.3	12.3	10.9	228
1934-35...	...	...	30.8	55.6	50.8	23.6	12.5	3.9	8.8	8.4	6.3	5.6	9.3	13.3	229

^a Estimates of the Bureau of Agricultural Economics on the basis of reports from about 3,500 mills and elevators. Based on June-May for Kansas, Oklahoma, Texas, New Mexico, Arizona, and California; on July-June for other states. See *Agriculture Yearbook, 1935*, p. 359.

^b Trade data, here compiled from *Survey of Current Busi-*

ness. Includes Chicago, Detroit, Duluth, Indianapolis, Kansas City, Milwaukee, Minneapolis, Omaha, Peoria, Sioux City, St. Joseph, St. Louis, and Wichita; and Toledo before June 1933.

^c Data for Prairie Provinces only, computed from official figures given in *Canadian Grain Statistics*.

TABLE XI.—WORLD WHEAT VISIBLE SUPPLIES, AUGUST 1, 1925–35, AND MONTHLY 1934–35*

(Million bushels)

Date	Total	U.S. grain		Canadian grain		Total North America	Afloat to Europe	U.K. ports	Total U.K. and afloat	Australia	Argentina
		United States	Canada	Canada	United States						
Aug. 1											
1925.....	116.6	34.0 ^a	2.4	18.5	3.0	57.9	33.4	8.4	41.8	8.4	8.5
1926.....	121.9	34.6 ^a	.3	27.1	3.7	65.7	38.6	7.0	45.6	6.2	4.4
1927.....	150.9	33.7	1.3	37.8	4.8	77.6	46.1	8.2	54.3	12.8	6.2
1928.....	200.2	63.1	2.3	52.4	13.6	131.4	43.6	9.8	53.4	9.5	5.9
1929.....	325.4	136.4	2.3	83.8	22.9	245.4	37.6	6.2	43.8	20.0	16.2
1930.....	358.0	161.9	4.0	89.5	16.1	271.5	39.2	6.8	46.0	33.5	7.0
1931.....	447.8	233.6	22.9	105.8	5.5	367.8	37.9	10.6	48.5	24.5	7.0
1932.....	385.5	175.9	15.4	116.8	4.7	312.8	31.4	9.1	40.5	26.0	6.2
1933.....	423.2	135.0	3.7	190.4	6.7	335.8	31.6	11.4	43.0	31.5	12.9
1934.....	423.2	115.9	.0	177.6	9.8	303.3	34.8	13.6	48.4	52.0	19.5
1935.....	302.2	34.7	.0	186.8	10.5	232.0	16.9	8.8	25.7	32.0	12.5
1934–35											
Sept. 1.....	427.4	122.4	.0	183.7	10.0	316.1	37.9	13.0	50.9	40.5	19.9
Oct. 1.....	445.2	120.1	.8	214.2	14.2	349.3	32.5	14.0	46.5	32.5	16.9
Nov. 1.....	444.8	108.5	1.0	237.0	17.6	364.1	33.6	13.9	47.5	18.5	14.7
Dec. 1.....	426.3	99.2	1.0	231.1	23.6	354.9	34.1	15.1	49.2	10.0	12.2
Jan. 1.....	447.8	91.0	1.0	230.2	27.6	349.8	25.4	16.1	41.5	45.5	11.0
Feb. 1.....	471.1	75.3	1.0	222.1	24.0	322.4	33.5	14.4	47.9	86.8	14.0
Mar. 1.....	439.5	61.8	1.0	219.2	21.5	303.5	33.7	12.9	46.6	74.0	15.4
Apr. 1.....	411.2	51.9	1.0	215.4	16.2	284.5	29.1	12.2	41.3	68.5	16.9
May 1.....	370.1	39.5	1.0	203.9	11.9	256.3	30.1	10.8	40.9	54.5	18.4
June 1.....	348.1	30.8	.2	192.7	9.4	233.1	36.2	10.6	46.8	52.0	16.2
July 1.....	312.9	22.0	.0	189.0	9.3	220.3	27.5	9.8	37.3	41.0	14.3

* Data from *Commercial Stocks of Grain in Store in Principal U.S. Markets*; *Canadian Grain Statistics*; and *Corn Trade News*; except as noted, for the weekly date nearest the first of each month.

^a Bradstreet's visible supplies, from *Bradstreet's*.

TABLE XII.—WORLD WHEAT STOCKS EX-RUSSIA (APPROXIMATE), ABOUT AUGUST 1, 1922–35*

(Million bushels)

Year	Total	Four chief exporters	Total North America	United States grain	Canadian grain	Australia	Argentina	Lower Danube	India	North Africa ^a	Importing Europe	Afloat to Europe	Afloat to ex-Europe	Japan
1922.....	615	241	156	115	41	24	61	26	29	15	240	49	5	10
1923.....	552	268	171	138	33	33	64	36	36	9	150	39	8	6
1924.....	687	293	193	145	48	34	66	45	56	18	214	42	8	11
1925.....	528	234	148	118	30	28	58	20	51	15	165	33	6	4
1926.....	612	237	146	106	40	24	67	40	49	24	206	39	7	10
1927.....	654	281	177	124	53	35	69	46	36	26	202	46	9	8
1928.....	707	349	218	126	92	36	95	25	35	22	213	44	13	6
1929.....	976	548	377	250	127	41	130	75	29	21	241	38	16	8
1930.....	921	549	435	308	127	49	65	44	29	30	217	39	7	6
1931.....	1,010	621	481	341	140	60	80	57	71	17	184	38	14	8
1932.....	1,002	653	538	401	137	50	65	49	51	11	184	31	10	13
1933.....	1,100	746	616	398	218	55	75	27	29	16	234	32	11	5
1934.....	1,158	693	490	286	204	85	118	54	29	10	320	35	11	6
1935.....	885	502	367	152	215	55	80	20	29	24	273	17	11	9

* Based so far as possible upon stocks reported either officially (e.g., North America) or unofficially (e.g., afloat to Europe); see Tables XI, XIII, XXX, and WHEAT STUDIES, February 1933, IX, No. 5. United States stocks as of July 1; others as of August 1 or nearest date possible.

^a Algeria, Morocco, Tunis, Egypt.

TABLE XIII.—WHEAT CARRYOVERS IN THE UNITED STATES AND CANADA, 1922-35*

(Million bushels)

Year	United States (July 1)						Canada (Aug. 31, 1922-23; July 31, 1924-35)						
	On farms	In country mills and elevators	Commercial stocks	In city mills ^a	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators ^b	In terminal elevators	In transit	In flour mills	Total in five positions	Canadian grain in U.S. ^c
1922.....	32.5	28.8	20.3 ^d	32.7	114.3	0.5	2.4	4.6	6.4	4.6	2.6	20.6	1.6
1923.....	35.2	37.1	29.4 ^d	35.2	136.9	1.2	1.4	2.4	2.7	2.8	2.4	11.7	0.5
1924.....	29.3	36.6	38.6 ^d	39.8	144.3	0.3	7.4 ^e	4.7	22.7	5.9	4.5	45.2 ^e	3.0
1925.....	28.6	25.3	29.3 ^d	31.6	114.8	2.7	2.7	2.7	15.2	3.9	2.0	26.5	3.0
1926.....	27.1	29.5	16.5 ^d	31.9	105.0	1.0	3.9	1.3	24.1	3.2	3.9	36.4	3.7
1927.....	26.7	21.8	25.5 ^d	48.3	122.3	1.4	4.2	1.5	35.6	2.3	4.2	47.8	4.8
1928.....	19.6	19.3	42.2 ^d	42.8	123.9	2.5	4.2	4.7	48.9	13.7	6.1	77.6	13.6
1929.....	45.0	41.5	95.7 ^d	64.5	246.7	3.3	5.6	6.3	76.3	8.7	7.5	104.4	22.9
1930.....	60.1	60.2	109.3	73.9 ^f	303.5	4.7	5.3	16.8	69.3	12.8	6.9	111.1	16.1
1931.....	38.0	30.3	204.0	53.7 ^f	326.0	15.3	19.5	34.1 ^g	71.1	7.3	2.1 ^h	134.1	5.5
1932.....	92.8	41.6	168.4	81.8 ^f	384.6	15.9	7.5	33.5 ^g	78.6	9.3	2.9 ^h	131.8	4.7
1933.....	82.3	64.3	123.7	123.1 ^f	393.4	4.1	12.3	77.9 ^g	109.3	9.0	3.2 ^h	211.7	6.2
1934.....	60.3	48.2	80.5 ⁱ	97.2 ^f	286.2 ⁱ	.0	8.7	70.4 ^g	104.7	7.7	2.5 ^h	194.0	10.0
1935.....	41.9	31.5	22.0	56.6 ^f	152.0	.0	7.9	53.8 ^g	126.6	12.9	2.0 ^h	203.2	11.7

* Official data of U.S. Department of Agriculture and Dominion Bureau of Statistics, chiefly from *Agriculture Yearbook, 1935*, p. 363, *Canada Yearbooks*, *Canadian Grain Statistics*, and press releases.

^a Estimates of the U.S. Department of Agriculture, based (except for 1922-24) on wheat stocks in, and in transit to, city mills reported to the Census Bureau (see final column of Table XIV), raised to allow for stocks in non-reporting mills.

^b Strictly "in country, private, and mill elevators in the Western Division," but see note *g*.

^c In bond, chiefly for export as wheat, exclusive of some bonded wheat in transit by rail.

^d Bradstreet's visible.

^e Farm stocks as of Aug. 31, 1924.

^f Includes wheat "stored for others" in this position.

^g Includes stocks in flour mills in the Western Division.

^h In the Eastern Division only.

ⁱ This may include somewhat more new wheat than usual, since marketings in the Southwest were relatively early in 1934. See Table X.

TABLE XIV.—CITY MILL STOCKS IN THE UNITED STATES, JUNE 30, 1925-35*

(Million bushels)

Year	Percentage of census flour output represented ^a	Wheat in						Flour as wheat ^d	Grand total	Wheat in and in transit to mills ^e
		Country elevators	Public terminals	Private terminals ^b	Transit to mills	Mills ^c	Total			
1925.....	87.4	2.16	3.44	.....^f	.....^f	26.72 ^f	32.32	15.73	48.05	.....^f
1926.....	87.4	2.52	3.00	1.14	6.73	22.44	35.83	14.67	50.50	29.17
1927.....	90.1	2.56	3.88	1.61	10.39	34.15	52.59	16.76	69.35	44.54
1928.....	90.4	1.91	3.68	.55	10.16	29.78	46.08	17.08	63.16	39.94
1929.....	93.6	3.52	8.32	2.16	15.44	45.91	75.35	17.98	93.33	61.35
1930.....	91.8	3.50	3.80	1.79	13.79	43.78	66.66	16.61	83.27	57.57
1931.....	96.3	2.70	1.48	1.85	11.74	21.00	38.77	13.30	52.07	32.74
1932.....	93.5	2.55	2.33	3.30	9.43	60.33	77.94	15.00	92.94	69.76
1933.....	95.5	6.91	8.12	10.61	15.08	91.13	131.85	14.07	145.92	106.21
1934.....	92.6	4.97	5.22	9.70	13.02	70.06	102.97	18.40	121.37	83.08
1935.....	97.4	2.30	3.53	3.59	6.64	42.64	58.70	17.10	75.80	49.28

* As reported to Bureau of the Census, here compiled from press releases of the U.S. Department of Commerce. Available for Dec. 31, 1925, and quarterly from June 30, 1926. See WHEAT STUDIES, December 1931, VIII, 193.

^a Derived from biennial census data as stated in *ibid.*, December 1934, XI, 182. The 1935 percentage is based on a preliminary census figure for 1933, of 96.7 million barrels.

^b In private terminal elevators not attached to mills.

^c In mills and elevators attached to mills. In addition to this wheat owned by mills, they reported "stored for others" as follows, in million bushels: 1931, 17.73; 1932, 6.73; 1933, 9.50; 1934, 6.91; and 1935, 3.37.

^d In terms of wheat, taking 1 bbl. = 4.7 bu.

^e Sum of columns 5 and 6.

^f In 1925 a single figure was reported for wheat in mills, in private terminal elevators not attached to mills, and in transit to mills.

TABLE XV.—WHEAT CARRYOVERS IN THE UNITED STATES BY CLASSES, 1929-35*

(Million bushels)

July 1	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1929.....	90	22	18	90	27	247
1930.....	118	33	24	100	28	303
1931.....	150	26	25	96	28	325
1932.....	230	67	18	58	12	385
1933.....	193	33	38	114	13	391
1934.....	133	37	30	79	7	286
1935.....	71	32	16	28	5	152

* Estimates of the U.S. Department of Agriculture, as given in *World Wheat Prospects*, June 1934 and August 1935.

TABLE XVI.—UNITED STATES WHEAT GRAIN EXPORTS BY CLASSES, FROM 1925-26*

(Million bushels)

July-June	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1925-26..	9.7	2.5	19.2	5.0	26.8	63.2
1926-27..	73.1	31.3	27.6	2.2	22.0	156.2
1927-28..	60.3	12.8	30.4	6.0	36.5	146.0
1928-29..	35.0	3.0	15.4	2.2	47.5	103.1
1929-30..	54.4	2.7	18.4	1.9	14.8	92.2
1930-31..	47.3	2.6	13.7	0.6	12.1	76.3
1931-32..	75.5	2.2	14.0	0.1	4.7	96.5
1932-33..	17.0	.0	2.2	.0	1.7	20.9
1933-34..	1.4	.0	17.4	.0	.0	18.8
1934-35..	.2	.0	2.8	.0	.0	3.0

* Estimates of the U.S. Department of Agriculture. For some earlier data see *World Wheat Prospects*, Jan. 25, 1935.

TABLE XVII.—UNITED STATES TRADE IN WHEAT AND FLOUR WITH FOREIGN COUNTRIES AND ALASKA, HAWAII, AND PUERTO RICO, ANNUALLY FROM 1929-30*

(Thousand bushels)

July-June	Wheat grain				Flour as wheat		Wheat and flour as wheat				
	Exports	Imports	Re-exports	Net exports	Exports	Net exports	Exports	Imports less re-exports	Net exports	Shipments to possessions	Net exports plus shipments
1929-30....	92,175	12,948	60	79,287	61,070	61,075	153,245	12,883	140,362	2,983	143,345
1930-31....	76,365	19,054	15	57,326	55,110	55,108	131,475	19,041	112,434	2,850	115,284
1931-32....	96,519 ^a	12,885	863	84,497 ^a	39,276	39,275	135,795 ^a	12,022	123,772 ^a	2,797	126,569 ^a
1932-33....	20,889	9,379	1,606	13,116	20,337	20,337	41,226	7,773	33,453	3,024	36,477
1933-34....	18,799	11,585	21	7,235	18,204	18,200	37,003	11,568	25,435	2,779	28,214
1934-35....	3,019	25,777	184	(22,574)	18,513	18,497	21,532	25,609	(4,077)	2,783	(1,294)

* Data from *Monthly Summary of Foreign Commerce*, and "general imports," since 1933-34, direct from U.S. Department of Commerce. Figures in parentheses are net imports. Flour converted to wheat equivalent at 4.7 bushels per barrel; this rate is somewhat too high, particularly for flour milled in bond from Canadian wheat and flour exports from the Pacific Northwest. For earlier data see our previous Reviews and Table XXX below.

^a Probably understated by 7 to 9 million bushels. See WHEAT STUDIES, December 1932, IX, 104.

TABLE XVIII.—UNITED STATES IMPORTS OF WHEAT GRAIN, ANNUALLY FROM 1925-26*

(Thousand bushels)

July-June	For grinding in bond			For domestic use		
	Free	Dutiable ^{a,b}	Total	Total	42-cent duty	10% ad val. duty ^{a,c}
1925-26..	13,421	0	13,421	1,665	1,665	0
1926-27..	13,172	0	13,172	49	49	0
1927-28..	15,044	0	15,044	161	161	0
1928-29..	22,481	0	22,481	79	79	0
1929-30..	12,903	0	12,903	45	45	0
1930-31..	19,013	0	19,013	348	41	307
1931-32..	11,538	1,341	12,879	6	6	0
1932-33..	6,628	2,744	9,372	7	6	1
1933-34..	8,316	3,025	11,341	149	143	6
1934-35..	7,292	3,772	11,064	14,052	5,906	8,146

* Official data as now published currently in *Monthly Summary of Foreign Commerce and Foreign Crops and Markets*. Misleadingly termed "imports for consumption," and differing slightly from "general imports" as given in Table XVII, col. 2.

^a New classification in Tariff Act of 1930.

^b For export of flour to Cuba; see p. 127, footnote 5.

^c "Unfit for human consumption."

TABLE XIX.—CANADIAN EXPORTS OF WHEAT GRAIN, ANNUALLY FROM 1925-26*

(Million bushels)

Aug.-July	Grand total	To or through U.S.		Overseas from Canadian ports		
		To U.S. ^a	Total	Total ^b	Atlantic	Pacific
1925-26..	275.6	10.5	152.7	122.9	70.0	52.9
1926-27..	251.3	7.6	143.9	107.4	67.5	39.9
1927-28..	288.6	8.5	144.4	144.2	57.6	86.6
1928-29..	354.4	10.1	164.1	190.3	92.4	97.9
1929-30..	155.8	7.3	76.9	78.9	29.8	49.1
1930-31..	228.5	8.1	97.8	130.7	56.1	74.6
1931-32..	182.8	4.5	53.2	129.6	54.2	74.9
1932-33..	240.1	.3	55.1	185.0	85.8	96.5
1933-34..	170.2	.2	44.9	125.3	74.4	48.2
1934-35..	144.4	15.1	53.8	90.6	36.2	50.3

* Official data from *Canadian Grain Statistics*.

^a These figures understate the truth, which in most years is closer to United States "general imports" as given (for July-June crop years) in Table XVII, col. 2. See p. 124.

^b Including shipments from Port Churchill, Hudson Bay, since 1931-32. See p. 124.

TABLE XX.—INTERNATIONAL SHIPMENTS OF WHEAT AND OTHER GRAINS, FROM 1928-29*
(Million bushels or units of 60 pounds)

Year ending about Aug. 1	Wheat, including wheat flour, by areas of origin									Other grains			
	Total	North America	Argentina ^a	Australia	All other	India	Balkans	Russia	Others ^b	Rye	Barley	Oats	Malze ^c
1928-29 ^d ...	927.6	542.9	223.7	112.1	48.9	.2	37.4	...	11.3	29.7	120.3	32.4	301.8
1929-30....	612.5	318.4	151.9	64.6	77.6	4.2	46.8	6.4	20.2	30.1	113.3	35.7	248.2
1930-31....	786.7	354.3	123.2	154.0	155.2	3.6	37.6	98.7	15.3	37.5	138.3	46.5	290.5
1931-32....	769.6	331.2	138.4	153.2	146.8	.3	60.0	70.4	16.1	52.5	84.3	43.8	409.8
1932-33....	615.2	290.0	126.4	154.4	44.4	...	7.2	17.6	19.6	26.2	63.1	28.5	333.9
1933-34....	523.6	219.2	140.8	89.6	74.0	...	30.4	26.8	16.8	26.8	75.8	23.0	262.0
1934-35 ^d ...	526.8	166.4 ^e	182.8	112.0	65.6	.3	22.0	1.6	41.7	36.7	51.6	27.3	255.4
Average													
1929-34....	661.5	302.6	136.1	123.2	99.6	1.6	36.4	44.0	17.6	34.6	95.0	35.5	308.9
1924-29....	784.2	470.5	151.2	96.3	66.2	10.9	28.0	14.6	12.7	45.5	102.9	41.1	276.1

Year ending about Aug. 1	Wheat and flour to Europe				Wheat and flour to ex-Europe							
	U.K.	Orders	Continent	Total ^f	Total ^f	China, Japan	Central America ^g	Brazil	Egypt	North and South Africa	India	Others
1928-29 ^d ...	158.8	145.1	399.3	702.8	224.8	69.5	70.4	30.3	17.8	7.3	27.6	1.9
1929-30....	137.4	120.4	225.3	483.1	129.4	33.6	50.1	28.2	7.6	2.7	6.3	.9
1930-31....	131.0	193.7	282.8	607.7	179.0	67.4	58.0	26.5	11.1	4.1	11.0	.9
1931-32....	135.8	193.2	252.9	581.6	188.0	88.1	56.7	31.2	8.4	3.1	...	.5
1932-33....	161.2	127.9	159.8	448.8	166.4	91.5	34.7	29.5	3.7	1.0	1.8	4.2
1933-34....	138.5	129.8	133.2	401.6	122.0	47.5	34.3	31.3	3.6	.8	.3	4.3
1934-35 ^d ...	128.2	123.1	129.8	381.2	145.6 ^e	63.4	27.3	34.0	3.0	1.4	.2	16.5 ^e
Average												
1929-34....	140.8	153.0	210.8	504.6	157.0	65.6	46.8	29.3	6.9	2.3	3.9	2.2
1924-29....	164.6	143.6	335.8	644.4	139.7	43.9 ^h	60.5 ^h	26.6 ^h	12.7 ^h	6.7 ^h	11.0 ^h	1.3 ^h

* Broomhall's cumulative totals, from the *Corn Trade News*, converted from quarters of various weights.^a Includes Uruguay also.^c Including 10.8 million bushels to the United States.^b North Africa, Chile, Germany, France, etc.^f As reported by Broomhall in different tables.^e Year ending about April 1.^g Includes West Indies, Dutch East Indies, Venezuela, etc.^d For 53 weeks.^h 1926-29 average.TABLE XXI.—SUMMARY OF INTERNATIONAL TRADE IN WHEAT AND FLOUR, ANNUALLY FROM 1922-23*
(Million bushels)

Year Aug.-July	Net exports of net-exporting countries										Net imports of Europe ex-Danube, ex-Russia			
	Total	Four chief exporters	United States	Canada	Australia	Argentina	Lower Danube	USSR	India	Others ^a	Total	British Isles	France, Germany, Italy ^b	Others ^b
1922-23....	714	671	203	279	50	139	12	1	29	1	577	210	208	159
1923-24....	829	735	130	346	86	173	34	22	20	18	594	240	169	185
1924-25....	775	700	259	192	124	125	26	(17)	38	11	630	226	215	189
1925-26....	702	604	106	324	77	97	45	27	8	18	522	208	150	164
1926-27....	853	741	202	292	103	144	45	50	12	5	679	236	262	181
1927-28....	823	768	187	332	71	178	32	2	8	13	656	232	219	205
1928-29....	947	891	154	406	109	222	37	(6)	(25)	19	667	219	232	216
1929-30....	629	544	145	185	63	151	56	9	1	19	505	224	95	186
1930-31....	836	651	116	258	152	125	46	114	(5)	25	609	245	174	190
1931-32....	794 ^c	618 ^c	115 ^c	207	156	140	82	65	2	27	606	261	135	210
1932-33....	629	579	33	264	150	132	12	17	(1)	21	441	234	47	160
1933-34....	553	456	29	194	86	147	35	34	0	28	386	238	20	128
1934-35....	532	456	(4)	165	109	182	22	2	1	51	350	218	4	128

* Summarized from data in Table XXII. Figures in parentheses represent net imports, ignored in arriving at totals.

^a Includes Morocco, Algeria, Tunis, Chile, Spain, Poland, Germany, France, Sweden, and the Baltic states for years in which these countries were net exporters, and approximate net exports by Uruguay and Turkey (as estimated chiefly from calendar year figures).^b Deducting net exports by one or more of these countries in years in which they were net exporters.^c Probably understated by 7 to 9 million bushels.

TABLE XXII.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, ANNUALLY FROM 1925-26*

(Million bushels)

A. NET EXPORTS

Year Aug.-July	United States ^a	Canada	Aus- tralia	Argen- tina	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	USSR ^b	India	Morocco	Algeria
1925-26....	106.2	324.2	77.2	97.3	19.79	10.81	9.93	4.37	27.1	8.0	.75	4.57
1926-27....	201.7	292.5	102.7	144.4	21.88	9.70	11.18	2.25	49.5	11.5	1.60	1.61
1927-28....	186.7	332.5	70.7	178.1	21.84	.55	7.46	2.04	1.6	8.5	3.33	5.30
1928-29....	153.9	406.2	108.6	222.4	26.00	8.80	1.59	.28	(5.8)	(25.0)	4.35	3.28
1929-30....	144.8	184.9	62.6	151.0	30.05	22.92	2.82	(1.42)	8.8	.6	3.79	4.62
1930-31....	116.0	258.4	152.3	124.7	18.28	5.61	16.08	5.91	113.7	(4.9)	2.03	9.56
1931-32....	114.8 ^c	206.9	156.3	140.3	18.26	14.90	37.36	11.27	65.0	2.0	7.56	5.86
1932-33....	32.9	264.1	150.2	132.3	7.48	.97	.05	3.14	16.7	(.9)	5.72	8.46
1933-34....	29.2	194.4	86.1	147.1	29.32	1.05	.23	4.49	34.3	.4	8.57	12.15
1934-35....	(4.0)	164.9	109.1	181.5	12.80	4.26	4.22	.37	1.9	1.0	7.60	13.08
Average 1929-34....	87.5	221.7	121.5	139.1	20.68	9.09	11.31	4.68	47.7	(.6)	5.53	8.13

B. NET IMPORTS

Year Aug.-July	Tunis	Egypt	United Kingdom	Irish F.S.	France ^d	Italy	Ger- many	Belgium ^e	Nether- lands	Den- mark	Nor- way	Sweden
1925-26....	(2.65)	12.78	189.4	18.8	24.6	67.9	57.4	39.2	27.2	6.00	6.70	6.10
1926-27....	(.30)	8.77	216.0	19.9	83.6	86.6	91.8	39.5	28.4	7.24	6.22	6.02
1927-28....	(.57)	6.59	213.6	18.6	42.5	87.7	88.5	41.8	31.0	10.96	6.78	8.42
1928-29....	(5.31)	13.65	200.8	18.5	66.6	87.7	77.6	41.9	30.0	16.67	9.15	8.05
1929-30....	(5.81)	11.27	206.1	17.8	5.5	42.1	47.8	42.4	30.6	7.97	6.96	7.32
1930-31....	(5.84)	10.17	225.5	19.4	62.0	81.2	31.2	48.5	35.4	11.73	8.53	4.87
1931-32....	(8.52)	7.44	240.8	20.2	79.1	33.0	23.2	46.6	31.2	17.55	8.70	6.83
1932-33....	(5.35)	.48	216.0	18.2	32.1	10.5	4.6	39.3	27.3	12.16	8.69	3.23
1933-34....	.06	.23	218.3	19.7	17.5	8.1	(5.4)	41.9	22.4	12.61	8.47	1.22
1934-35....	(3.69) ^f	2.18	200.6	17.0	(17.5)	11.5	10.1	39.7	19.5	18.99	8.88	(1.78)
Average 1929-34....	5.09	5.92	221.3	19.1	39.2	35.0	20.3	43.7	29.4	12.40	8.27	4.69

B. NET IMPORTS (Continued)

Year Aug.-July	Spain	Portu- gal	Switzer- land	Austria	Czecho- slovakia	Poland	Finland	Latvia	Estonia	Lithu- ania	Greece	Japan ^g
1925-26....	(.73)	5.13	15.6	14.7 ^h	21.7	(4.60)	5.23	1.56	.97	....ⁱ	18.8	22.7
1926-27....	(1.01)	6.12	16.3	16.9	20.1	8.07	5.14	1.68	.91	....ⁱ	19.4	15.3
1927-28....	2.92	9.96	18.4	16.5	21.4	8.62	6.04	1.51	1.12	....ⁱ	19.5	16.3
1928-29....	17.20	8.86	16.6	14.6	17.4	2.45	6.93	2.99	1.25	.04	22.0	17.2
1929-30....	3.41	6.58	16.0	19.6	13.7	(.21)	5.93	2.44	1.19	(.10)	21.7	13.6
1930-31....	(.19)	2.71	18.5	16.1	17.6	(4.41)	5.27	1.55	.82	(.96)	24.1	17.8
1931-32....	10.76	2.80	21.1	13.7	24.8	(3.30)	4.51	.96	.44	(.10)	23.7	20.4
1932-33....	(.02)	1.36	19.1	13.3	12.1	(1.18)	4.47	.03	.00	(.07)	19.7	3.7
1933-34....	(.08)	.98	17.6	10.5	.2	(2.49)	4.56	(.00)	.00	(.05)	10.5	3.1
1934-35....	.00	.70	17.9	9.8	1.4	(3.89)	4.25	(1.10)	(.20)	(.97)	14.6	1.1
Average 1929-34....	2.78	2.89	18.5	14.6	13.7	(2.32)	4.95	1.00	.49	(.26)	19.9	11.7

* Data from official sources, in large part through International Institute of Agriculture. Figures in parentheses represent, under A, net imports; under B, net exports. Table XXV gives calendar year data for other countries.

^a Including shipments to possessions.

^b Grain only through 1929-30; July-June through 1927-28; gross exports in 1925-26 and 1926-27.

^c Probably understated by 7 to 9 million bushels.

^d Net imports in "commerce général," compiled directly from *Statistique mensuelle du commerce extérieur de la France*.

^e Including Luxembourg.

^f Eleven months.

^g Exclusive of trade with Chosen (Korea) and Taiwan (Formosa).

^h July-June.

ⁱ Not available.

TABLE XXIII.—INTERNATIONAL TRADE IN WHEAT FLOUR, ANNUALLY FROM 1925-26*
(Thousand barrels of 196 pounds)

A. NET EXPORTS

Year Aug.-July	Total net exports ^a	Four ex- porters ^b	United States ^c	Canada	Aus- tralia	Argen- tina	Lower Danube	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	India
1925-26....	35,738	27,628	10,130	10,847	5,009	1,642	3,441	1,817	310	849	465	685
1926-27....	35,828	30,032	13,913	9,190	5,169	1,760	3,208	1,587	302	983	336	717
1927-28....	34,254	28,228	12,226	9,792	4,381	1,829	2,664	2,108	(28)	441	115	671
1928-29....	42,009	33,307	13,992	11,732	5,845	1,738	2,886	2,615	23	197 ^d	51	497
1929-30....	35,306	26,176	13,477	6,695	4,676	1,328	3,217	2,889	162	162	4	567
1930-31....	34,526	25,348	12,314	6,677	5,307	1,050	2,415	2,045	43	215	112	525
1931-32....	29,367	21,577	8,286	5,363	7,139	789	1,959	1,086	53	437	383	426
1932-33....	26,608	17,488	4,896	5,344	6,404	844	505	441	29	7	28	172
1933-34....	27,229	16,623	4,439	5,365	5,571	1,248	826	748	28	3	47	132
1934-35....	26,345	17,466	4,489	4,552	7,334	1,091	433	413	20	0	0	155
Average 1929-34....	30,607	21,442	8,682	5,889	5,819	1,052	1,784	1,442	63	165	115	364

B. NET IMPORTS

Year Aug.-July	Morocco	Algeria	Tunls	Egypt	United Kingdom	Irish F.S.	France ^e	Italy	Ger- many	Bel- gium ^f	Nether- lands	Spain
1925-26....	81	5	0 ^g	2,436	2,468	1,749	(2,309)	(334)	1,411	(151)	1,269	(157)
1926-27....	90	36	(24)	1,891	4,046	1,855	(772)	(195)	492	(64)	1,751	(218)
1927-28....	66	(98)	(9)	1,490	3,163	1,907	(1,150)	(207)	2	(145)	2,008	(82)
1928-29....	102	(115)	(50)	2,586	2,129	1,677	(1,752)	(441)	(401)	(176)	1,639	(74)
1929-30....	16	(40)	(79)	2,411	3,962	1,838	(3,202)	(666)	(263)	158	1,305	(34)
1930-31....	50	(107)	(123)	1,816	4,189	1,863	(3,477)	(492)	56	8	1,903	(38)
1931-32....	48	(51)	(64)	1,239	2,853	2,053	(2,300)	(995)	85	(11)	333	(9)
1932-33....	32	(233)	(59)	104	2,713	916	(1,824)	(1,732)	(1,103)	6	463	(5)
1933-34....	(20)	(405)	14	50	4,307	556	(1,631)	(1,804)	(2,818)	125	446	(16)
1934-35....	(26)	(410)	(274) ^h	37	2,906	269	(1,385)	(1,864)	(299)	50	458	0
Average 1929-34....	(25)	(167)	(62)	1,124	3,605	1,445	(2,487)	(1,138)	(809)	57	890	(20)

B. NET IMPORTS (Continued)

Year Aug.-July	Den- mark	Norway	Sweden	Austria	Czecho- slovakia	Poland	Finland	Latvia	Estonia ⁱ	Greece	Japan ^j	Brazil ^k
1925-26....	495	775	(17)	1,279 ^l	3,252	43	1,115	0 ^h	76	1,506	(1,016)	2,129
1926-27....	690	611	76	1,763	1,691	76	1,098	(7)	75	1,194	(591)	2,444
1927-28....	828	754	136	1,821	2,106	84	1,293	3	76	617	(1,000)	2,345
1928-29....	782	961	150	1,386	1,978	1	1,481	4	84	376	(2,310)	2,049
1929-30....	716	701	147	1,917	1,694	(60)	1,269	(21)	63	252	(981)	1,707
1930-31....	790	710	34	1,574	1,235	(301)	1,097	(36)	44	85	(1,664)	1,306
1931-32....	651	688	19	640	598	(259)	814	0 ^h	4	34	(1,716)	258
1932-33....	395	577	4	293	219	(119)	631	0 ^h	0 ^h	11	(3,368)	147
1933-34....	289	472	3	506	8	(144)	585	0 ^h	0 ^h	7	(2,830)	1,021
1934-35....	236	507	1	394	8	(382)	433	0	0	17	(3,651)	...
Average 1929-34....	568	630	41	986	751	(177)	879	(11)	22	78	(2,112)	888

* Data from official sources, in large part through International Institute of Agriculture. Figures in parentheses represent, under A, net imports; under B, net exports. Dots (...) indicate that data are not available.

^a Sum of net exports of net-exporting countries in the years in which they were net exporters.

^b United States, Canada, Australia, and Argentina.

^c Including shipments to possessions.

^d Gross exports.

^e Exports in "commerce général," compiled directly from *Statistique mensuelle du commerce extérieur de la France*.

^f Including Luxembourg.

^g Net imports of less than 500 barrels.

^h Eleven months.

ⁱ Exclusive of net exports to Chosen and Taiwan, which were 2.11 million barrels in the calendar year 1933 and averaged 2.50 million in 1929-33.

^j July-June.

TABLE XXIV.—EXPORTS OF WHEAT AND FLOUR TO SPECIFIED EX-EUROPEAN COUNTRIES FROM PRINCIPAL SOURCES OF EXPORTS, ANNUALLY FROM 1925-26*

(Million bushels)

A. TO JAPAN FROM NORTH AMERICA AND AUSTRALIA

July-June	Wheat and flour			Total from			Wheat from			Flour from		
	Total	Wheat	Flour	United States	Canada	Australia	United States	Canada	Australia	United States	Canada	Australia
1925-26....	29.66	29.07	.59	5.28	13.48	10.90	5.18	13.03	10.86	.10	.45	.04
1926-27....	19.97	19.27	.70	7.34	8.30	4.33	7.34	7.63	4.30	.00	.67	.03
1927-28....	20.79	20.09	.70	6.30	11.25	3.24	6.30	10.59	3.20	.00	.66	.04
1928-29....	31.55	31.32	.23	3.78	22.11	5.66	3.78	21.91	5.63	.00	.20	.03
1929-30....	18.81	18.07	.74	9.17	6.79	2.85	9.17	6.09	2.81	.00	.70	.04
1930-31....	29.17	28.19	.98	3.24	8.21	17.72	3.06	7.45	17.68	.18	.76	.04
1931-32....	31.44	30.48	.96	1.79	8.11	21.54	1.65	7.37	21.46	.14	.74	.08
1932-33....	22.68	21.89	.79	.13	4.47	18.08	.12	3.87	17.90	.01	.60	.18
1933-34....	19.11	17.65	1.46	5.74	5.38	7.99	5.74	4.19	7.72	.00	1.19	.27
1934-35....	20.44	19.18	1.26	.22	4.69	15.53	.19	3.46	15.53	.03	1.23	...
Average												
1929-34....	24.25	23.26	.99	4.02	6.59	13.64	3.95	5.79	13.52	.07	.80	.12
1924-29....	23.37	22.86	.51	5.41	11.73	6.23	5.34	11.32	6.20	.07	.41	.03

B. TO CHINA, MANCHUKUO, HONG KONG, AND KWANTUNG FROM NORTH AMERICA, AUSTRALIA, AND JAPAN

July-June	Wheat and flour			Total from		Wheat from			Flour from			
	Total	Wheat	Flour	United States	Canada	United States	Canada	Australia	United States	Canada	Australia	Japan ^a
1925-26....	24.95	8.12	16.83	5.29	13.72	.00	7.69	.43	5.29	6.03	.47	5.04
1926-27....	17.36	4.24	13.12	6.06	6.96	.30	3.94	.00	5.76	3.02	.21	4.13
1927-28....	20.12	1.26	18.86	8.72	6.11	.00	1.26	.00	8.72	4.85	.29	5.00
1928-29....	49.57	12.56	37.01	13.18	22.47	1.25	8.61	2.70	11.93	13.86	.15	11.17
1929-30....	22.32	1.29	21.03	10.52	6.05	.16	1.13	.00	10.36	4.92	.15	5.60
1930-31....	54.58	33.55	21.03	12.34	9.21	1.88	7.27	24.40	10.46	1.94	.38	8.25
1931-32....	72.13	48.90	23.23	25.20	5.18	14.37	3.53	31.00	10.83	1.65	2.88	7.87
1932-33....	71.94	41.81	30.13	2.78	9.73	.01	8.06	33.74	2.77	1.67	10.04	15.65
1933-34....	32.93	12.14	20.79	11.67	1.42	10.30	.36	1.48	1.37	1.06	5.09	13.27
1934-35....	47.21	14.09	33.12	3.18	1.12	.89	.04	13.16	2.29	1.08	12.72	17.03
Average												
1929-34....	50.78	27.54	23.24	12.50	6.32	5.34	4.07	18.13	7.16	2.25	3.71	10.12
1924-29....	23.94	5.35	18.59	7.31	10.20	.38	4.34	.63	6.92	5.86	.35	5.48

C. TO BRAZIL FROM NORTH AMERICA AND ARGENTINA

D. TO EGYPT FROM NORTH AMERICA AND AUSTRALIA

July-June	Wheat and flour			Wheat and flour from			Wheat and flour			Wheat and flour from		
	Total	Wheat	Flour	United States	Canada	Argentina	Total	Wheat	Flour	United States ^b	Canada ^b	Australia ^c
1925-26....	21.94	13.52	8.42	4.06	1.00	16.88	12.28	.67	11.61	1.44	.76	10.08
1926-27....	28.07	19.03	9.04	7.37	1.20	19.50	15.83	4.62	11.21	1.58	.67	13.58
1927-28....	31.77	22.64	9.13	4.10	.17	27.50	12.55	3.83	8.72	.82	.62	11.11
1928-29....	34.25	25.80	8.45	3.91	.05	30.29	19.57	4.94	14.63	1.03	1.65	16.89
1929-30....	30.83	23.73	7.10	3.67	.04	27.12	9.39	1.85	7.54	.99	.22	8.18
1930-31....	28.24	23.08	5.16	4.03	.34	23.87	11.38	3.14	8.24	.87	.12	10.39
1931-32....	30.89	29.98	.91	15.23	.00	15.66	7.98	1.64	6.34	.76	.04	7.18
1932-33....	27.15	26.40	.75	9.30	.00	17.85	3.77	1.04	2.73	.62	.03	3.10
1933-34....	28.05	23.97	4.08	.92	.28	26.85	2.79	.20	2.59	.63	.02	2.14
1934-35....	28.54	25.87	2.67	.59	.00	27.95	3.23	.89	2.34	.67	.01	2.55
Average												
1929-34....	29.03	25.43	3.60	6.63	.13	22.27	7.06	1.57	5.49	.77	.09	6.20
1924-29....	27.31	18.83	8.48	4.54	.51	22.26	14.36	3.19	11.17	1.16	.83	12.37

* Data from official statistics of exporting countries. Argentine exports to the Orient, of some importance since late in 1932, are not included. See also Table XXV.

^a Total flour exports (excluding shipments to Chosen and Taiwan), the bulk of which now go to Manchukuo (formerly Manchuria) and Kwantung.

^b Flour only, as wheat.

^c Wheat to Egypt (and Sudan to 1929-30); flour to Egypt and Sudan.

TABLE XXIV (Continued).—EXPORTS OF WHEAT AND FLOUR TO SPECIFIED ex-EUROPEAN COUNTRIES FROM PRINCIPAL SOURCES OF EXPORTS, ANNUALLY FROM 1925-26

(Million bushels)

E. To WEST INDIES FROM NORTH AMERICA

F. To SOUTH AFRICA FROM CANADA AND AUSTRALIA

July-June	Total flour	Flour from		Wheat and flour			Total from		Wheat from		Flour from	
		United States	Canada	Total	Wheat	Flour	Canada	Australia	Canada	Australia	Canada	Australia
1925-26....	12.94	8.24	4.70	4.70	3.37	1.33	.49	4.21	.25	3.12	.24	1.09
1926-27....	13.22	9.19	4.03	3.58	2.36	1.22	.66	2.92	.35	2.01	.31	.91
1927-28....	13.30	8.93	4.37	8.84	7.44	1.40	.84	8.00	.50	6.94	.34	1.06
1928-29....	14.62	9.49	5.13	7.78	6.29	1.49	2.46	5.32	2.15	4.14	.31	1.18
1929-30....	12.69	8.77	3.92	3.23	2.14	1.09	.81	2.42	.60	1.54	.21	.88
1930-31....	11.72	7.33	4.39	5.14	4.51	.63	3.75	1.39	3.55	.96	.20	.43
1931-32....	10.69	6.78	3.91	4.08	3.99	.09	3.56	.52	3.53	.46	.03	.06
1932-33....	9.41	5.52	3.89	.26	.23	.03	.23	.03	.21	.02	.02	.01
1933-34....	9.50	5.60	3.90	.08	.07	.01	.04	.04	.03	.04	.01	...
1934-35....	9.06	6.00	3.06	1.68	1.67	.01	1.66	.02	1.65	.02	.01	...
Average												
1929-34....	10.80	6.80	4.00	2.56	2.19	.37	1.68	.88	1.59	.60	.09	.28
1924-29....	13.38	9.02	4.36	6.10	4.71	1.39	1.03	5.07	.73	3.98	.30	1.09

TABLE XXV.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, AND NET SUPPLIES, IN SPECIFIED COUNTRIES, 1924-34*

(Million bushels)

Calendar year	China proper	Turkey	Brazil	Uruguay	Chile	South Africa	New Zealand
NET IMPORTS (NET EXPORTS IN PARENTHESES)							
1924..	31.50	...	28.91	(5.18)	(7.20)	7.70	3.55
1925..	9.11	...	27.74	(2.28)	(5.12)	6.13	2.64
1926..	22.45	.26	31.52	(1.32)	(1.05)	4.54	2.97
1927..	14.42	(.45)	32.60	(1.94)	.30	5.81	1.42
1928..	16.73	1.48	36.53	(6.05)	(.54)	8.81	1.21
1929..	48.61	5.40	35.94	(4.28)	(.29)	7.70	.52
1930..	22.55	(.29)	31.79	(2.69)	(1.90)	2.80	.73
1931..	66.03	(.63)	32.46	.62	(.10)	3.41	.74
1932..	51.94	(1.19)	28.62	.07	.60	.93	1.98
1933..	47.47	...	33.79	1.81	3.22	(.08)	(.14)
1934..	26.73	...	34.94	...	(1.76)	.75	.64
NET SUPPLIES (CARRYOVERS DISREGARDED) ^a							
1924..	....	...	33.23	8.16	20.89	13.67	7.73
1925..	....	...	31.64	7.63	19.35	13.26	8.09
1926..	....	90.99	37.19	8.70	25.62	13.75	7.59
1927..	....	48.53	37.56	8.30	23.60	13.85	9.37
1928..	....	60.68	41.16	9.35	30.07	14.49	10.75
1929..	....	105.30	40.57	8.02	29.39	14.94	9.35
1930..	....	93.57	38.06	10.47	31.63	13.43	7.97
1931..	....	104.32	37.66	7.99	21.09	12.71	8.32
1932..	....	67.79	34.66	11.33	21.79	14.64	8.56
1933..	....	...	40.04	...	31.96	10.55	10.92
1934..	....	...	41.37	...	33.55	12.34	9.68

* Trade data from *International Yearbooks of Agricultural Statistics*, U.S. Department of Agriculture, and *Foreign Trade of China* (Maritime Customs).

^a For Southern Hemisphere countries, net imports or net exports of a given calendar year are combined with the crop harvested late in the preceding year.

TABLE XXVI.—OCEAN FREIGHTS ON WHEAT TO EUROPE, ANNUAL AND MONTHLY AVERAGES*

(U.S. cents per bushel)

Period	Canada ^a	New York ^b	North- ern Pa- cific ^c	Black Sea ^c	La Plata down river ^a	Kara- chl ^a	Aus- tralia ^a
Jan.-Dec.							
1913.....	8.3	5.8	25.7	...	10.6	12.2	20.4
Aug.-July							
1925-26.....	9.0	7.0	20.0	...	10.9	13.1	22.3
1926-27.....	12.0	9.7	23.9	...	19.9	15.8	28.5
1927-28.....	7.7	5.6	19.5	...	13.9	13.2	23.2
1928-29.....	8.5	6.1	19.6	...	14.9	13.1	23.1
1929-30.....	5.5 ^d	4.7	14.7	...	8.3	9.9 ^d	16.7
1930-31.....	5.6 ^d	4.6	14.5	7.1	10.9	12.5	19.3
1931-32.....	4.9 ^d	3.9	10.9 ^d	5.5	8.2	11.2 ^d	13.2
1932-33.....	4.0 ^d	3.3	9.9 ^d	4.8	6.7	...	11.8
1933-34.....	4.3 ^d	4.7	12.6 ^d	6.8 ^d	9.4	...	15.9
1934-35.....	4.9 ^d	4.6	12.0 ^d	6.5 ^d	9.8	...	16.2
July	3.9	4.7	10.8 ^e	6.3	9.8	...	16.4
Aug.	4.4 ^f	4.7	13.5	6.4	10.3	...	16.6
Sept.	5.3	4.7	13.5	6.5	10.3	...	17.3
Oct.	5.2	4.6	13.6 ^f	6.6	10.1	...	18.1
Nov.	4.8	4.7	...	7.0	9.5	...	17.8
Dec.	5.0 ^e	4.6	12.6	6.7	9.9	...	16.8
Jan. ....	...	4.6	11.8	6.8	9.7	...	16.3
Feb. ....	...	4.6	11.1	6.6	8.6	...	14.4
Mar. ....	...	4.5	11.0	6.2	8.8	...	14.1
Apr.	4.9 ^e	4.5	11.0	...	9.6	...	14.9
May	5.0 ^f	4.6	10.9	6.9	10.3	...	15.5
June ....	...	4.6	10.6 ^e	6.1	10.4	...	16.0
July	4.6 ^f	4.6	...	6.2	10.5	...	16.3

* Averages of Friday rates published in *International Crop Report and Agricultural Statistics*, for cargoes except from New York. Dots (..) indicate that data are unavailable or that no rate is reported.

^a To United Kingdom.

^b To Liverpool, parcels.

^c To Antwerp and Hamburg.

^d Average for months in which quotations are available.

^e One week only.

^f Three-week average.

^g Two-week average.

TABLE XXVII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY, 1934-35*

(Million bushels)

A. NET EXPORTS

Month	United States ^a	Canada	Argentina	Australia	USSR	Hungary	Yugoslavia	Rumania	Bulgaria	Poland	Morocco	Algeria	Tunis	India
Aug.	2.60	16.44	18.99	8.52	(.54)	.88	.21	.00	.00	.39	1.00	3.32	{.54	.28
Sept.	(1.35)	19.16	15.79	7.30	.47	.90	.73	.00	.00	.12	.50		{.35	.10
Oct.	(.25)	23.93	14.05	10.38	.73	.92	.93	.00	.00	.12	.70	1.37	.40	.11
Nov.	(.35)	20.85	14.45	7.85	.51	1.45	.69	.00	.00	.07	.47	1.16	.29	.09
Dec.	(1.31)	18.82	10.97	8.59	.11	1.26	.54	(.00)	.00	.12	.31	.73		.07
Jan.	(.39)	6.91	17.84	12.45	.07	.83	.07	.00	.00	.16	.46	.58	.57	{(.11)
Feb.	(.37)	8.56	17.60	9.20	.14	.96	.01	.00	.00	.13	.30	1.02		.06
Mar.	(1.07)	11.10	17.79	10.94	.04	1.50	.49	.00	.00	.21	.38	.98	.22	.08
Apr.	(.41)	6.23	14.50	11.06	(.02)	1.43	.22	.24	.00	.17		1.36	.33	.05
May	(.19)	13.59	15.95	9.46	.07	1.34	.23	1.59	.37	.35	3.21	.89	.35	.06
June ....	.12	8.35	12.25	5.72	.05	.90	.09	1.61	.00	.66		.73	.64	.02
July	(1.06)	10.90	11.36	7.63	.25	.42	.04	.80	.00	1.39	.28	.75	...	.10

B. NET IMPORTS

Month	British Isles			Three variable importers				Belgium ^c	Netherlands	Denmark	Norway	Sweden	Switzerland	Austria
	U.K.	I.F.S.	Total	Total	France ^b	Germany	Italy							
Aug.	16.39	1.84	18.23	2.57	.89	1.43	.25	4.72	1.20	1.17	.62	(.02)	1.28	.65
Sept.	18.62	1.26	19.88	3.85	2.54	.97	.34	5.18	1.66	.98	.89	.04	1.36	.67
Oct.	16.49	1.84	18.33	.77	(.64)	1.47	(.06)	4.17	2.09	1.72	.63	.15	1.81	.72
Nov.	16.01	1.11	17.12	.61	(1.15)	1.08	.68	2.67	2.09	1.94	.68	.16	1.44	.74
Dec.	17.86	1.96	19.82	(1.76)	(3.17)	1.06	.35	3.56	1.97	2.40	.95	.14	1.96	.71
Jan.	11.20	.22	11.42	(1.12)	(3.14)	.89	1.13	2.06	1.71	2.73	.80	.14	1.25	.64
Feb.	15.59	.95	16.54	(1.04)	(2.33)	.92	.36	2.90	1.78	1.91	.71	.11	.91	.45
Mar.	17.80	2.16	19.96	.02	(1.56)	.87	.71	3.76	2.00	1.89	.43	(.31)	1.06	.79
Apr.	16.02	1.16	17.18	.94	(.72)	.57	1.09	2.23	1.38	1.20	.49	(.60)	1.36	1.03
May	20.41	1.87	22.28	(2.43)	(3.81)	.48	.90	2.45	1.38	1.04	.94	(.54)	1.46	1.05
June	17.26	1.21	18.47	(.26)	(4.46)	.30	3.83	2.80	.61	.85	1.03	(.37)	2.12	1.20
July	17.13	1.39	18.52	2.19	.06	.16	1.97	3.25	1.60	1.15	.72	(.68)	1.92	1.18

B. NET IMPORTS (continued)

Month	Czechoslovakia	Greece	Spain	Portugal	Finland	Latvia	Estonia	Lithuania	Egypt	China	Manchukuo	Japan	New Zealand	South Africa
Aug. ....	.00	1.12	.00	.08	.39	.00	.00	(.00)	.04	.41	1.71	.06	.06	.02
Sept. ....	.01	.97	.00	.06	.30	.00	.00	.00	.04	.54	3.43	(.29)	.04	.23
Oct. ....	.01	.67	.00	.05	.34	.00	.00	(.04)	.15	.33	2.58	.02	.03	.61
Nov. ....	.00	.68	.00	.03	.38	(.04)	.00	(.02)	.02	.46	3.81	(.02)	.05	
Dec. ....	.08	.90	.00	.05	.33	(.05)	.00	(.04)	.02	.77	2.88	.29	.04	.01
Jan. ....	.21	.99	.00	.00	.29	(.01)	(.12)	(.08)	.45	2.94	2.50	(.17)	.05	.00
Feb. ....	.39	.74	.00	.05	.22	(.00)	.00	(.08)	.34	1.45	2.14	.49		{(.00)
Mar. ....	.11	1.25	.00	.03	.26	.00	.00	(.23)	.76	3.26	1.56	.43	.07	{.01
Apr. ....	.18	1.32	.00	.13	.32	(.03)	(.03)	(.38)	.33	3.89	3.52	.13	.05	.01
May ....	.10	2.34	.00	.06	.52	(.11)	.00	(.09)	.01	3.26	2.46	.02		
June ....	.12	2.18	.00	.08	.47	(.25)	(.04)	(.01)	.01	2.88	2.87	(.14)	.13	.01
July ....	.25	1.42	.00	.08	.43	(.61)	(.00)	(.01)	.01	.90	1.84	.26	.06	...

* Data from official sources and the International Institute of Agriculture. Dots (...) indicate data are not available. Figures in parentheses represent: under A, net imports; under B, net exports.

^a Includes shipments to possessions.

^c Including Luxemburg.

^b Net imports in "commerce général."

TABLE XXVIII.—UNITED STATES MILLING AND FLOUR DISPOSITION, ANNUALLY FROM 1922-23*

July-June	Wheat ground		Millfeed output (thousand tons)	Flour production and disposition (thousand barrels)							Per capita consumption	
	Total (million bushels)	Per barrel (bushels)		Output	Domestic exports ^a	Imports less re-exports	Shipments to possessions ^b	Net exports plus shipments	Domestic disappearance ^c	Consumption	Flour (barrels)	As wheat ^d (bushels)
1922-23..	539.2	4.701	4,940	114,700	14,883	416	601	15,068	99,600	99,600	.900	4.23
1923-24..	560.5	4.700	5,130	119,300	17,253	156	611	17,708	101,600	101,500	.901	4.23
1924-25..	546.6	4.651	4,880	117,500	13,896	2	591	14,485	103,000	102,900	.903	4.20
1925-26..	542.9	4.705	4,980	115,400	9,542	6	567	10,103	105,300	104,700	.905	4.26
1926-27..	566.0	4.639	5,023	122,000	13,385	2	642	14,025	108,000	106,400	.907	4.21
1927-28..	565.5	4.689	5,146	120,600	12,821	3	559	13,377	107,200	108,000	.908	4.26
1928-29..	574.2	4.646	5,115	123,600	12,888	0	660	13,548	110,100	109,600	.909	4.22
1929-30..	572.0	4.673	5,164	122,400	12,994	(1)	620	13,615	108,800	109,000	.891	4.16
1930-31..	550.7	4.683	4,997	117,600	11,726	0	593	12,319	105,300	106,000	.857	4.01
1931-32..	526.5	4.643	4,682	113,400	8,356	0	571	8,927	104,500	103,000	.828	3.84
1932-33..	516.2	4.655	4,619	110,900	4,379	0	629	5,008	105,900	102,000	.814	3.79
1933-34..	470.3	4.652	4,202	101,100	3,873	1	581	4,451	96,600	100,000	.793	3.69
1934-35..	480.1	4.630	4,241	103,700	3,934	1	576	4,509	99,200	101,000	.797	3.69

* Holbrook Working's estimates of wheat ground, millfeed output, flour output, and flour consumption, combined with official trade data. See WHEAT STUDIES, December 1927, IV, 100-01, for corresponding figures back to 1879-80 and notes on method of estimation. Estimates for recent years and months (Table XXIX) are now undergoing revision.

^a Including flour milled in bond mainly or wholly from imported wheat (almost wholly from Canada). See p. 127.

^b Alaska, Hawaii, Puerto Rico, and, since January 1935, Virgin Islands.

^c Disregarding variations in flour stocks, which are allowed for in "Consumption."

^d Converted at rates given in column 2, which are slightly too low for this use.

TABLE XXIX.—UNITED STATES FLOUR PRODUCTION AND DISPOSITION, MONTHLY FROM JULY 1930*
(Thousand barrels)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
A. REPORTED PRODUCTION, ALL REPORTING MILLS													
1930-31.....	9,466	10,313	10,674	10,816	9,184	8,973	9,233	8,242	8,724	8,494	8,015	7,763	109,897
1931-32.....	9,852	9,658	9,735	10,399	9,890	8,148	8,180	7,692	8,483	8,196	7,739	7,820	105,792
1932-33.....	7,828	9,005	9,395	9,382	8,719	8,323	8,077	7,216	8,867	9,298	8,777	8,577	103,464
1933-34.....	8,275	6,719	7,540	8,181	8,116	7,332	8,719	7,867	8,362	7,455	8,103	7,507	94,176
1934-35.....	7,325	8,654	8,822	9,181	8,211	7,547	8,316	7,599	7,986	7,786	7,806	7,381	96,614
B. ESTIMATED TOTAL UNITED STATES PRODUCTION													
1930-31.....	10,128	11,013	11,395	11,534	9,808	9,575	9,891	8,840	9,351	9,107	8,599	8,331	117,572
1931-32.....	10,548	10,342	10,424	11,128	10,588	8,741	8,774	8,257	9,096	8,792	8,307	8,393	113,390
1932-33.....	8,401	9,649	10,062	10,049	9,346	8,926	8,667	7,752	9,503	9,960	9,407	9,195	110,917
1933-34.....	8,875	7,225	8,096	8,776	8,706	7,875	9,347	8,442	8,967	8,006	8,693	8,060	101,068
1934-35.....	7,868	9,278	9,455	9,836	8,807	8,103	8,918	8,159	8,569	8,357	8,378	7,927	103,655
C. NET EXPORTS AND SHIPMENTS TO POSSESSIONS													
1930-31.....	989	1,266	1,461	1,387	1,203	945	996	808	775	811	838	840	12,319
1931-32.....	1,048	692	768	825	905	942	903	753	652	582	388	469	8,927
1932-33.....	400	460	419	417	537	446	392	344	392	392	384	425	5,008
1933-34.....	337	416	362	352	338	428	415	325	422	469	322	265	4,451
1934-35.....	322	486	489	434	432	354	318	315	359	333	347	320	4,509
D. CALCULATED DOMESTIC DISAPPEARANCE													
1930-31.....	9,139	9,747	9,934	10,147	8,605	8,630	8,895	8,032	8,576	8,296	7,761	7,491	105,253
1931-32.....	9,500	9,650	9,656	10,303	9,683	7,799	7,871	7,504	8,444	8,210	7,919	7,924	104,463
1932-33.....	8,001	9,189	9,643	9,632	8,809	8,480	8,275	7,408	9,111	9,568	9,023	8,770	105,909
1933-34.....	8,538	6,809	7,734	8,424	8,368	7,447	8,932	8,117	8,545	7,537	8,371	7,795	96,617
1934-35.....	7,546	8,792	8,966	9,402	8,375	7,749	8,600	7,844	8,210	8,024	8,031	7,607	99,146

* Reported production and trade data from U.S. Department of Commerce, *Wheat Ground and Wheat Milling Products, Monthly Summary of Foreign Commerce, Foodstuffs Round the World*, and Statements Nos. 3009, 3013, and 3015. The figures for total United States production represent standing estimates by Holbrook Working as in Table XXVIII. Corresponding data for earlier years are given in previous issues of our "Review of the Crop Year."

TABLE XXX.—WHEAT SUPPLIES AND DISPOSITION IN FOUR CHIEF EXPORTING COUNTRIES, FROM 1922-23*

(Million bushels)

A. UNITED STATES (JULY-JUNE)

Year	Supplies			Domestic disappearance					Surplus over domestic use	Net exports ^g	Shipments to possessions ^g	Year-end stocks ^a
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^b	Fed on farms ^b	Residual ^e	Total ^f				
1922-23.....	114	847	961	468	85.1	49	+14	616	345	205	2.9	137
1923-24.....	137	759	896	477	73.5	67	- 1	617	279	132	3.0	144
1924-25.....	144	840	984	479	81.3	56	- 5	611	373	255	2.9	115
1925-26.....	115	669	784	495	79.5	28	-20	583	201	93	2.7	105
1926-27.....	105	834	939	501	85.1	34	-12	608	331	206	3.1	122
1927-28.....	122	875	997	503	91.4	44	+41	679	318	191	2.7	124
1928-29.....	124	913	1,037	512	84.6	55	- 7	645	392	142	3.2	247
1929-30.....	247	822	1,069	508	83.9	59	-29	622	447	140	3.0	304
1930-31.....	304	890	1,194	493	81.1	158	+21	753	441	112 ^h	2.9	326
1931-32.....	326	932	1,258	485	80.1	171	+10	746	512	124 ^h	2.8	385
1932-33.....	385	746	1,131	493	83.6	122	+ 3	702	429	33	3.0	393
1933-34.....	393	529	922	449	71.7	70	+17	608	314	25	2.8	286
1934-35.....	286	497	783	459	75.5	81	+16	632	151	(4) ⁱ	2.8	152

B. CANADA (AUGUST-JULY)

Year	Supplies			Domestic disappearance							Surplus over domestic use	Net exports ^g	Year-end stocks ^a
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^b	Other A ^{b,j}	Other B ^{b,k}	Other C ^{b,l}	Residual ^e	Total ^f			
1922-23.....	40	400	440	40.9	39.8	9.8	...	12.0	+27	129	311	279	32
1923-24.....	32	474	506	41.5	38.7	19.4	...	11.9	+ 3	115	391	346	45
1924-25.....	45	262	307	42.1	38.5	12.0	...	10.0	-15	88	219	192	27
1925-26.....	27	395	422	42.3	39.8	11.2	...	6.3	-38	62	360	324	36
1926-27.....	36	407	443	42.8	39.3	12.3	...	19.1	-11	102	341	293	48
1927-28.....	48	480	528	43.5	42.2	27.6	...	6.7	- 3	117	411	333	78
1928-29.....	78	567	645	44.1	44.2	29.6	...	12.8	+ 4	135	510	406	104
1929-30.....	104	305	409	43.4	43.6	7.2	...	6.7	+12	113	296	185	111
1930-31.....	111	421	532	41.9	39.2 ^m	4.5	41	7.7	+ 6	140	392	258	134
1931-32.....	134	321	455	41.8	36.9 ^m	2.8	27	6.0	+ 2	116	339	207	132
1932-33.....	132	443	575	43.6	35.5 ^m	2.1	22	7.2	-11	99	476	264	212
1933-34.....	212	282	494	43.1	32.7 ^m	3.0	17	4.5	+ 6	106	388	194	194
1934-35.....	194	276 ⁿ	470	42.8	32.3 ^m	3.6	17	4.6	+ 1	102	368	165	203

* Based on official data so far as possible.

^a See Table XIII, columns 5 and 12.^b Latest official estimates of U.S. Department of Agriculture and Dominion Bureau of Statistics, respectively.^c Exclusive of imports, which are taken into account in arriving at net exports.^d Wheat equivalent of flour production less flour exports. For the United States, Holbrook Working's estimates corresponding to data in Table XXVIII; for Canada, official estimates of "wheat milled for food."^e Difference between total domestic disappearance and the sum of other disappearance items. This is normally a positive item representing dockage (U.S.), feed elsewhere than on farms where grown, and use of wheat in some prepared breakfast foods, in mixed feeds, and in industry; but it is determined in part by errors in estimates of stocks, crops, specified domestic use items, and net exports. Negative

items (e.g., Canada, 1924-27) ordinarily imply more or less underestimate of the crop and/or overestimates of amount fed on farms. For Canada the item includes wheat fed on farms before 1930-31.

^f Total supplies less net exports (and for the United States, shipments to possessions) and year-end stocks.^g Official trade data, as in Tables XVII, XXII.^h Does not include all wheat shipped to Canada.ⁱ Net imports.^j Unmerchantable.^k Merchantable wheat fed on farms.^l Loss in cleaning.^m Probably too low for close comparison with figures of earlier years on account of a change in the estimated seed requirement per acre.ⁿ Likely soon to be raised by 5 or 6 million bushels.

TABLE XXX (Continued).—WHEAT SUPPLIES AND DISPOSITION IN FOUR CHIEF EXPORTING COUNTRIES, FROM 1922-23*

C. AUSTRALIA (AUGUST-JULY)

Year	Supplies			Domestic disappearance				Surplus over domestic use	Net exports ^e	Estimated year-end stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^b	Residual ^e	Total ^f			Aug. 1 total ^g	Aug. 1 ex- portable ^h	Nov. 30 total ⁱ
1922-23.....	24	109	133	28.3	10.3	+11	50	83	50	33	24	6.0
1923-24.....	33	125	158	27.8	11.0	- 1	38	120	86	34	25	9.0
1924-25.....	34	165	199	29.7	10.6	+ 7	47	152	124	28	18	4.6
1925-26.....	28	115	143	32.8	11.6	- 2	42	101	77	24	13	6.9
1926-27.....	24	161	185	31.0	14.5	+ 2	47	138	103	35	25	12.1
1927-28.....	35	118	153	31.6	15.7	- 1	46	107	71	36	25	8.9
1928-29.....	36	160	196	29.1	15.9	+ 1	46	150	109	41	31	15.6
1929-30.....	41	127	168	32.1	19.1	+ 5	56	112	63	49	38	13.8
1930-31.....	49	214	263	31.3	15.6	+ 4	51	212	152	60	49	16.6
1931-32.....	60	191	251	31.6	16.3	- 3	45	206	156	50	40	10.8
1932-33.....	50	214	264	33.0	15.7	+10	59	205	150	55	44	18.5
1933-34.....	55	177	232	33.0	13.4	+15	61	171	86	85	74	39.4
1934-35.....	85	134	219	33.0	13.0	+ 9	55	164	109	55	44	...

D. ARGENTINA (AUGUST-JULY)

Year	Supplies			Domestic disappearance				Surplus over domestic use	Net exports ^e	Estimated stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^f	Residual ^e	Total ^f			Aug. 1 total ^g	Aug. 1 ex- portable ^h	Dec. 31 total ⁱ
1922-23.....	61	196	257	43.6	20.6	-10	54	203	139	64	44	10
1923-24.....	64	248	312	49.0	21.3	+ 3	73	239	173	66	44	10
1924-25.....	66	191	257	53.0	23.0	- 2	74	183	125	58	35	10
1925-26.....	58	191	249	53.9	23.1	+ 8	85	164	97	67	43	35
1926-27.....	67	230	297	56.9	24.8	+ 2	84	213	144	69	44	15
1927-28.....	69	282	351	59.7	24.9	- 7	78	273	178	95	70	15
1928-29.....	95	349	444	60.4	23.4	+ 8	92	352	222	130	105	20
1929-30.....	130	163	293	60.0	25.5	- 9	77	216	151	65	40	20
1930-31.....	65	232	297	62.5	20.8	+ 9	92	205	125	80	54	20
1931-32.....	80	220	300	64.8	23.7	+ 6	95	205	140	65	38	14
1932-33.....	65	241	306	64.5	23.6	+11	99	207	132	75	48	10
1933-34.....	75	286	361	66.1	22.6	+ 7	96	265	147	118	90	15
1934-35.....	118	241	359	67.0	16.9	+13	97	262	182	80 ^g	52	...

* Based on official data so far as possible.

^a Australia: stocks on November 30 (last column), plus August-November net exports, plus $\frac{1}{2}$ of net mill grindings (column 4). Argentina: stocks on December 31 (last column), plus August-December net exports, plus $\frac{1}{2}$ of net mill grindings (column 4).

^b Official data or estimates.

^c Exclusive of imports, which are taken into account in arriving at net exports.

^d Australia: official data for July-June years to 1932-33; our estimates thereafter. Argentina: our estimates based on official data of flour milled minus flour exports in calendar years 1922-34.

^e See footnote e, p. 177; here including feed use.

^f Total supplies less net exports and year-end stocks.

^g Official trade data, as in Table XXII.

^h Preceding column minus $\frac{1}{2}$ of net mill grindings for Australia, $\frac{5}{2}$ of net mill grindings for Argentina.

ⁱ Australia: official estimates 1925-34; our approximations for other years. Argentina: rough approximations to December 31 stocks of old-crop wheat, based largely upon estimates by the *Times of Argentina*.

^j Based on official data on acreage sown and average seed requirements.

^k Official estimates of stocks as of Oct. 15, 1935, point to a total on Aug. 1 of about 87 million bushels. See *Times of Argentina*, Nov. 11, 1935, p. 27.

TABLE XXXI.—APPROXIMATE DOMESTIC DISAPPEARANCE OF WHEAT (ALLOWING FOR CARRYOVERS) IN OTHER COUNTRIES, ANNUALLY FROM 1925-26*
(Million bushels)

Aug.- July	India	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Pol- and	Mo- rocco	Al- geria	Tunis	Egypt	British Isles	France	Italy	Ger- many	Bel- gium ^a
1925-26..	325	50.6	56.0	91.8	32.6	59.3	21.8	24.1	7.3	47.3	279	334	293	176	53.4
1926-27..	326	53.0	59.9	93.7	36.8	60.6	22.0	24.2	7.1	47.8	282	329	298	186	53.7
1927-28..	328	55.8	66.2	98.2	40.3	63.0	22.5	25.0	8.5	49.5	281	330	300	196	58.0
1928-29..	322	55.6	79.5	103.9	41.8	65.8	22.9	25.2	8.2	51.5	281	331	302	205	58.4
1929-30..	320	57.9	77.6	101.1	43.3	68.3	23.3	25.5	7.9	53.3	279	332	303	196	53.7
1930-31..	354	59.4	80.7	107.5	46.1	73.3	23.7	24.5	7.5	54.0	278	322	301	174	59.4
1931-32..	365	60.1	83.6	104.9	48.2	73.7	22.2	24.1	7.6	53.5	293	334	290	179	60.2
1932-33..	360	61.2	60.5	61.5	49.1	59.1	22.7	23.1	9.5	48.1	288	335	287	173	57.4
1933-34..	353	61.7	86.6	107.1	50.0	73.4	20.3	19.8	10.1	45.2	294	342	284	177	59.0
1934-35..	350	59.4	72.9	84.0	47.7	74.6	23.9	25.1	9.8	39.8	299	346	267	182	55.2
Average															
1929-34..	350	60.1	77.8	96.4	47.3	69.6	22.4	23.4	8.5	50.8	286	333	293	180	57.9
1924-29..	326	52.0	62.8	93.6	35.9	61.2	22.0	24.3	7.5	48.6	281	331	295	187	55.3

Aug.- July	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Portu- gal	Switzer- land	Aus- tria	Czecho- slovakia	Fln- land	Latvia	Eston- ia	Lithu- ania	Greece	Japan ^b
1925-26..	32.8	15.7	6.99	19.5	146	16.5	19.4	25.8	58.5	6.00	3.72	1.76	4.76	30.0	44.0
1926-27..	33.9	16.0	7.01	19.0	147	15.8	20.3	26.5	62.5	6.22	3.71	1.79	4.71	31.8	44.0
1927-28..	36.3	20.4	7.38	22.4	148	18.1	20.7	27.3	66.8	6.87	4.15	2.20	5.25	32.5	43.5
1928-29..	36.8	25.7	8.65	25.9	148	17.6	21.2	28.3	68.1	7.59	5.11	2.29	6.37	33.1	43.0
1929-30..	37.5	22.7	9.01	27.1	150	17.2	21.6	28.8	67.9	7.09	4.95	2.45	7.53	34.1	43.5
1930-31..	39.9	22.2	9.25	26.3	152	16.7	22.1	29.3	67.6	6.30	4.94	2.46	8.59	34.8	43.1
1931-32..	38.8	25.7	9.29	25.0	152	16.4	23.9	26.3	67.2	5.63	4.73	2.18	9.02	34.9	43.6
1932-33..	39.6	25.2	9.44	27.6	159	22.7	23.4	25.5	66.9	5.95	5.18	2.08	9.25	36.5	41.3
1933-34..	38.5	24.3	9.23	28.6	155	17.0	23.5	25.1	67.3	7.02	6.08	2.45	8.67	38.8	41.4
1934-35..	38.0	30.7	9.68	28.3	163	21.6	23.2	23.1	50.9	7.53	6.90	2.71	9.30	40.1	44.1
Average															
1929-34..	38.9	24.0	9.24	26.9	154	18.0	22.9	27.0	67.4	6.40	5.18	2.32	8.61	35.8	42.6
1924-29..	34.5	18.4	7.30	21.1	145	16.8	20.1	26.6	62.2	6.45	4.04	1.89	4.92	31.2	43.3

* Computed from production and trade data given in Tables II and XXII, and our unpublished estimates of stocks about August 1. See also Table XXV and, for more detailed analyses by M. K. Bennett for countries of Western Europe by five-year periods, WHEAT STUDIES, March 1935, XI, 255-305.

^a Including Luxemburg.

^b Taking account of trade with Chosen (Korea) and Taiwan (Formosa).

TABLE XXXII.—WORLD WHEAT SUPPLIES AND APPROXIMATE DISAPPEARANCE, ANNUALLY FROM 1922-23*
(Million bushels)

August- July	World ex-Russia					Four chief exporters				Europe ex-Danube ex-Russia				
	Initial stocks	Crops	USSR exports	Total supplies	Disap- pearance	Initial stocks	Crops	Net exports	Domestic disap- pearance	Initial stocks	Crops	Net imports	Total supplies	Disap- pearance
1922-23...	615	3,132	1	3,748	3,196	241	1,552	671	854	240	820	577	1,637	1,487
1923-24...	552	3,441	22	4,015	3,328	268	1,606	735	846	150	997	594	1,741	1,527
1924-25...	687	3,055	...	3,742	3,214	293	1,458	700	817	214	853	630	1,697	1,532
1925-26...	528	3,302	27	3,857	3,245	234	1,370	604	763	165	1,100	522	1,787	1,581
1926-27...	612	3,365	49	4,026	3,372	237	1,632	741	847	206	922	679	1,807	1,605
1927-28...	654	3,580	2	4,236	3,529	281	1,755	768	919	202	1,002	656	1,860	1,647
1928-29...	707	3,903	...	4,610	3,634	349	1,989	891	899	213	1,042	667	1,922	1,681
1929-30...	976	3,424	9	4,409	3,488	548	1,417	544	872	241	1,146	505	1,892	1,675
1930-31...	921	3,705	114	4,740	3,730	549	1,757	651	1,034	217	1,006	609	1,832	1,648
1931-32...	1,010	3,669	65	4,744	3,742	621	1,664	618	1,014	184	1,064	606	1,854	1,670
1932-33...	1,002	3,703	17	4,722	3,622	653	1,644	579	972	184	1,269	441	1,894	1,660
1933-34...	1,100	3,616	34	4,750	3,597	746	1,274	456	871	234	1,379	386	1,999	1,684
1934-35...	1,158	3,295	2	4,455	3,570	693	1,144	456	880	320	1,281	350	1,951	1,678

* Summarized from Tables I, XII, and XXI.

^a Net imports.

TABLE XXXIII.—ANNUAL AND MONTHLY AVERAGE PRICES OF WHEAT IN FOUR CHIEF EXPORTING COUNTRIES*

Year and month	United States (July-June) ^a								Winnipeg ^b and others (August-July)				
	Farm price	All classes	Basic cash (Chic.)	No. 2 H. W. (K. C.)	No. 2 R. W. (St. L.)	No. 1 Dk. N. S. (Mnpls.)	No. 2 A. D. (Mnpls.)	Western White (Seattle)	Wtd. average	No. 1 Mani-toba	No. 3 Mani-toba	Buenos Aires 78-kilo ^c	Mel-bourne f.a.q. ^d
U.S. PRE-DEVALUATION GOLD CENTS PER BUSHEL													
Average 1909-14	89	...	96	95	103	100	90	...	...	95	...	97	92
1922-23	101	114	116	113	128	130	109	...	109	110	106	110	122
1923-24	94	108	105	107	111	125	108	...	100	102	97	101	102
1924-25	140	155	154	151	172	164	169	...	156	168	159	157	146
1925-26	146	156	159	162	171	167	148	...	143	151	142	146	148
1926-27	123	139	138	136	137	151	157	...	131	146	135	133	137
1927-28	122	135	137	138	159	147	134	...	124	146	130	130	133
1928-29	99	111	116	111	136	128	116	117	105	124	115	108	114
1929-30	101	116	117	113	126	127	114	114	121	124	118	108	115
1930-31	62	75	82	73	82	81	75	69	61	64	58	56	53
1931-32	41	58	55	50	49	72	75	60	50	53	46	44	43
1932-33	38	53	52	49	54	57	55	51	44	44	41	40	40
1933-34	46	57	56	55	58	58	67	48	41	42	39	34	33
1934-35	52	65	58	59	58	68	80	50	46	49	45	34	34
U.S. CURRENT CENTS PER BUSHEL													
1932-33	39	56	54	51	57	59	58	55	47	48	45	43	43
1933-34	72	90	88	86	90	91	104	75	65	68	63	53	51
1934-35	87	109	98	100	98	115	135	84	78	82	76	58	57
1934-35													
July	79	95	96	93	92	108	132	80	81	83	77	57	57
Aug.	90	115	104	107	101	120	144	89	87	88	83	70	66
Sept.	92	119	106	108	104	121	151	88	83	85	79	62	60
Oct.	88	114	100	102	100	115	145	85	74	80	74	55	54
Nov.	88	113	101	102	101	114	142	84	74	82	75	53	49
Dec.	91	112	102	104	104	117	141	84	74	80	73	52	47
Jan.	89	111	100	101	102	118	144	85	74	79	72	53	53
Feb.	88	112	100	100	98	115	136	86	76	79	72	53	55
Mar.	86	106	96	97	95	113	128	82	77	81	74	55	58
Apr.	90	112	99	105	97	119	133	86	84	87	80	62	63
May	88	108	93	99	93	116	118	83	82	86	78	61	63
June	77	96	84	88	86	105	103	74	79	82	74	60	60
July	76	97	87	99	87	113	105	76	79	81	74	60	57

* Basic data partly from official sources and partly from trade journals. Annual averages are arithmetic averages of monthly data. Conversions of foreign prices at par when exchanges were near par; otherwise at current exchange rates except that, after February 1933, gold prices are based on the price of gold in London.

^a Data of the U.S. Department of Agriculture on farm prices (as of the fifteenth of the month), all classes and grades in six markets, No. 2 Hard Winter at Kansas City, No. 2 Red Winter at St. Louis, No. 1 Dark Northern Spring and No. 2 Amber Durum (No. 2 Hard A.D. 1934-35) at Minneapolis, and Western White at Seattle. See especially *Agriculture Yearbook*, 1935, pp. 364-65, and *Crops and Markets and Foreign Crops and Markets*. Monthly prices of the foregoing series (except farm prices and Western White at Seattle) are weighted by carlot sales. Prices of basic cash wheat (Chicago) are simple averages of weekly average prices of the cheapest wheat deliverable on Chicago contracts; see *WHEAT STUDIES*, November 1934, XI, 103-24.

^b Based on data from *Canadian Grain Statistics*, *Grain Trade of Canada*, *Monthly Review of the Wheat Situation* (Dominion Bureau of Statistics), and for pre-war years, *Agriculture Yearbook* (U.S.), 1923, p. 628. Monthly average

prices of No. 1 Manitoba are as reported by the Dominion Bureau of Statistics; Winnipeg weighted averages are simple averages of weekly weighted average prices; prices of No. 3 Manitoba are simple averages of unweighted weekly average prices.

^c Recent monthly prices are simple averages of daily quotations from *Revista Semanal* and *Revista Oficial*; pre-war data from *Estadística Agro-Pecuaria*. For 1922-23 and 1923-24, prices computed by deducting 6 cents per bushel from Friday prices of Barletta wheat reported in the *Times of Argentina*. From Mar. 16 to Dec. 11, 1932, and Dec. 5, 1934, ff., prices are for 80-kilo wheat.

^d Recent monthly prices are simple averages of daily quotations from *Wheat and Grain Review*, Melbourne, of "Wheat, Trucks, Williamstown." Pre-war data furnished by John Darling and Son, Melbourne.

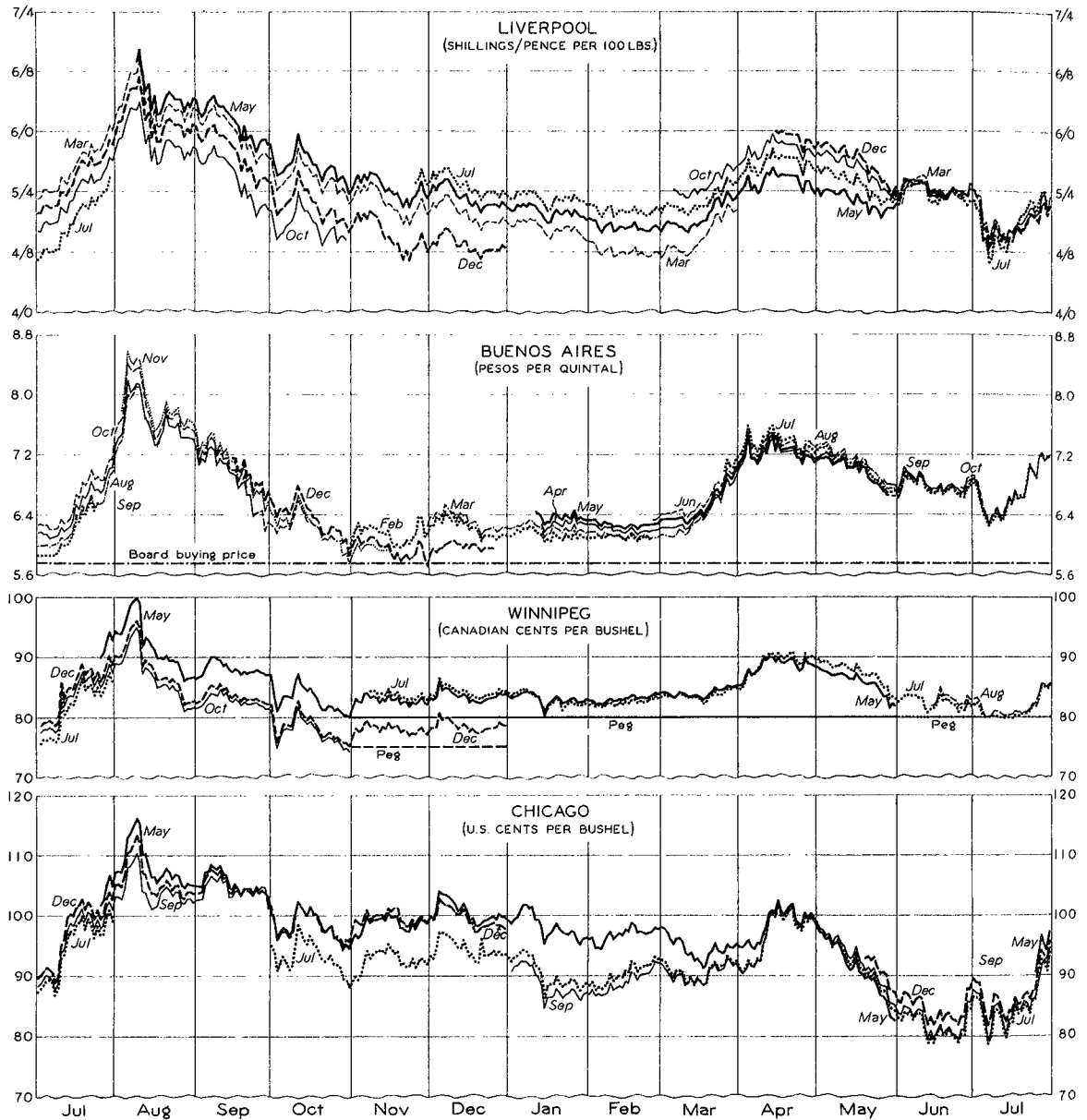
TABLE XXXIV.—ANNUAL AND MONTHLY AVERAGE PRICES OF IMPORT AND DOMESTIC WHEAT IN EUROPE*

Year (August–July) and month	United Kingdom import wheats					Domestic wheats							
	All im- ports ^a	British parcels ^b	No. 3 Mani- toba ^c	Argen- tine Rosafé ^c	Aus- tralian f.a.q. ^c	Great Brit- ain ^d	France (Paris) ^e	Ger- many (Berlin) ^f	Italy (Milan) ^g	Hun- gary (Buda- pest) ^h	Yugo- slavia (Novi- Sad) ⁱ	Ru- mania (Bra- ila) ^j	Bul- garia (Bour- gas) ^k
U.S. PRE-DEVALUATION GOLD CENTS PER BUSHEL													
Average 1909–14	108	...	...	...	...	99	142	135	150 ^j	...	...	...	...
1922–23	138	135	131 ^k	135	145	125	159	110	143	126	...	...	...
1923–24	121	123	119 ^k	122	128	121	135	104	120	135	...	...	...
1924–25	180	182	181	181	181	160	173	156	185	182	...	...	...
1925–26	170	170	168	163 ^k	176	158	145	161 ^k	208	149	...	...	...
1926–27	164	163	164	160	167	149	186	177 ^k	208	152	...	...	...
1927–28	155	152	154	151	160	129	173	162	191	152	...	...	...
1928–29	132	129	138	128	140	127	167	142	187	118	...	...	...
1929–30	130	127	137	122	133	112	147	165	187	109	...	92	...
1930–31	79	76	77	72	78	81	184	168	156	72	79 ^k	57	63
1931–32	57	59	62	56	61	61	172	152	149	58	77	50	51
1932–33	52	52	54	49	54	52	116	126	143	65	71	88 ^k	52 ^k
1933–34	43	43	48	38	45	40	133	119	118	47 ^k	40	62 ^k	49 ^k
1934–35	46	47	51	41	47	39	97	132	130	80	46	68 ^k	53
U.S. CURRENT CENTS PER BUSHEL ^l													
1932–33	56	56	58	53	58	56	124	135	151	69	77	95 ^k	56 ^k
1933–34	68	69	77	61	71	64	212	191	189	75 ^k	64	98 ^k	...
1934–35	77	80	88	69	79	66	165	222	220	135	77	114 ^k	...
1934–35													
Aug.	78	92	99	82	96	69	199	210	199	132 ^k	74	128 ^k	...
Sept.	81	83	94	75	87	68	200	215	202	134	76	...	...
Oct.	80	78	85	66	78	66	198	218	204	133	76	126 ^k	...
Nov.	80	76	85	64	71	66	199	219	208	132	73	125 ^k	...
Dec.	78	80	86	65	73	64	194	220	212	132	71	123 ^k	...
Jan.	74	76	84	63	70	63	140	221	218	136	75	...	...
Feb.	73	77	85	61	71	61	144	223	219	144	82	...	...
Mar.	72	78	85	62	74	59	140	226	227	142	81	116 ^k	...
Apr.	74	78	92	72	85	63	139	227	243	134	78	113	...
May	76	83	89	71	83	71	145	228	256	134	80	105	...
June	79	80	84	72	82	73	145	229	243	137	83	105 ^k	...
July	77	75	83	72	79	73	131	228	206	130 ^k	76	92 ^k	...

* See corresponding footnote to Table XXXIII.

^a Data from *Accounts and Papers Relating to Trade and Navigation of the United Kingdom*: declared values of all imported wheat divided by quantities imported.^b Data from *London Grain, Seed and Oil Reporter*: averages of all sales of wheat parcels (exclusive of French de-natured wheat) on British markets.^c Data from *Corn Trade News*: averages of Tuesday quotations of parcels afloat or for early shipment, mainly to Liverpool. Australian prices from 1931–32 are averages of low quotations.^d Averages of weekly *Gazette* prices from the *Economist* (London) and the *Agricultural Market Report*.^e Averages of daily prices (*marché libre*) from *Bulletin des Halles*. Annual prices to 1925–26 are prices at Chartres and are probably about 5 cents lower than Paris prices. Pre-war prices from *Annuaire international de statistique agricole*, 1915–16, p. 705.^f Data from *Wirtschaft und Statistik* (post-war), *Vierte-**jahrshefte zur Statistik des Deutschen Reichs* (pre-war). Fixed prices to producers after October 1933.^g Data from International Institute of Agriculture, *Year-book of Agricultural Statistics and Monthly Crop Report and Agricultural Statistics*. Prices for Italy are for "soft" wheat; prices for Rumania are for wheat of good quality.^h See *WHEAT STUDIES*, VI, 283, for prices to 1926–27; prices 1927–28 to 1929–30 are prices of Tisza (78 kilo) from *Bulletin statistique mensuel hongrois*; prices from 1930–31 are for same quality wheat from *Monthly Crop Report and Agricultural Statistics*.ⁱ Data from U.S. Department of Agriculture. Prices for Bulgaria are fixed prices paid to producers since January 1934; 1933–34 and 1934–35 prices are converted to gold at pre-devaluation par of exchange, because of unsatisfactory character of Bulgarian exchange quotations.^j Average for calendar years 1910–14.^k Prices missing for some weeks.

CHART 26.—WHEAT FUTURES PRICES IN LEADING MARKETS, DAILY, 1934-35*
(Currency and quantity units as designated)



* Daily closing prices from *London Grain, Seed and Oil Reporter*, *Buenos Aires Revista Oficial*, *Winnipeg Grain Trade News*, and *Chicago Daily Trade Bulletin*.