



AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search

<http://ageconsearch.umn.edu>

aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

THE WORLD WHEAT SITUATION, 1931-32

A REVIEW OF THE CROP YEAR

Persisting superabundance of wheat in the midst of intensified economic depression dominated the world wheat situation in 1931-32. Burdensome wheat stocks heavily concentrated in visible positions, far-reaching restrictions on international trade, and unprecedentedly low wheat prices marked the crop year. World wheat disappearance ex-Russia slightly exceeded the high total of the preceding year only because of still more extensive diversion to low-price outlets, notably feed use in several countries and food use in the Orient. But the net reduction in end-year stocks was very small. Developing prospects for another big world crop in 1932 affected markets and prices before new wheat was harvested, and disappointed hopes that short crops of winter wheat in the United States and the Danube basin would substantially relieve the surplus condition in 1932-33.

World wheat stocks about August 1, 1931, were 300 to 350 million bushels above normal. The 1931 crop ex-Russia, after numerous upward revisions of estimates, proved nearly as large as in 1930. A bumper crop of winter wheat in the United States largely offset drastic reduction of the North American spring-wheat crop. Good yields in Australia and Argentina almost wholly offset large decreases in acreage there. Europe ex-Russia and northern Africa had a wheat crop approaching the bumper post-war outturn of 1929, and larger than that of 1930 by almost as much as crops in the four chief overseas exporting countries were reduced. Although Russia's crop of 1931 was much smaller than her big crop of 1930, net exports from the USSR were reduced by only about 50 million bushels. Hence wheat supplies available to the world ex-Russia nearly equaled the record supplies of 1930-31.

International trade in wheat and flour in

1931-32 was below average and considerably smaller than in the preceding year, in spite of large shipments to China and Brazil. It did not fall as low as in 1929-30, when importing Europe had bumper crops of cereals and potatoes and large inward carryovers. But Continental Europe imported very moderate quantities, chiefly for three reasons: 1931 domestic wheat crops were generally good, though crops of rye, barley, and oats were poor; 1932 crops in importing Europe gave excellent promise; and governmental measures and financial conditions combined to impose severe restraints upon imports and consumption. North America contributed only about 40 per cent of the exports, as compared with 60 per cent or more in most years prior to 1929-30; United States

and Canadian export surpluses were not pressed out into world markets. Other exporters except India shipped freely, and Australia and the Danube basin exported record quantities. Except from Australia, flour exports were greatly curtailed, and the total international trade in flour was the smallest in more than a decade.

The course of international trade was broadly similar to that in 1930-31. Heavy shipments from Russia and the Danube basin swelled the movement in August-October; big exports from Australia and Argentina did the same in January-March. The December dip was exceptionally pronounced. The spring peak was nearly as high as in 1931, as Continental Europe drew upon imports to supplement depleted domestic supplies. Shipments declined with unusual severity in May-August, as European importing countries faced excellent crops with assurance of rigid restraints upon milling of foreign wheats as soon as new domestic supplies became available from the crop of 1932.

CONTENTS

	PAGE
<i>World Wheat Supplies</i>	64
<i>Governmental Operations and Regulations</i>	77
<i>Wheat Prices</i>	86
<i>International Trade and Consumption</i>	99
<i>Appendix Tables</i>	114

World wheat prices in terms of gold fluctuated on the lowest levels of modern times, and in terms of commodities in general on levels that were probably the lowest in history. Prices sagged to new lows in the early autumn of 1931. Speculative forces brought a sharp advance in October–November, but most of the gain was soon lost. Late in the crop year, as improved crop prospects coincided with extreme pessimism over the general economic outlook, prices declined to about the low points of the fall of 1931. Prices in the United States, which had been supported by stabilization purchases in 1930–31, fell to fresh low levels in 1931–32; yet they were more or less persistently above export parity in spite of the huge exportable surplus

and the fact that the Grain Stabilization Corporation liquidated a substantial proportion of its holdings. A few European importing countries succeeded, by rigorous measures, in keeping their wheat prices far above levels prevailing elsewhere.

World visible supplies made new high weekly and monthly records until near the end of the year. Total end-year stocks ex-Russia were some 40 million bushels below the record level of 1931, but were more heavily concentrated in North America than ever before. The surplus carryover in the United States exceeded a half-year's food requirements of this country, and that of Canada exceeded a year's domestic requirements for seed and food.

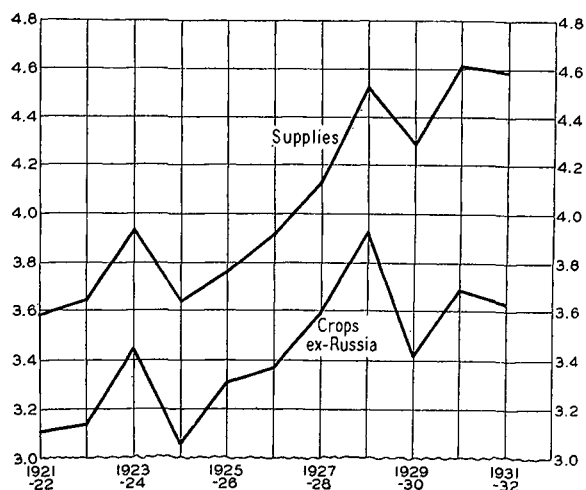
I. WORLD WHEAT SUPPLIES

Stocks of old-crop wheat stood at record heights as the crop year opened. World stocks ex-Russia about August 1, 1931, according to our revised estimates (Table XXVI), were over 890 million bushels—some 40 million bushels above the previous peak in 1929 and about 80 million larger than in 1930. For the third year in succession they were far above “normal” levels, in 1931 by at least 300 to 350 million bushels. Most of the surplus carryover was in exporting countries, chiefly North America (Chart 11, p. 75). In addition, stocks must have been fairly large in the USSR and (of import wheat) in and afloat to China, positions for which no specific figures can be included.

Early in the season it was expected and hoped that the world wheat crop of 1931 would fall short of the crop of 1930 by perhaps 200 to 300 million bushels,¹ and consequently that total supplies would be materially less than in the previous year. These expectations were not borne out. In several exporting countries (notably excluding Russia) harvests materially exceeded early forecasts; and as world available supplies are now appraised, the sum of initial stocks ex-

Russia, world crop ex-Russia, and Russian exports was about equal to the record total of the year before (Chart 1). Before the end of

CHART 1.—WORLD WHEAT SUPPLIES, 1921-32*
(Billion bushels)



* As defined in text. Data in Table XXXIII.

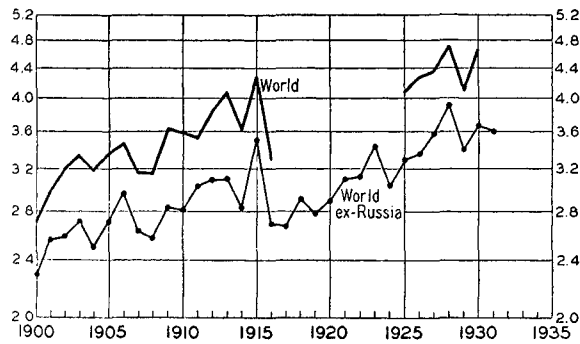
the crop year, moreover, the outlook for end-year stocks and the new crops of 1932 indicated that another year of superabundant supplies lay immediately ahead. The persistence of abnormally heavy stocks and the continued recurrence of huge world supplies were dominant factors in the crop year under review.

¹ See *World Wheat Prospects*, July 23 and September 3, 1931, and *WHEAT STUDIES*, September 1931, VII, 509-12.

Soft wheats were exceptionally abundant in the world crop of 1931, with large crops of soft red winter in the United States, soft white wheat in Australia, and the soft wheats commonly grown in Europe. But in spite of short crops of spring wheat in North America, hard bread wheats were also in ample supply, from big carryovers in North America, a bumper crop of hard red winter in the United States, and substantial exports from Russia. Durum production, however, was the smallest for several years;¹ the United States crop was very short, Canada's small, and northern Africa's somewhat below average; Italy alone among the leading producers ex-Russia had a good crop, importing much less durum than usual.²

The world wheat crop of 1931 is shown in longer perspective in Chart 2, exclusive of China and a few minor producers for which comparable data are lacking. Whether Russia be included or excluded, the crop was a big one, exceeded by those of 1928 and 1930

CHART 2.—WORLD WHEAT PRODUCTION, 1900-1931*
(Billion bushels; logarithmic vertical scale)



* New estimates by the Food Research Institute, designed to show production in the world ex-Russia within all of the countries listed in Table II except Mexico.

alone. Trends considered, however, production in 1931 does not appear notably large, as in 1928, or exceptionally small, as in 1929.

¹ See WHEAT STUDIES, January 1932, VIII, 209. The data there given have been revised in some particulars, but the main facts remain unchanged.

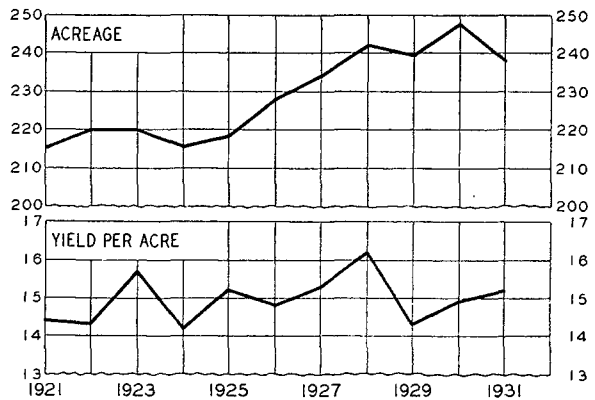
² Foreign Crops and Markets, November 14, 1932, p. 718.

³ See Table I. This much appears fairly certain, although no official estimate of production or yield in 1931 has yet been published.

Had the crop been 200 to 300 million bushels smaller, as was anticipated in the summer of 1931, it would have fallen well below the line of trend, and the world wheat surplus would have been substantially reduced.

World wheat acreage ex-Russia in 1931 was equal to the 1926-30 average but 9.4 million acres less than the record total of 1930 (Chart 3). Heavy abandonment of spring-wheat acre-

CHART 3.—WORLD WHEAT ACREAGE AND YIELD PER ACRE, EX-RUSSIA, 1921-31*
(Million acres; bushels per acre)



* See Table I.

age in the United States and reduced sowings in Australia and Argentina more than offset moderate increases chiefly in Canada and in various countries of Continental Europe. The average yield per acre was better than in 1930, but no better than normal, trends considered; low yields of spring wheat in North America prevented the world average from reaching a height approaching that of 1928. In the USSR, the wheat acreage sown for the 1931 crop was larger than in any previous year since the war, but the average yield was not large enough to bring the crop up to that of 1926, which was substantially exceeded by the big crop of 1930.³

The outstanding features of the distribution of the world wheat crop of 1931 (Tables I, II) can be summarized briefly. The total North American crop was far below the record one of 1928 and below the 1926-30 average, though not as small as in 1925 or 1929. Winter wheat in the United States made a record crop, chiefly because of favorable

weather throughout the season; by contrast, owing mainly to severe drought, the United States spring-wheat crop was exceedingly short, and the Canadian was nearly as short as those of 1924 and 1929. The yield per acre in Australia was so high that the crop approached the record one of 1930 in spite of a 20 per cent cut in acreage. From a much reduced acreage, Argentina also harvested a crop only a little smaller than that of 1930. Europe as a whole harvested almost as much wheat as in the bumper year 1929, though the crop was not as large in continental importing countries. Roumania, Bulgaria, Germany, and Poland each had the largest crop since the war. This was true also of Tunis, Egypt, South Africa, and Mexico; but the increase over previous records was nowhere large in absolute amount. On the other hand, Hungary, Austria, Czecho-Slovakia, Spain, and Algeria had relatively small crops, and Great Britain the shortest one for many decades.

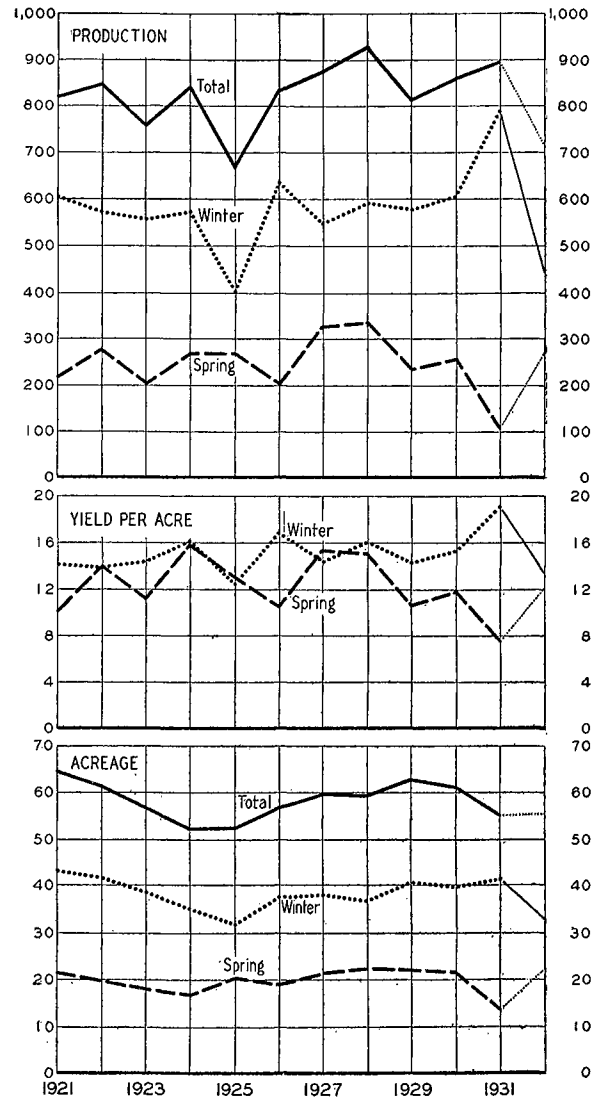
NORTH AMERICAN CROPS

The United States crop of 1931 was more exceptional in other respects than in aggregate size. The harvested acreage was one of the three smallest since 1917. The average yield per harvested acre had been exceeded only in 1914 and 1915. The production was the second largest since 1919, but it was only 3.7 per cent above the 1926-30 average. These totals, however, obscure the remarkable conjuncture of a great crop of winter wheat with an extremely poor crop of spring wheat, which is shown in Chart 4.

Under favorable conditions for preparation of the soil and seeding, a sizable acreage was sown to winter wheat in the fall of 1930, in spite of low prices reinforced by an extensive official campaign led by Chairman Legge and Secretary Hyde to induce farmers to cut their acreage. The percentage of planted acreage abandoned was unusually low. Pre-harvest and harvest conditions were very favorable in most of the states producing red winter wheat. Between June 1 and August 1 the official crop estimate was raised from 649 to 775 million bushels (Table IX). As finally appraised, the winter-wheat acreage harvested

was the largest since 1922; the yield per acre slightly surpassed the previous record of 19.0 bushels (1914); and the crop moderately exceeded the largest previous crop (1919), when the harvested acreage was 22 per cent larger.

CHART 4.—UNITED STATES WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-32*
(Million bushels; bushels per acre; million acres)



* See Tables II-IV, which give revised figures for 1931 and 1932 released on December 15.

The winter-wheat crop of 1931 was most extraordinary in the southwestern states which produce chiefly hard red winter, but it was also very good in the principal states

producing soft red winter, as shown below in million bushels:¹

State	Previous record	1931	1926-30 av.
Kansas	(1928) 184	240	153
Nebraska	(1927) 69	57	59
Oklahoma	(1926) 74	75	52
Texas	(1929) 45	58	32
Total	372	430	296
Ohio	(1919) 57	51	27
Indiana	(1918) 49	43	26
Illinois	(1919) 62	43	31
Michigan	(1915) 20	18	15
Missouri	(1919) 65	30	18
Total	253	185	117

Virginia, West Virginia, Kentucky, and Tennessee also had excellent yields, but east of the Alleghenies and in the Rocky Mountain states yields were relatively poor. The California crop was very small and that of Oregon below average, while in Washington a large outturn of winter wheat was largely offset by a small crop of spring wheat.

The total crop of hard red winter, now estimated at 494 million bushels, was unquestionably of record size and more than 100 million above the largest (1928) in the decade of the 1920's (Table VII). The crop of soft red winter, now estimated at 249 million bushels, was also large, but had been equaled in 1920 and 1922 and exceeded in 1923. The crop of white wheat, grown mainly in the Pacific states, was distinctly below average,

¹ Based on tentative official revisions as of April 20, 1932, *Agriculture Yearbook, 1932*, p. 581, and *Crop Report*, August 1, 1932.

² Partly because of short crops of spring wheat in western Montana and northern Idaho.

³ The official crop reports usually give only estimates of acreage for harvest and acreage harvested. For 1931, however, the sown acreage was estimated as well. With derived figures for abandonment inserted, the official estimates are as follows, in thousand acres:

	Durum	Other	Total
Sown	3,899	16,330	20,229
Abandoned	1,030	5,263	6,293
Harvested	2,869	11,067	13,936

⁴ For comparative data on the foregoing paragraphs, see *Agriculture Yearbook, 1932*, pp. 577-82, and Tables II-IV, VIII.

⁵ See Tables I and IX. It is officially indicated that the revised estimates, to be published in January 1933, may be something like 18 to 26 million bushels above the standing estimate of 304 million made last January.

and the crop of the Pacific Northwest market area was unusually small.²

In sharp contrast with hard and soft red winter wheats, crops of durum and hard red spring were both exceptionally small. Conditions were exceptionally adverse in the spring-wheat belt of the United States. Subsoil moisture was abnormally low. Somewhat less wheat than usual was sown, and with drought and high winds the crop got a bad start. There was some frost damage in May. Moderate rains from time to time relieved the general drought in some areas but failed to furnish sufficient moisture for satisfactory growth. Extreme heat in late June and the latter half of July seriously depleted the scanty moisture, and grasshoppers did severe damage over wide areas. Abandonment, which is usually very light, reduced the sown area by 31 per cent.³ The harvested acreage, yield per harvested acre, and the outturn were all the lowest in decades. Whereas the spring-wheat crop is often over a third of the total crop, and seldom less than a fourth, in 1931 it was less than 12 per cent of the total.⁴

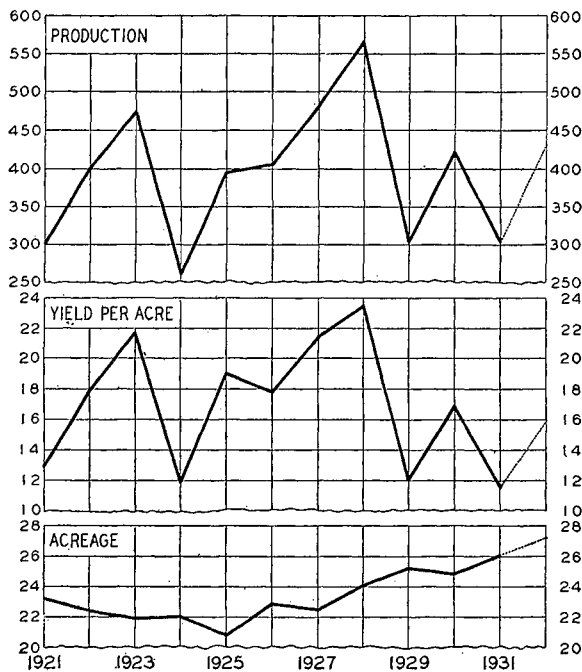
In quality (Table X), the United States crop of 1931 was high in weight per measured bushel, and the flour yield was good. The abundant winter-wheat crop contained a fairly high percentage of wheat of the better grades; it was low in protein content, but the crop and carryover were both so large that sizable protein premiums did not emerge. The short spring-wheat crop contained a low percentage of wheat of the better grades, but was high in protein content.

The Canadian spring-wheat crop of 1931, like that in the United States, suffered from serious lack of subsoil moisture and from drought through the growing season; high winds and insects also did considerable damage. Summer rains gave some relief as the harvest approached; but the official forecast as of August 31, while reflecting material improvement, pointed to the smallest crop since 1920 except that of 1924. Harvest conditions were generally very good; and as now appraised at around 325 million bushels,⁵ the total crop (spring and winter together) appears somewhat to have exceeded the poor crops of 1921 and 1929 as well as that of 1924

(Chart 5). Contrary to early indications of reduced seedings, the census showed that a record acreage was sown; but abandonment was probably heavy and the average yield per acre sown (around 12 bushels) was very low.¹

CHART 5.—CANADIAN WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-32*

(Million bushels; bushels per acre; million acres)



* See Table I.

In comparison with other years, Saskatchewan suffered the heaviest reductions while Alberta had a fair crop.

The small Canadian crop was of exceptional quality. It contained a very high proportion of grades No. 3 Northern and above, even in comparison with the good-quality crops of 1923, 1929, and 1930 (Table XI).

¹ Abandonment of spring wheat is not reported in Canada, and the average yield is computed from winter-wheat acreage harvested and spring-wheat acreage sown.

² See Dominion Grain Research Laboratory, *Report on the Milling and Baking Characteristics of the 1931-32 Crop*, Winnipeg, October 15, 1931.

³ Agricultural Commissioner Paxton interprets accumulated data on exports and bonus payments as indicating a figure of 202 million (*Foreign Crops and Markets*, November 28, 1932, p. 762).

⁴ *World Wheat Prospects*, September 22, 1931, pp. 7-8.

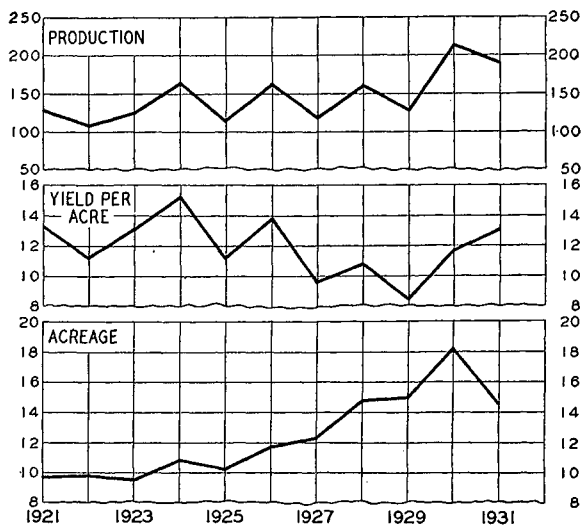
Protein content, protein quality, flour yield, and baking quality all were high.²

CROPS OF OTHER EXPORTING COUNTRIES

The Australian wheat crop of 1931 turned out to be nearly as large as the record crop of 1930, in consequence of high yields on a smaller acreage (Chart 6). The first official estimate (November 16, 1931) was 170 million bushels, but successive upward revisions have brought the total up to 190 million, and the true figure may slightly exceed 200 million.³

CHART 6.—AUSTRALIAN WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-31*

(Million bushels; bushels per acre; million acres)



* See Table I.

From the peak acreage of 1930, there was a reduction now estimated at about 20 per cent, as contrasted with early expectations of 25 to 30 per cent. Apparently, owing to acute financial stringency, prevailing low prices, and heavy rains in the seeding season, much less new land was broken to wheat and more than usual was fallowed or left idle. Yet, even as reduced, the acreage was higher than in any year prior to 1928 and but slightly smaller than in 1928 or 1929.

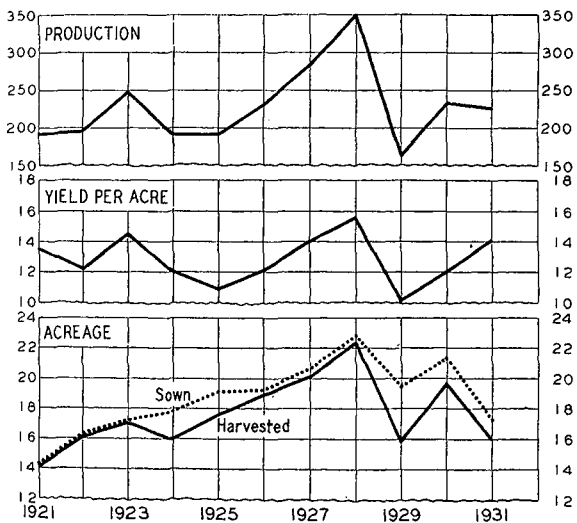
Three factors tended to hold down yields per acre: more wheat than usual was sown on land not fallowed in the preceding year; less fertilizer was applied; and the weather was unusually wet during the sowing season.⁴ The abundance of subsoil moisture,

however, was advantageous, and later conditions were so consistently favorable that the yield per acre proved to be well above average, the best since 1926 and perhaps exceeded only by such bumper yields as those of 1920 and 1924. South Australia harvested a record crop. Thanks to favorable weather at harvest and shortly before, the quality was good, and much superior (save in Western Australia) to that of the 1930 crop.¹ The bonus of 4½d. per bushel on wheat marketed (see below, p. 81) and extreme need of cash by farmers gave a strong incentive to conserve wheat.

In Argentina (Chart 7), the acreage sown to wheat was sharply reduced, to the lowest

CHART 7.—ARGENTINE WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-31*

(Million bushels; bushels per acre; million acres)



* See Tables J-IV, VIII. There have been recent minor revisions in 1929-31 statistics.

level since 1923. Drought, financial stringency, and low prices conspired to restrict wheat sowing, and there was some shifting from wheat to linseed and corn,² and perhaps

¹ F.a.q. standards, in pounds per measured Imperial bushel, compare as follows for the past five years:

Year	New South Wales	Victoria	South Australia	Western Australia
1927-28	60¾	61¾	62	61½
1928-29	63	62	62	62½
1929-30	61¾	62	60½	62½
1930-31	59½ ^a	58½ ^a	60	62½
1931-32	61½	62¾	61½	61¾

^a Second milling grade of 56½ pounds.

² *Revista Semanal*, August 9, 1932.

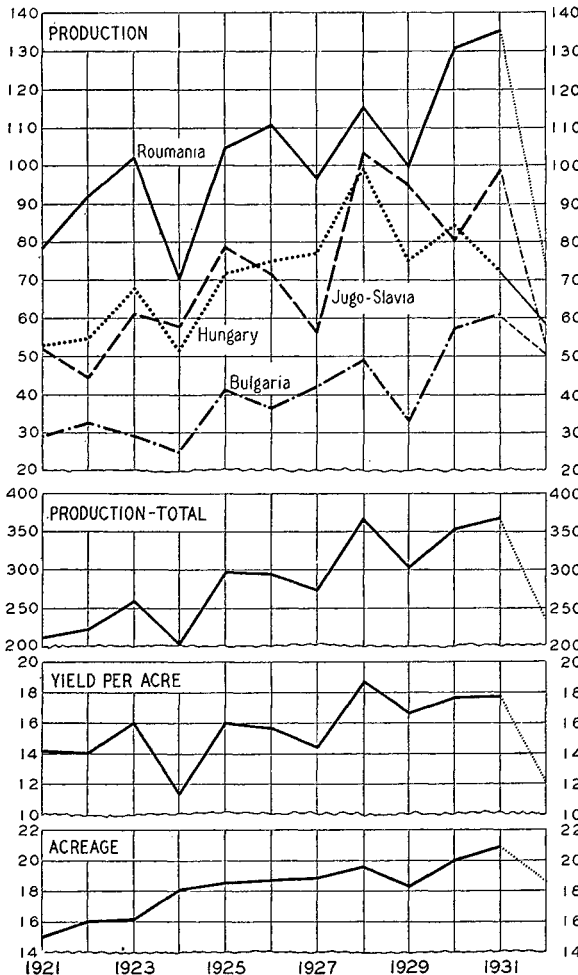
to alfalfa. Despite heavy rain and frost in early November, the growing season was moderately favorable; abandonment was small; no serious damage was suffered; and the reported yield per harvested acre was high. The crop, first officially estimated at 219 million bushels (December 4, 1931) and now at 226, was about of average size if one ignores the exceptional harvest of 349 million bushels in 1928. Our calculations of Argentine wheat disposition, however, suggest that the crop may have been overestimated (Table XXXI). The Argentine crop was of very good quality; as reflected in weight per measured bushel, it was better than those of 1929 and 1930, but no better than the big crop of 1928.

Northern African exporting countries had a large crop, though early estimates of 79 million bushels were reduced to 70 million. The Algerian crop was below normal, but Tunis had a record crop and Morocco one approaching the record outturn of 1929. Indian production was fairly heavy, 347 million bushels as compared with the record crop of 391 million in 1930. The acreage was somewhat higher than in 1930, but the yield per acre was only average instead of considerably above (Table IV).

No official estimate of the Russian crop of 1931 has yet appeared. Soviet statistics showed a heavy increase in sowings of winter wheat in the autumn of 1930 (but an even larger decline in rye sowings), and some expansion in the area sown to spring wheat. The total area in wheat for the crop of 1931 was 92.1 million acres, representing an increase of nearly 12 million acres over the area that produced the big crop of 1930. But the spring wheat was sown late, and subsequently there was drought over a wide area centering in the Volga basin. In the summer of 1931 it was reasonable to expect that the total crop would not equal the big one of 1930. The course of Russian exports, which reached a peak early in September, seemed to imply that little spring wheat could be collected for export. Mid-winter reports of movement of grain into the Volga region pointed to a really short spring-wheat crop there. It now seems reasonable to infer that the 1931 Russian wheat crop, despite the large area sown, was

rather small—certainly smaller than the crop of 1930, probably smaller than the large crop of 1926. Net exports of as much as 65 million bushels in 1931-32 were presumably made possible only by a sizable carryover from the 1930 crop, coupled with bread rationing, admixture of other grains in flour, and a rigid policy of grain collection. We have no sound

CHART 8.—DANUBIAN WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-32*
(Million bushels; bushels per acre; million acres)



* See Tables I-IV.

basis for judging how far the crop of 1931 may have fallen below 900 million bushels, especially since no estimate of the rye crop has been published. If the wheat crop was under 900 million bushels, the yield per acre must have been below 10 bushels, one of the three lowest since the famine year 1921.

The Danube exporting countries harvested a big wheat crop in 1931, equal to the record post-war harvest of 1928 (Chart 8). It greatly exceeded preliminary indications, which as late as June 1 were interpreted by the Foreign Agricultural Service of the United States Department of Agriculture as indicating a crop of only 305 million bushels¹ as compared with the final estimate of 368 million. Contrary to early reports of acreage reductions, notably in Roumania, the harvested acreage was finally put at the highest figure since the war. Yields were exceptionally high in Bulgaria and elsewhere good except in Hungary, where the crop was below average and light in weight. Roumania and Bulgaria had their biggest post-war crops, and the Jugo-Slavian crop nearly equaled the record one of 1928. All three of these crops were of good quality. Except in Hungary big crops of corn too were harvested (Table VI). A sizable carryover remained from the large wheat crop of 1930. Consequently, the wheat export surplus of the region was unusually large, and governmental measures were adopted to stimulate exports. Pressure of Danubian wheat was a significant factor in the world wheat market during the year, especially in August-November 1931.

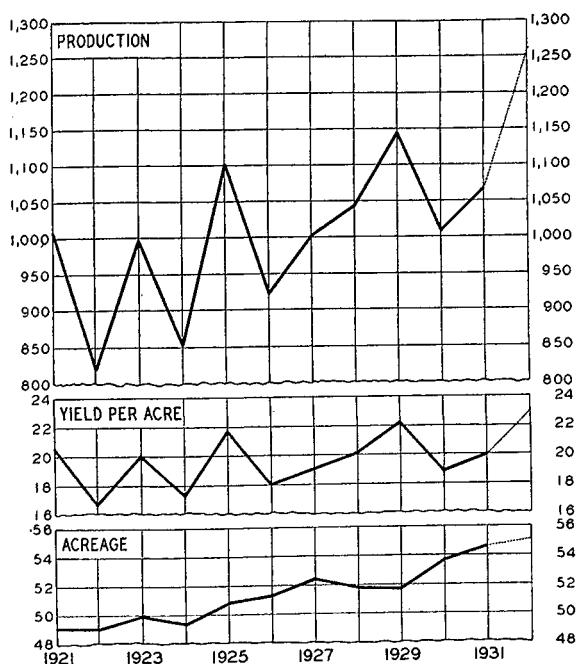
CROPS OF IMPORTING COUNTRIES

Exclusive of Russia and the Danube basin, Europe had a large wheat crop in 1931 (Chart 9). It fell short of the big harvests of 1925 and 1929, chiefly because France had a moderate crop instead of a large one (Tables I-IV). In the British Isles the crop was the smallest in a century or more. Elsewhere, except in Belgium, France, and Spain, crops were generally above average in size, though crops and yields per acre were nowhere spectacularly large. On the Continent, increases in acreage were fairly common, particularly in countries that have vigorously applied protective measures; but they were not large in the aggregate and were important relatively only in Germany and Holland. The record German crop of 156 million bushels was due mainly to an increase of over 20 per cent in

¹ *World Wheat Prospects*, June 30, 1931, p. 27. Later issues reported increases in estimates of crops, carryovers, and export surpluses.

acreage under the stimulus of official propaganda and effective protection to wheat growers; the yield per acre was only average. Poland had a crop slightly exceeding the big crop of 1930. With liberal carryovers of wheat and rye and an export bounty on wheat, and in spite of a substantial reduction in the rye crop of 1931, Poland was again a small net exporter. Spain, which is ordinarily about self-sufficing in wheat, had a smaller crop than usual and eventually imported some 5 million bushels.

CHART 9.—OTHER EUROPEAN WHEAT PRODUCTION, YIELD PER ACRE, AND ACREAGE, 1921-32*
(Million bushels; bushels per acre; million acres)



* See Tables I-IV.

Except in Spain, Italy, and southern France, the quality of the 1931 crop in European importing countries was more or less damaged by rainy weather during the harvest. Although the weight per measured bushel tended to be rather low and some grain sprouted in the fields, the quality in general can probably be described as about average or a little below—certainly inferior to the excellent quality in 1929.

A few ex-European wheat crops of 1931 deserve passing mention (Tables II-IV). Egypt

had an unusually large crop, chiefly because of acreage increases under the influence of protective measures and depressed cotton prices. Mexico, with high yields on a large acreage, had the largest harvest for many years if not in history; it was nearly 45 per cent above the 1926-30 average and in excess of the usual annual consumption. South Africa, where acreage has been increasing under the influence of protection, had a record crop. In Chile the crop of 1931, like that of the preceding year, was much below average; whereas usually Chile is a small net exporter, these crops were well below her usual domestic requirements. Turkey, usually a net importer, had in 1931 the largest of three large wheat crops in succession, suffered the penalty in very low prices, and exported, net, over 1½ million bushels.¹ An official preliminary forecast for China's crop of 1931 was 605 million bushels, as compared with an estimated average of 633; but disastrous floods cut the outturn in some areas.

OTHER CEREAL AND POTATO CROPS

Rye production in 1931 (Tables V, VI) was distinctly small, not only in North America but in Germany, Czecho-Slovakia, Poland, Scandinavia, and three of the four Baltic states, where the crop is of large importance as a bread grain. In most other countries of Europe the crops were below average. How much the USSR harvested cannot yet be stated, and no inference can safely be drawn from the fact that Russian exports of rye, always a small fraction of the crop, were larger than in any year since the war except one. Though international trade in rye probably fell to unusually low levels, international shipments as reported by Broomhall were the largest since 1924-25.² As in 1923-24, Russia was the heaviest exporter, the South Russian

¹ Crop estimates for recent years, in million bushels, are as follows:

1925	39.5	1929	99.9
1926	90.7	1930	89.0
1927	49.0	1931	110.4
1928	59.2	1932	76.4

² See Table XVIII. Much of the German and Polish exports move by rail and are not included in Broomhall's reports. His data on international shipments understate the world trade in rye, to a variable but significant extent, and relatively more than for wheat.

shipments in August-July amounting to 24.5 million bushels, 8 million more than in 1930-31. The world rye surplus, which had been created by three big European crops in succession and sizable Russian exports in 1930-31, practically disappeared in 1931-32. But no acute shortage developed, and the large reduction in world rye supplies appears to have occasioned no significant difficulties. Europe doubtless imported somewhat more wheat because of her reduced output of rye, but not as much more as many observers had anticipated.

Barley, like rye, was relatively in short supply. In Europe ex-Russia the crop of 1931 was the smallest in three years; in Canada, the smallest in a decade; in the United States, the smallest in five years. A big crop in Argentina and a good one in northern Africa did not suffice to bring the world total ex-Russia up to the level of any of the four preceding years.

Oats in Europe ex-Russia made the shortest crop since 1924; and with short crops both in the United States and Canada, the outturn in the world ex-Russia was the smallest since 1922.

Crops of *potatoes* were generally large in Continental Europe, but small in the British Isles. The aggregate crop of Europe ex-Russia was not much smaller than the big crops of 1929 and 1930. The United States potato crop too was a good one.

Corn was moderately abundant in 1931, especially in international markets. The United States crop, though not a large one, was much above the short crop of 1930 and ample to meet reduced domestic requirements. Argentina, the outstanding exporter, harvested a bumper crop in March-April 1930 and a fair crop a year later. Corresponding crops in the Union of South Africa were both below average size. Corn production in Europe ex-Russia was large, though it had been exceeded in 1926 and 1929. Roumania, the chief European exporter, had a big crop, and Bulgaria a record one. In Jugo-Slavia the crop was a little above average, and in Hungary a little below. Among the important European producers, Italy alone had a small crop.

The short supplies of rye, barley, and oats

were reflected in grain-price spreads on the international market (see below, p. 94). Because of limited supplies of rye and barley, and the good supply of corn in the principal exporting countries, international trade in corn was much the heaviest in at least a decade. Good corn crops in the Danube basin tended to facilitate wheat exports from that area.

The short world crops of rye, barley, and oats were more or less offset by sizable carryovers of these grains and good supplies of corn and potatoes. Their net effect on the world wheat situation, though not of major importance in either price or movement, was to enlarge somewhat the use of wheat for feed in Europe, and thus contribute slightly to heavy world wheat disappearance, to the volume of international trade, and to such reduction of wheat stocks as occurred during the crop year.

VISIBLE SUPPLIES IN 1931-32

Commercial stocks of wheat in reported positions (Table XXVII) have been abnormally large ever since the big crop of 1928 moved to market. Chart 10 illustrates this and other points noted below. In 1931-32, for the sixth year in succession, world visible supplies fluctuated on a higher level than in the preceding year. As usual the great bulk of the visible supply was in the United States and Canada, but the proportion in 1931-32 was exceptionally large. The high level of visible supplies in recent years reflects mainly the continued extraordinary abundance of world wheat supplies in relation to effective demand, and the backing up of commercial stocks in North America as flexible tariffs and milling regulations have reduced imports in many countries and impelled millers and importers there to carry very light stocks of import wheats. Stabilization operations in the United States in 1930-31, and bonuses on marketed wheat in Canada and Australia in 1931-32, also tended to swell world visibles.

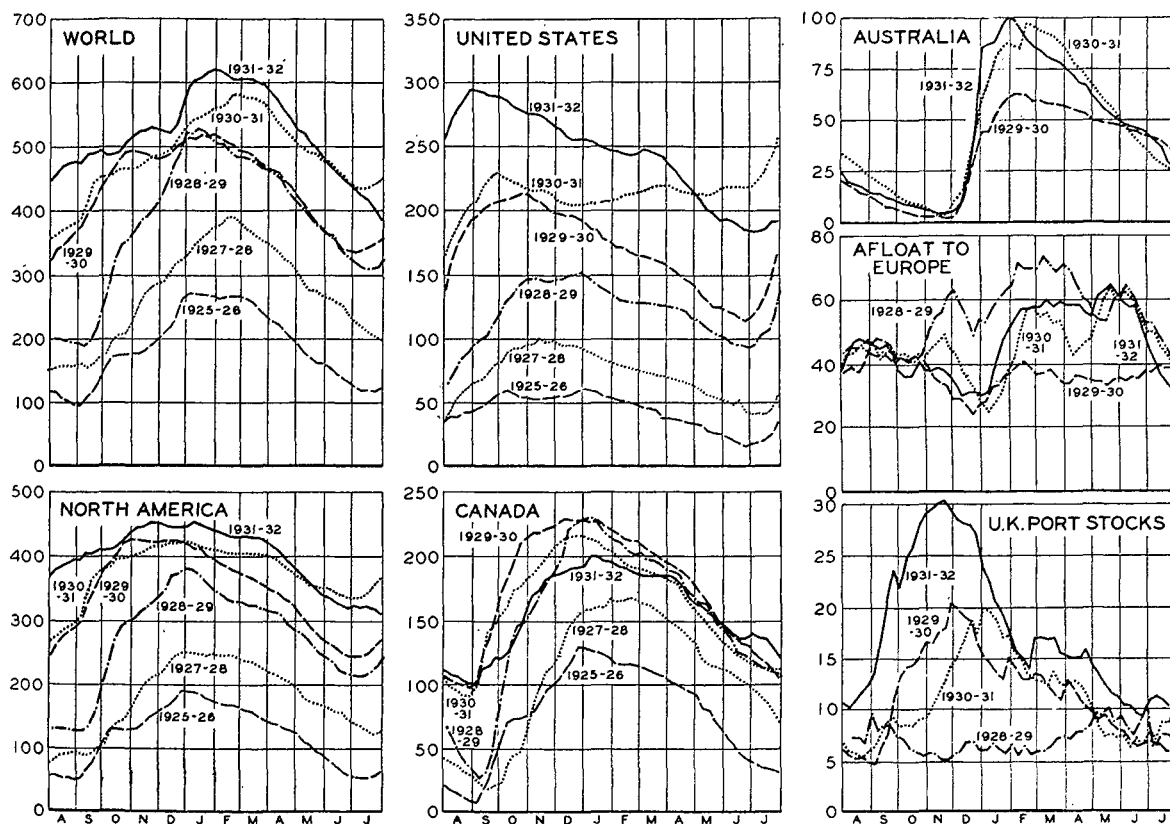
The abnormal accumulation of commercial stocks has been greatest, both absolutely and relatively, in the United States (including United States wheat in Canada). In 1930-31, primarily because of enormous stabilization

purchases, commercial stocks increased after December instead of showing the customary seasonal decline. Normally at a minimum in June, they were higher in June 1931, after these purchases ceased, than at their peak level in any year preceding. Deliveries from the huge new crop of winter wheat raised

lower visibles in the United States that total world visibles were reduced, in July 1932, below the levels of July 1931.

Canadian commercial stocks (which include country elevator stocks, and in Chart 10 Canadian grain in United States elevators for export) have also been abnormally high for

CHART 10.—WHEAT VISIBLE SUPPLIES, 1931-32, WITH COMPARISONS*
(Million bushels)



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

them to the extraordinary height of 295 million bushels late in August 1931. From this peak they declined earlier in the season than usual because market receipts fell off slightly (Table XII) as winter-wheat marketings were restrained and the short spring-wheat crop made only small marketings possible. In the spring of 1932, holding by farmers and liberal accumulations by millers led to rapid declines in commercial stocks, and in July 1932, because of light marketings from the short crop of new winter wheat, visibles rose much less than seasonally. It was largely because of

several years. From a level already high at the beginning of 1931-32, they did not rise nearly as much as in each of the three preceding years, since the 1931 crop was short and exports were larger than in the fall of 1929 when the crop was equally short. The unusually slow decline after January was due mainly to small exports. Toward the close of the crop year, when the decline practically ceased for several weeks, large marketings swelled the figures. Farmers, facing a big new crop and giving up hopes of gains from holding, sold most of their remaining supplies

before the 5-cent bonus on 1931 marketings expired on June 30. Canadian visibles were higher at the end of the year than ever before at that season, despite relatively large exports in July.

Visible supplies in Australia (which include stocks at railway stations as well as at ports) have not accumulated from year to year as in North America, but have worked down to very low levels by the end of each November when new wheat begins to move. In 1931-32, as usual, Australian visibles rose sharply in December and January. The peak in January 1932 was earlier than in 1931, and higher than ever before. The 1930 crop was the larger, but its marketing had been retarded early in the season both by wet weather and by hopes of a guaranteed price. In both of the past two years, Australian visibles declined rapidly and persistently from the peak; exports to the Orient were made in large volume when European markets did not absorb the available supplies.

Stocks afloat to Europe¹ in 1931-32 were neither exceptionally high, as in years of heavy shipments to Europe such as 1928-29, nor exceptionally low as in 1929-30, a year of very small shipments to Europe. They were on the whole rather below than above average, except for a few weeks in August-September 1931, when Russian and Danubian shipments ran high, and again in the spring. The most striking feature of their course in 1931-32 was the sharp decline from the spring peak in the third week of May to an exceptionally low level during the summer. This decline was due largely to the rapid falling off in European demand as crop prospects there grew very promising, and to the absence of large shipments to orders such as Russia and Argentina frequently make.

¹ Stocks afloat to ex-European destinations are not reported or included in the statistics of world visibles. It is safe to infer that these were very large until late in 1931-32, for shipments to ex-Europe were large (Chart 28, p. 111) and to the Orient unprecedentedly heavy.

² The International Institute of Agriculture, in October 1931, forecast a reduction of 186 million bushels in exportable carryovers. In our *Survey* of January 1932, we forecast a reduction of 100 to 150 million bushels in world stocks as of August 1, 1932.

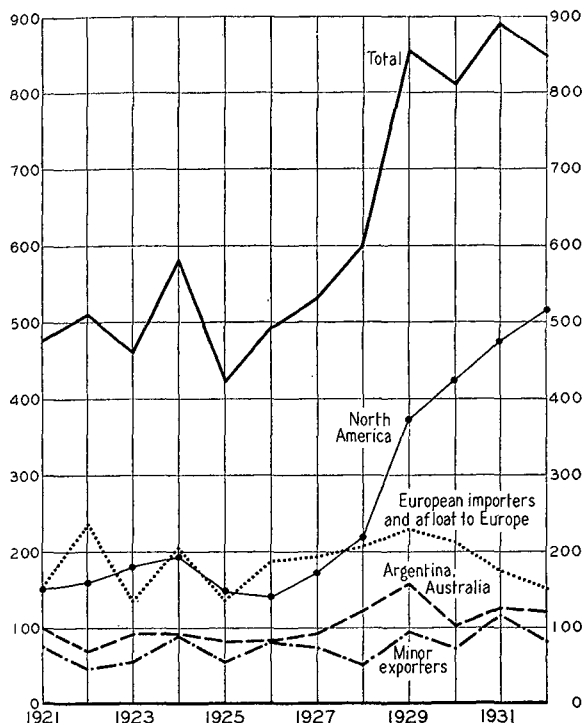
Stocks in British ports were exceptionally large in 1931-32. Until the past three years they have averaged between 7 and 10 million bushels with no pronounced seasonal variation, sometimes falling below 5 million as in 1925-26, occasionally rising above 15 million as in January 1925. Even in 1928-29, a year of record volume of international trade, these stocks barely exceeded 10 million bushels, so readily was imported wheat absorbed. In the late months of 1929, under pressure of heavy shipments from Argentina that could not readily be disposed of, British port stocks rose sharply to a peak of over 20 million bushels late in November. In the late months of 1930, under similar pressure from Russian shipments, they rose somewhat more slowly to a peak nearly as high early in January 1931. In July-November 1931, however, they rose sharply to a peak of over 30 million bushels late in November, again primarily because heavy arrivals of Russian wheat were very slowly absorbed. Even after a sharp decline in December-January and with further declines in later months, these stocks remained excessive until June. Stocks in a few Continental European ports for which data are available, for a limited period of years, were generally lighter than in 1930-31.

END-YEAR STOCKS

Early in 1931-32, when a substantial reduction in the world wheat crop was indicated, there was reason to expect a large decline in total world wheat stocks by the end of the crop year.² These expectations were not realized, chiefly because the 1931 crop proved larger than anticipated and because consumption for food was curtailed in the United States. According to our revised estimates, pictured in Chart 11, world stocks were reduced during the year by only about 40 million bushels from the peak of around 890 million in 1931, and they remained abnormally heavy. As to positions not covered by these estimates, there was presumably a substantial reduction in Russian stocks, but stocks of import wheat in the Orient may have been sizable. The striking feature of the end-year stocks position was the increase of North American stocks to a new high record,

in contrast to declines in other exporting countries and in stocks afloat to Europe and in European importing countries.

CHART 11.—WHEAT STOCKS IN VARIOUS REGIONS, ABOUT AUGUST 1, 1921-32*
(Million bushels)

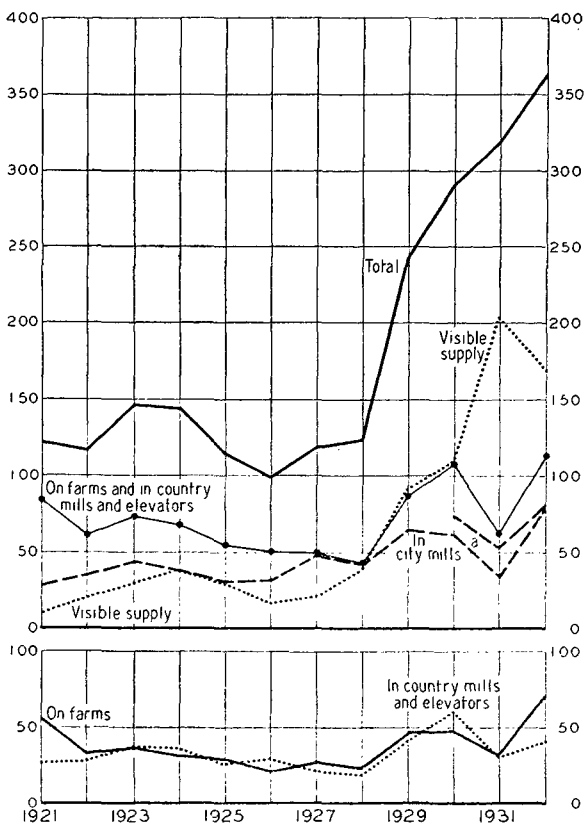


* See Table XXVI. These include estimates for European and for ex-European exporting countries, but no figures for Russia, the Orient, or afloat to ex-Europe.

The United States carryover as of June 30, 1932 (Chart 12), exceeded the huge total of the preceding year. The reduction in visible supplies was offset by large increases in other positions. Holding by farmers brought stocks on farms to a level that had been exceeded only in 1916, when the record crop of 1915 was followed by a very poor crop. Low prices and assurance of a short crop of winter wheat led city mills to build up their stocks to a very high level. Stocks in country mills and elevators were also large, as in 1929, though not nearly as large as in 1930. Stocks of United States grain in Canada (Table XXVIII) were roughly at the high level of 1931. Including these stocks (nearly 16 million bushels), the total carryover of United States wheat was some 379 million bushels, roughly 250 million

bushels above the average for the years 1921-28, before the abnormal accumulation began. This excess is equal to more than half the amount of wheat currently milled for domestic use in this country.

CHART 12.—WHEAT CARRYOVERS IN THE UNITED STATES, JULY 1, 1921-32*
(Million bushels)



* See Table XXVIII.

^a The lower line covers stocks owned by mills; the upper includes also stocks "stored for others."

The most important factor responsible for the further increase in the United States carryover, apart from the large size of the 1931 crop, was the limited export flow (see p. 103). As a joint consequence of various factors, including speculative purchases of wheat futures, holding by farmers, and restrained sales of stabilization wheat, wheat prices in the United States were not low enough to permit effective export competition with Canada and other more pressing exporters. Furthermore, less wheat was milled for domestic food use even than in 1930-31 (see

p. 105). Seed use also was lower than for several years. Exceptionally large amounts of wheat were fed to livestock, so that total domestic disappearance was heavier than usual; but the limited exports did not fully take care of the exportable surplus in the big crop of 1931.

The Grain Stabilization Corporation's share in the carryover was much less in 1932 than in 1931. Approximate comparative figures, including United States wheat in Canada, are shown below in million bushels:

June 30	Total carryover	G. S. C. Total	G. S. C. cash grain Owned	Other	G. S. C. futures
1931	334	257	257	0	0
1932	379	103	72	31 ^a	36

^a Including 9 million bushels sold to Brazil for export but not yet exported, and 15 million representing unfulfilled commitments for Red Cross disposition under a joint resolution of Congress approved March 7, 1932. Different figures were published in WHEAT STUDIES, October 1932, p. 13.

Even including the futures, the quantity in official hands on June 30, 1932, was little over half as large as it was the year before. Excluding both futures and cash wheat sold for export or held for the Red Cross, the Corporation owned about 19 per cent of the total carryover as against 77 per cent in 1931. A Congressional resolution of July 5, 1932, reserved another 45 million bushels for Red Cross disposition. Thereupon, cash wheat and futures available for sale by the Corporation were only some 64 million bushels, as compared with 57 million (revised figures) on June 30, 1930; but another 60 million was held subject to requisition by the Red Cross.

Official estimates of the distribution of recent carryovers in the United States, by classes, run as follows in million bushels:¹

July 1	Hard red winter	Soft red winter	White	Hard red spring	Durum
1929	90	26	16	84	25
1930	113	34	23	94	26
1931	149	27	24	91	27
1932	219	64	15	54	11

The 1932 carryovers of hard and soft red winter were exceptionally high, representing

¹ *World Wheat Prospects*, September 24, 1932, p. 12.

² Import stocks in leading Continental ports on August 1 were approximately 3.2 million bushels as compared with 7.5 million in 1931.

60 and 18 per cent of the total; carryovers of spring wheats and white wheats were small, not only relatively but in absolute amount.

The Canadian carryover on July 31, 1932, was nearly as high as the year before (Table XXVIII). Stocks in terminal elevators and in transit were even higher. The only major decline was in farm stocks, which nevertheless remained higher than in any year prior to 1931. The carryover was surprisingly high in view of the short crop of 1931. Speculative operations, apparently reinforced in the summer of 1932 by some governmental support to the market (see p. 82), kept prices at Winnipeg high enough, during much of the year, to restrain exports. The excess over a normal carryover in Canada was above 80 million bushels, or more than sufficient to cover a year's requirements for seed use and domestic flour consumption.

Reliable data on stocks in Argentina and Australia as of August 1 are not reported. Our estimates, derived from analyses of available information (Table XXXI), suggest that in both countries they were lower than in 1931, probably unusually low in Argentina but rather high in Australia. These countries, unlike the United States and Canada, sold their wheat freely in the first seven or eight months after harvest. Most of the Australian stocks were in visible positions, and visibles on August 1 were the largest in a decade except in 1924 and 1930 (Table XXVII).

In the exporting countries of the Danube basin, outward carryovers were only of moderate size, so heavy had been the exports from the big supplies of the year. Russia had exported heavily from a moderate wheat crop, and scattered evidence suggests that her carryover was very small in some areas and probably small in total. Non-statistical evidence supports the view that stocks of import wheat were very low throughout Continental Europe,² and that stocks of native wheat also were generally depleted. We estimate that, in spite of considerable supplies in British ports and fair stocks in a few other countries, wheat stocks in European importing countries on August 1, 1932, were some 17 million bushels below the level of the year before and probably the lowest since 1925. Reductions

were especially large in Italy and Spain. Stocks in Continental European importing countries were light principally because of the numerous restrictions on imports, both direct and indirect; full utilization of domestic wheat; and expectations of big new harvests and of immediate tightening of milling regulations and other import restrictions as soon as domestic wheats became available from the crop of 1932.

One can only make reasoned guesses about end-year stocks in other countries. Apparently India, with wheat prices very low, con-

sumed more than usual per capita and absorbed not only the fair crop of 1931 but part of the stocks left from the bumper crop of 1930; yet probably sizable stocks remained when the 1932 crop was ready for use. Egypt, like European importing countries, so materially restricted imports that stocks were probably small when the big 1932 crop became available; in northern Africa generally stocks must have been low. Stocks of import wheat and flour were probably sizable in the Orient and in Brazil, but small in most other non-European importing countries.

II. GOVERNMENTAL OPERATIONS AND REGULATIONS

Wheat prices, trade, and stocks were all affected during 1931-32, more or less significantly in different countries, by governmental action of various types. Never before, at least in modern times and in a comparatively peaceful year, had so many governments seriously engaged in price-sustaining activities. Tightening and refining of wheat import restrictions, already very stringent, proceeded further in importing countries. In some exporting countries the year witnessed a drift toward acknowledgment that national measures previously applied, in the effort to stem the decline of wheat prices and to improve the position of domestic wheat producers, were too costly to continue. In the following pages are set forth briefly the facts regarding governmental procedures.¹ Their effects, some aspects of which were touched upon in the preceding section, are considered further below in the discussion of prices, trade, and consumption.

reports. In default of these, our discussion rests mainly on summary discussions in the annual reports of the Federal Farm Board, official statements in Congressional hearings

¹ See also "The World Wheat Situation, 1930-31," *WHEAT STUDIES*, December 1931, VIII, 149-73; and "Economic Nationalism in Europe as Applied to Wheat," *WHEAT STUDIES*, February 1932, VIII, 261-76.

For information on foreign tariffs and other governmental regulations abroad affecting wheat and flour, we have relied chiefly on the following sources: publications of the United States Department of Agriculture, including *Agricultural Price-Supporting Measures in Foreign Countries* by L. R. Edminster, L. J. Schaben, and Myer Lynsky, July 1932, and the periodicals, *World Wheat Prospects* and *Foreign Crops and Markets*; publications of the United States Department of Commerce, including the *Handbook of Foreign Tariffs and Import Regulations on Agricultural Products, Part V* (Grains and Grain Products in Europe and Other Major Markets), and the periodicals, *Commerce Reports* and *Foodstuffs 'Round the World—Grain and Grain Products*; publications of the Canadian Department of Trade and Commerce, including the *Commercial Intelligence Journal* and the *Monthly Review of the Wheat Situation*; the *Monthly Crop Report and Agricultural Statistics* of the International Institute of Agriculture; and the *Bulletin de l'Office de Renseignements Agricoles* of the French Ministry of Agriculture.

Statements in these different sources sometimes conflict, particularly as to dates upon which regulations become effective; in such instances we usually accept the version upon which two or more sources agree, or rely upon the source which in a given instance seems likely to possess the more recent or the more detailed information. Changes in governmental regulations recently have been so frequent, and many of the plans evolved have been so elaborate, that one can seldom find a complete and authoritative account in any single publication. Our own data, having been drawn largely from secondary though official sources, are apt to contain some inaccuracies and omissions, and are subject to revision with later information.

STABILIZATION OPERATIONS IN THE UNITED STATES

Wheat stabilization operations constitute a major economic experiment, involving huge sums of public money and exerting important influences upon agriculture, business, and the Treasury. Before the operations can be adequately studied and the experiment correctly appraised, detailed reports of the Grain Stabilization Corporation are essential. The Food Research Institute considers that sound public policy calls for the publication of such

and Farm Board press releases, Red Cross releases, and certain supplementary information kindly furnished by the Stabilization Corporation.

Liquidation, in contrast with the preceding accumulation, characterized stabilization operations in the year under review. In 1929-30 the new Grain Stabilization Corporation accumulated some 57 million bushels of wheat¹ as the net result of "minor" stabilization operations following the fixed-price loans to wheat co-operatives authorized by the Federal Farm Board on October 26, 1929. In 1930-31, after quiet resumption of minor stabilization operations had proved unavailing, a banking crisis overcame the Board's reluctance to undertake major stabilization operations; and in consequence of price pegging from mid-November 1930 to June 1931 the Corporation came to hold 257 million bushels of wheat. In 1931-32, exhaustion of available cash in the Board's revolving fund, and disappointment with the net results of the operations, forced the abandonment of stabilization purchases and led to extensive liquidation of accumulated stocks.²

The "statistical" liquidation of some 193 million bushels in 1931-32 was effected in three ways. (1) In accordance with the policy announcements of June 30, 1931, the Corporation sold 60 million bushels in ordinary domestic and export channels at an average rate of 5 million bushels a month. (2) It sold for export on special credit terms to three foreign governments 47½ million bushels, of

¹ Revised figures; the text of the Farm Board's second annual report gave 65.6 million.

² On the operations in the first two of these years, see *WHEAT STUDIES*, December 1930, VII, 145-64, and December 1931, VIII, 149-67. The *Third Annual Report of the Federal Farm Board*, released December 7, 1932, devotes pages 60-73 mainly to a review of stabilization operations during the past three crop years.

³ In addition to the release of 25 million bushels to the Red Cross before July 2, of which probably 7½ came on to the domestic market. The Farm Board's latest report (p. 63) states, however, that net sales were 20 million bushels. This figure results if one takes the Corporation's exports as 79 million bushels of wheat and flour together, whereas we take this figure to represent exports of wheat grain only. See below, p. 104.

⁴ See "Price Spreads and Restraint of United States Wheat Exports," *WHEAT STUDIES*, October 1932, IX, 16.

⁵ See *WHEAT STUDIES*, May 1932, VIII, 393-94.

which all but 9¼ was shipped out before June 30, 1932. (3) Under Congressional resolutions approved March 7 and July 5, 1932, the Corporation delivered to the Red Cross for relief disposition 25 million bushels up to June 30, 1932, and reserved 60 million bushels more for similar disposition in 1932-33.

In the summer of 1931 the Corporation sold cash wheat considerably beyond its monthly quota, acquiring futures to the amount of the excess. Presumably its domestic sales were made largely in the Northwest, where shortage of new spring wheat created a regional milling deficit that the Corporation partially supplied from its stocks of old wheat. Its purchases of futures, presumably chiefly in Chicago, doubtless helped to absorb hedging pressure caused by the big crop of winter wheat. Since the Corporation exported 78.86 million bushels of wheat grain, of which only 30.75 were made on credit sales to foreign governments, we infer that its net sales in the domestic market were only about 12 million bushels.³ With information now available we cannot appraise in detail the price effects of the selling operations; apparently the net effect was not large, but was in the direction of depressing prices abroad rather than in the United States.⁴ On the whole, the liquidation operations aroused much less criticism than the purchasing and price-pegging operations of the year before. For a few days after March 17, 1931, however, rumors that holdings were to be unloaded tended to depress the markets; the rumors were based on President Milnor's sailing for Europe and a statement by Secretary Hyde.⁵

The export sales are discussed below (see pp. 103-4). The Corporation shipped mostly hard winter wheats to Brazil and Germany, and Pacific Northwest wheat and flour to China, receiving in exchange bags of Brazilian coffee in New York and notes of the German and Chinese governments. For the most part, these exports displaced exports from Argentina, Australia, and Canada rather than commercial exports of United States wheat as grain or flour.

The diversions to the Red Cross require somewhat fuller comment. The first relief resolution (S.J. Res. 110) was the outgrowth

of nearly three months' consideration of several resolutions introduced in December 1931.¹ One of these was rejected by the House Committee on Agriculture, but another soon received its approval and overwhelmingly passed both House and Senate. The resolution of July 5 (H.J. Res. 418) was passed in the closing days of the session, with little controversy except over provisions permitting exchange of wheat for other foodstuffs.²

Various motives contributed to the action. From drought-stricken areas of the Northwest came urgent appeals for food and feed. Elsewhere unemployment imposed heavy financial burdens upon local relief agencies. The administration opposed federal appropriations for local relief. Yet the conviction was universal that with wheat so abundant, and with large supplies in government hands, no one should want for bread. The credit sale to China for flood relief added force to the argument that stabilization supplies should be drawn upon for domestic relief. No new appropriation was required. Moreover, so much had been said of stabilization stocks as a burden on the wheat market that diversion for relief seemed an excellent way of reducing this burden otherwise than by sales; and the saving of storage and insurance charges was represented as a relief to the Treasury. The Millers National Federation regarded the measure as "an extremely unwise piece of legislation" but cordially co-operated in carrying it out.

¹ Senator Capper had introduced a similar resolution (S.J. Res. 210) on December 2, 1930, which passed the Senate but went no farther.

² This resolution covered 45 million bushels of wheat and 500,000 bales of cotton. It provided that wheat or its products might be exchanged for any kind of food, giving preference to foods of which wheat products are a substantial ingredient. It authorized additional appropriations necessary to enable the Farm Board to advance funds to the Stabilization Corporations to repay loans (and carrying charges thereon) held by commercial or intermediate credit banks against wheat or cotton collateral delivered under the resolution, and to reimburse the corporations for their net equity therein at the then-current market value. A proportionate part of the Board's loans to the corporations was to be canceled on delivery of the wheat and cotton, and the net loss charged against the revolving fund.

³ Millers National Federation, *Special Bulletin*, March 16, 1932.

The first resolution directed the Farm Board to make available to the American National Red Cross, or any organization designated by it, not over 40 million bushels of "wheat of the Grain Stabilization Corporation, for use in providing food for the needy and distressed people of the United States and Territories, and for feed for livestock in 1931 crop-failure areas," subject to presidential approval of applications for such wheat. The Corporation was to be credited "with an amount equal to the current market value thereof at the time of delivery," but at the expense of the Board's revolving fund. Section 2 provided:

No part of the expenses incident to the delivery, receipt, and distribution of such wheat shall be borne by the United States or the Federal Farm Board. Such wheat may be milled or exchanged for flour or feed, but if processed it shall be without profit to any mill, organization, or other person. In cities of over twenty-five thousand population the American National Red Cross or any other organization designated by it may have said flour obtained in accordance with section 2 baked into bread or processed into food for distribution: *Provided*, that no part of the expense incident to such baking or processing shall be paid out of said wheat or flour and no part of said expense shall be borne by the United States or the Federal Farm Board.

In co-operation with the Millers National Federation, the Red Cross promptly adopted a plan for having the wheat milled and the flour delivered. President Henry Stude of the American Bakers Association pledged the baking industry's full co-operation, both by making all its day-old products freely available for relief uses, and by converting relief flour into bread at cost where desired. General administrative costs were borne by the Red Cross, and expenses of local distribution by its local chapters.

With the approval of the Attorney-General, it was arranged that costs of "transporting the wheat, grinding the wheat into flour, payment for bags for the flour and transportation charges on the flour from the mill to destination will be paid by the miller; the miller to be reimbursed in the by-products from the wheat and in wheat."³ No. 2 hard or better or equivalent grade of wheat was converted into straight flour, on the basis of 4.6 bushels per

barrel. The miller was credited with 50 cents a barrel for conversion, and charged with the value (at the time the order was placed) of 76 pounds of mill feed per barrel less \$1.00 per ton to cover handling and selling costs and market hazards. Net credits, plus amounts paid for transportation of the wheat and flour, were settled for in mill feed retained and in wheat at the value determined as the basis for credit to the Grain Stabilization Corporation. The business was allotted to mills in proportion to their flour output for domestic use during the preceding three years, with due reference to convenience of location in respect to wheat available and destination of flour. In general, mills accepted their allotments, though many did so for other than strictly business reasons. In sections where (as on the Pacific Coast) no stabilization wheat was available, the Red Cross permitted mills to make flour from their own wheat, and to sell the equivalent amount of stabilization wheat delivered to their order.

Up to July 2, 1932, the Red Cross had obtained from the Stabilization Corporation 25,014,659 bushels of wheat.¹ In the absence of a clear-cut official statement of the breakdown of this item, we have reached the following approximations in thousand bushels:

Flour ordered from mills, 2,217,894 bbls. (at 4.6 bu. per bbl.)	10,202
Wheat ordered for stock feed in crop- failure areas, 223,432 short tons	7,448
Total	17,650
Balance, apparently for costs	7,365

From other evidence² it appears that this balance was divided about equally between the

¹ See *Northwestern Miller*, July 6, 1932, p. 37.

² The Red Cross kindly furnished us, on December 14, a breakdown of the first 40 million bushels. This may be summarized as follows, in thousand bushels (terminal charges not allocated to use):

Use	Processed	Charges	Total
Flour	19,651	8,514	28,165
Feed	7,463	3,752	11,215
Cereal	52	22	74
Other . . . . .	...	540	540
Total	27,166	12,834	40,000

³ *Hook-Up*, June 24, 1932.

⁴ Cf. *Southwestern Miller*, July 5, 1932, p. 40.

costs in connection with feed relief and those in connection with flour relief. Undoubtedly transportation costs at least were larger to some extent because of the policy of allotting the business among all mills that were willing to participate.

When the resolutions were under consideration it was urged in Congress that the Red Cross disposition would increase domestic consumption and reduce the carryover by the total stated amount. On the other hand, millers argued that "turning wheat over to the Red Cross doesn't affect carryover, or consumption, and not much of anything else except current wheat prices, upon which their action undoubtedly has a depressing effect."³ The truth lies between these extremes. Probably most of the relief wheat used for feed was a net addition to wheat disappearance; but probably well over half of the relief flour displaced commercial sales of flour that would otherwise have been made. In spite of the distribution of Red Cross flour to five-sixths of the counties in all parts of the country, net mill grindings for domestic use fell 7 million bushels lower than in 1931-32 (Table XXXI). The wheat paid for incidental costs passed into ordinary commercial channels, with no effect on consumption or total carryover and probably only local and temporary effects on prices. Domestic disappearance of wheat in 1931-32 may have been increased by around 10 million bushels in consequence of the delivery of 25 million bushels of stabilization wheat up to June 30, 1932.

The displacement of commercial flour by Red Cross flour, accompanied by sporadic complaints of local abuses, inevitably aroused criticism in milling, flour jobbing, and baking circles affected. On the other hand, reports from the cotton belt indicated that the Red Cross flour was reaching consumers who had not hitherto been able to afford wheat flour, or had used only cheap and inferior grades of flour, and that the demand for flours of good quality was being stimulated.⁴

GOVERNMENT AID IN OTHER EXPORTING COUNTRIES

Canada, Australia, and the European wheat-exporting countries all resorted to direct or

indirect bonuses to wheat producers during 1931-32, and continued to negotiate for preferences in certain import markets. In all of these countries marketing organizations were either aided or directly controlled by the respective governments. Argentina sought to help producers by regulating grain exchanges, by special loans to cereal producers, and by promoting a program of elevator construction. In general, the objective was to give relief to hard-pressed producers, not (outside of Russia) to encourage increases in production.

Canada and Australia paid direct bonuses to producers upon wheat marketed, and the Hungarian grain ticket system served the same purpose, with the important difference that half the value of the grain ticket had to be applied by the recipient to the payment of any taxes due from him. In Canada, a bonus of 5 Canadian cents per bushel was paid, in negotiable certificates redeemable by the Dominion government, to growers in the three Prairie Provinces on wheat of the 1931 crop delivered up to June 30, 1932, to licensed buyers under the Canada Grain Act of August 3, 1931. In Australia, a bonus of $4\frac{1}{2}d.$ per bushel (9 U.S. cents at par, and about 5 cents at the prevailing exchange rate) was granted to growers on wheat delivered for sale during the 1931-32 season, beginning in December 1931. Payments on 143,094 claims involving 180.2 million bushels, by September 15, 1932, reached 3,378,835 Australian pounds.

The value of the Hungarian grain ticket was raised in 1931-32, and the farmer's share was fixed at 6 pengoes per quintal (at par, 29 cents per bushel) instead of at 3 pengoes as in the preceding year. Domestic purchasers of wheat were charged 10 pengoes per quintal for grain tickets, which had to accompany all purchases; thus a fund was maintained with which to redeem the farmers' coupons, and to refund the entire value of the tickets on grain going to export. The Hungarian government attempted to discontinue the ticket system from July 1, 1932, since in two years of operation it had involved heavy losses; but at the insistence of agricultural groups, the system was retained for the new crop year.

Bounties on exports were in force during 1931-32 in Hungary, Poland, and Roumania.

Hungary, in addition to refunding the value of grain tickets on exported wheat and flour, had established, as from July 1931, a bounty of 3.5 pengoes per quintal (at par, 17 cents per bushel) on wheat exported either as grain or as flour. Payment of these bounties was delayed by shortage of funds and because of a controversy between exporters and the government as to whether the exporters had paid the stipulated higher prices to producers. The bounty was abolished on October 28, 1931, and the government finally agreed to pay the exporters 2.5 pengoes per quintal on wheat exported before that date.

In Roumania, export bounties of 100 lei per quintal (16 cents per bushel) for wheat and 130 lei per quintal (69 cents per barrel) for flour were in effect from August 1, 1931, to April 22, 1932, when they were abolished because of financial difficulties. About \$1,500,000 due on these bounties was reported still unpaid in June. Funds for bounty payments were raised by means of a bread tax, which was very unpopular with bakers because local authorities would not permit them to raise bread prices; some bakers' strikes resulted, to meet which the government distributed bread from military bakeries.

Poland continued to pay cash premiums of 6 zlotys per quintal (18 cents per bushel) on wheat, and 9 zlotys per quintal (90 cents per barrel) on flour exported, while imports of wheat and flour were prohibited.

Government aid to producers' pools in Canada (also in Australia) was continued in 1931-32. In Canada, John I. MacFarland had been chosen in November 1930 as manager of Canadian Co-operative Wheat Producers, Ltd. (the central selling agency of the provincial pools) to liquidate pool holdings. He was responsible to the pools' creditors (direct and indirect, including banks, the provincial governments, and the Dominion government). Full details of Mr. MacFarland's subsequent operations on the cash and futures markets are not yet available; it was not until mid-November 1932, indeed, that public acknowledgment was made of governmental responsibility for operations undertaken in 1931-32. The trade has inferred that holdings of the agency in cash wheat were more than 75 million bushels

at the end of 1930; that by the end of April 1931 the cash wheat had been transferred to futures; that substantial additional purchases of futures, designed to support the market, were made in July 1932, and still more in September–November 1932; and that holdings of futures (mostly in the next May future) approximated 125 million bushels in mid-November 1932.

It seems clear that the Dominion government sponsored informal price-supporting purchases of futures near the end of 1931–32; and that operations earlier in the year took mainly the form of transfer from one future to another. But it is not yet to be inferred that outright purchases were made in 1931–32 prior to July, with perceptible effects upon the Winnipeg-Liverpool price spread and upon the flow of Canadian wheat to export. Undoubtedly, however, the spread throughout the year was narrower, and exports were probably smaller, than if the holdings of the central selling agency had been liquidated rather than maintained or augmented. Perhaps the Dominion government in the summer of 1932 had sponsored the holding of even more wheat (cash and futures) than the Grain Stabilization Corporation then had under its full control.

Before the establishment of complete grain monopolies in Jugo-Slavia and Bulgaria on September 5 and November 1, 1931, respectively, government organizations in these countries had carried on commercial transactions, and paid fixed prices to producers. However, the persistently low level of world prices threatened these organizations with such extensive losses that steps were taken to end the government control and to force domestic users of wheat to shoulder some of the financial burden by paying higher prices. Jugo-Slavia was able to maintain a monopoly for only a short time. Some concessions to private merchants and co-operatives were made during October 1931; and on March 31, 1932, complete freedom of internal trade in wheat was restored, although the government continued to buy wheat for export up to the end of the crop year. Trade reports have attributed the failure of the Jugo-Slavian monopoly to the difficulty of maintaining

control over mills and to consumers' refusing to pay the higher prices for flour and turning to corn meal as a substitute. The Bulgarian monopoly, facing similar difficulties, was discontinued on July 21.

Basic prices paid by the official trading company in Jugo-Slavia ranged from 160 to 175 dinars per quintal (77 to 84 cents per bushel), according to type and quality, with gradual increases throughout the year to encourage orderly marketing. In Bulgaria the official buying price, as from August 11, 1931, was 340 leva per quintal (67 cents per bushel). Both countries paid only part of the price in cash,¹ and the remainder in bonds which could be used in payment of taxes or redeemed at a later date; both resorted to milling taxes to supplement their working funds.

Negotiations for preferential treatment in import markets made marked progress in 1931–32. Most of these took place between Danubian exporting countries and neighboring European importing countries, and were the outgrowth of a general movement toward regional trade preferences in central and eastern Europe. A similar principle found expression at the British Imperial Conference at Ottawa in July–August 1932, when Canada and Australia secured the promise of a tariff preference of 2 shillings per quarter on wheat entering the United Kingdom.

Among the agreements which were effective during part or all of the year were those made by France with Hungary, Jugo-Slavia, and Roumania, granting partial rebates of duty on specified quantities of wheat from these countries; preferential arrangements made by Austria with Hungary, Jugo-Slavia, and Roumania; and agreements made by Hungary with Germany and Italy, respectively. Hungary thus succeeded best in negotiating preferences.

The Hungarian agreements were of several different types. The treaty signed with Germany in July 1931 provided for an outright preferential duty on Hungarian wheat, 25 per cent below the ordinary rate. But the consent of other countries which had most-favored-nation treaties with Germany had to be se-

¹ Jugo-Slavia paid 50 per cent in cash, Bulgaria 70 per cent.

cured; and so far as our information extends, this had not been accomplished by the end of 1931-32. Under the treaty with France, concluded in November 1931 and effective in July 1932, the French government undertook to refund certain portions of the customs receipts to the Hungarian government at the end of each year, for distribution to Hungarian exporters. Apparently this ingenious form of preference did not require the consent of most-favored nations. The treaties with Austria and with Italy, signed in July 1931 and March 1932, respectively, provided still more roundabout methods of effecting trade preferences; ostensibly private corporations, with government backing, were to promote exports from each country to the other by granting credit on favorable terms, and transportation rates were to be adjusted to favor such exports.

The effectiveness of the Austrian treaty was largely nullified by exchange difficulties which developed shortly after it had been signed. To overcome these difficulties, Austria and Hungary worked out an "exchange clearing agreement," effective in December 1931. The essential principle was that each country concerned should buy equivalent amounts of the other's goods, with the central banks providing the necessary exchange facilities when this condition was met. A special "wheat account" was maintained by Austria with the Hungarian National Bank, permitting monthly transfers of about 550,000 bushels. As a result of this agreement, it was reported that Austrian bread requirements for a time were covered almost exclusively with Hungarian wheat. Austria denounced both the trade treaty and the clearing agreement before the end of the year, and began negotiations for a treaty based upon open preferences.

Austria made similar commercial agreements and clearing agreements with Jugo-Slavia and Roumania, but these too were abrogated. Exchange clearing agreements were also reported between Hungary and Germany, Hungary and Belgium, Jugo-Slavia and Switzerland, Roumania and Switzerland, Bulgaria and Germany, and Bulgaria and Switzerland. Czecho-Slovakia carried on negotiations with both Hungary and Jugo-Slavia, the final out-

come of which is not clear to us. Moreover, the Danubian exporting countries discussed among themselves various plans for concerted action, but apparently with little success; doubtless the short crops of 1932 removed much of the pressure for immediate action.

TARIFF CHANGES IN IMPORTING COUNTRIES

Changes in basic wheat import duties were not numerous in 1931-32. The general tendency was to rely upon other devices to maintain domestic wheat price levels; most changes in wheat duties were in the nature of special adjustments. They included special rates favoring or discriminating against particular countries, or groups of countries; relaxation of rates for particular individuals or groups within a given country who fulfil certain official (sometimes confidential) requirements; adjustments made in accordance with sliding scales or similar arrangements; and small taxes levied on imports for various reasons. Tariff rates on flour were changed somewhat more frequently than rates on wheat; for while changes in wheat duties usually necessitate corresponding changes in flour duties, the latter are often changed independently as a measure of protection for domestic milling industries.

Wheat and flour duties¹ were increased in four countries, as follows:

Date effective, and country	Wheat (per bu.)			Flour (per bbl.)		
	From	To	Increase	From	To	Increase
Aug. 19, Italy....	\$.87	\$1.07	\$.20	\$4.34	\$5.25	\$.91
Nov. 14, Finland.	.69	.86	.17	4.70	5.60	.90
Feb. 12, Austria.	.55	.61	.06	4.23	4.59	.36
June 16, Japan...	.34	.57	.23	2.14	3.18	1.04

Egypt raised her sliding scale of duties three times during the year, as shown by minimum and maximum rates given below:

Date effective	Wheat (per bu.)		Flour (per bbl.)	
	Min-imum	Max-imum	Min-imum	Max-imum
Feb. 9, 1931.....	\$0.24	\$0.65	\$1.41	\$2.94
Nov. 23, 1931....	0.24	?	1.80	3.82
Apr. 1, 1932.....	0.38	1.00	2.42	4.44
July 22, 1932.....	0.46	1.08	2.77	4.79

New Zealand lowered her sliding scale of duties as of March 1, 1932, in such a way as

¹ These and subsequent tariff rates cited are converted at par of exchange. Italian duties are in terms of gold lire.

to maintain a constant duty-paid value of \$1.38 per bushel (formerly \$1.64) for imported wheat and \$6.96 per barrel (formerly \$8.10) for imported flour. The Minister of Customs was given authority to alter these rates in his discretion in order to obviate the effects of movements in foreign exchange.

Outstanding changes affecting imports from single countries or groups of countries occurred in France, Greece, the United Kingdom, and Egypt. Under treaties signed by France with Hungary, Roumania, and Jugoslavia,¹ the French government is to refund to each of the governments concerned, for distribution to its exporters, a sum not in excess of 30 per cent of the duty paid on a quota not to exceed 10 per cent of the year's estimated import requirement of France. The expiration of a commercial treaty between France and Canada on June 16, 1932, automatically subjected Canadian wheat and flour to double the ordinary rates of duty, or \$1.71 per bushel and \$8.92 per barrel. Greece, on November 28, 1931, established a maximum tariff schedule, applicable to goods from countries not having trade treaties with Greece, the new rates, \$6.90 per bushel on wheat and \$33.37 per barrel on flour,² being 10 times the former maximum rates; the new law also abolished concessions granting minimum rates to non-treaty countries, and thus made the prohibitory maximum rates applicable to such important exporting countries as Canada, Australia, and Argentina. The United Kingdom, on March 1, 1932, imposed an ad valorem duty of 10 per cent on flour imported from countries other than the British dominions, India, and Southern Rhodesia. Egypt published a decree, on November 5, 1931, providing for the application of a surtax equal to the customs duty on agricultural or manufactured products originating in Russia similar to those produced in Egypt; this decree is reported to have been applied to wheat, flour, and similar products.

Modifications of tariff duties upon the ful-

¹ The Roumanian and Jugo-Slavian agreements were reported effective as of May 24, 1932; the Hungarian agreement apparently became effective on July 30, 1932.

² Including a surtax of 75 per cent of the duty.

filment of specified conditions within the country were made by Germany, the Irish Free State, and Spain. From August 24, 1931, Germany allowed the importation of wheat at the reduced rate of 13 cents per bushel, as compared with a basic rate of \$1.62 per bushel, on proof of the exportation of an equal quantity of domestic wheat. From April 18 until July 10, 1932, Germany allowed the import free of duty on special conditions of limited quantities of wheat for poultry feeding. During May and June, German mills which had been in operation during the period April-June 1930 were allowed to import, at a reduced duty of \$1.17 per bushel, a quantity of wheat equal to 15 per cent of their total grindings in April-June 1930; and it appears that after July 1 millers who were members of the Consortium of German Wheat Mills were still permitted for a time to buy Farm Board wheat from the official trading company on payment of a duty of \$1.17 per bushel. The Irish Free State established a duty, effective July 7, 1931, of 85 cents a barrel on wheat flour imported without a special license issued by the Revenue Commissioners; formerly, imports of flour into the Free State had been free of duty. The Spanish Ministry of Finance, on September 21, 1931, authorized the duty-free importation of 20,000 quintals (73,487 bushels) of Manitoba No. 1 wheat for sowing purposes, on special permits, and it was announced that similar permits would be issued from time to time for wheat needed for sowing or other special purposes.

In Czecho-Slovakia, where duties are subject to change monthly, the duty on wheat remained stationary (at 44 cents per bushel) but that on flour was changed frequently, varying from \$2.92 to \$3.32 per barrel.

OTHER MEASURES IN IMPORTING COUNTRIES

The elaboration of protective measures other than tariffs was a noteworthy development in European importing countries during 1931-32. Devices employed in previous years to force absorption of domestic supplies within national boundaries were increasingly prevalent; such devices included milling and purchasing quotas for domestic wheat, import prohibitions and import contingents, and

guaranties by governments, or by milling associations in agreement with the governments, to absorb domestic supplies at a given scale of prices. Supplementary devices were the "exchange" of domestic for foreign wheat supplies by means of export certificates, and government aid in storing grain in order to distribute marketings somewhat evenly over the crop year. A price-supplementing subsidy was devised in the United Kingdom after various quota plans had been considered. In addition to measures specifically applied to wheat and flour, the exchange restrictions maintained in many countries in 1931-32 tended definitely to restrict imports, although they were overcome to a limited extent by a number of bilateral clearing agreements.

The milling quota remained of outstanding importance among price-control measures. Quota changes in the principal countries employing this device are shown in Table XXXVI. France and Italy resorted most frequently to changes in the percentages of domestic wheat required; in Italy, moreover, the percentages varied as between bread wheat and semolina wheat, and as between different sections of the country. In France, the highest minimum quota of domestic wheat was 97 per cent. in December-January; the figure fell to 60 per cent on March 26, and fluctuated between 50 and 60 per cent until July 1; then it was raised to 65, and a week later to 75. Italian quotas also were highest in November-December, and lowest in late May and June; new high percentages were decreed in late June and early July. In Germany and Sweden changes in the quotas were not so numerous, but high percentages of domestic wheat were required throughout the year. Apparently the domestic quota remained at 25 per cent in Greece¹ and at 10 per cent in Luxemburg. In Belgium¹ the agreement of millers to use 5 per cent of domestic wheat remained in effect.

Greece, Czecho-Slovakia, and Latvia used purchasing quotas similar in effect to milling quotas. The Greek milling quota mentioned above applied to mills having a daily capacity of 15,000 kilos (551 bushels); however, all

importers of wheat or flour were required to purchase domestic wheat in a given ratio to the quantities imported, or, when domestic supplies were exhausted, to pay a special fee in lieu of the domestic purchases. From November 1, 1931, to March 1, 1932, importers of wheat or flour effected through "Class A" customs houses of Greece were required to purchase domestic wheat (which had previously been bought up by the government) to the amount of 15 per cent of the quantity of their imports; other imports during the year were subject to a special fee of 17.48 leptas per kilo (about 6 cents per bushel). In Czecho-Slovakia the purchase of one carload of domestic wheat for every five carloads imported was required during October; this proportion was changed in December to one to four, and in January to one to two; in April the proportion was again reported as one to four. Latvia required the purchase of equal amounts of home-grown wheat for all wheat imported, and the purchase of domestic wheat to one and one-half times the weight of imported wheat flour, from the beginning of 1931-32 until November 5. Thereafter, until June 15, the requirement was 200 kilos of domestic wheat and 33.3 kilos of domestic barley for each 100 kilos of imported wheat; and 300 kilos of domestic wheat and 100 kilos of domestic barley for each 100 kilos of imported wheat flour.

Definite limitations upon total imports were in effect during the year in Latvia, Czecho-Slovakia, Spain, and Portugal. On February 11, 1932, Latvia fixed an annual import quota for wheat at 25,000 metric tons (918,582 bushels), imports in 1931 having been 32,000 tons (1,175,786 bushels); all imports were subject to government permit. When a complete government monopoly of the grain trade was established in Latvia on June 15, 1932, the fixed limit upon total imports presumably became ineffective. In Czecho-Slovakia, import contingents were fixed monthly during a large part of the year. In Spain, where since May 1930 imports had been completely prohibited until such time as the price of wheat on the market of Castile should be 53 pesetas per quintal (\$2.78 per bushel at par) for a period of one month, imports of approxi-

¹ Quotas reported for these countries in WHEAT STUDIES, December 1931, VIII, 173, are here revised in the light of more recent information.

mately 10 million bushels were authorized between April 19 and July 10, 1932. Portugal, which like Spain admits wheat imports only occasionally, announced on January 14, 1932, permission for the importation of approximately 50,000 bushels into the district of Ponta Delgada in the Azores; but apparently no imports into Continental Portugal were authorized during 1931-32. Nevertheless net imports were reported (Table XXV).

Scales of fixed prices for domestic wheat were maintained in a number of importing countries. Whether the millers paid these prices by voluntary agreement or were forced by law to do so, they were in most instances compensated by restrictions on the importation of foreign flour. The prices are given below in terms of United States currency per bushel, conversions from original currencies being made at par of exchange:

Netherlands	\$1.46 to \$1.73
Estonia	\$1.31 to \$1.60
Latvia	\$1.42
Switzerland	\$2.00

For Portugal, the price scale is reported as 53 to 60 cents, but whether this is at par or current exchange rates is not clear. Belgian millers have by agreement paid 76 cents per bushel for the 5 per cent of their requirements filled by domestic wheat. Lithuania and Norway maintain fixed price scales, but price data for 1931-32 are not at hand.

In May 1932 the United Kingdom adopted a scheme for a price-supplementing subsidy, to be financed by a tax on both home-milled and imported flour. Although the subsidy to producers was not to be paid until 1932-33, the flour levy was collected from June 19, 1932, at a rate of 2s. 3d. per sack (equivalent to 38.3 cents per barrel at par of exchange). The intent of the subsidy is to maintain an average price (market price plus "deficiency payment") for domestic wheat of 10 shillings per hundredweight, or \$1.30 per bushel,¹ and the flour tax will be so adjusted as to provide the necessary funds. An analysis of British wheat policies will appear in a later issue of WHEAT STUDIES.

III. WHEAT PRICES

THE LOW LEVEL OF WORLD WHEAT PRICES

In historical perspective, the crop year 1931-32 stands out as one characterized by very low wheat prices. Declared values of wheat imported into the United Kingdom, indeed, averaged only 57 cents (gold) per bushel in 1931-32. This was the lowest crop-year average price since the war, 22 cents below the previous low figure of 1930-31. It was also the lowest for decades (data from 1885-86 are shown in Chart 13) if not for centuries,² 12 cents below the long-standing record low price of 1894-95. It was less than 25 per cent of the high price of 1920-21.

International wheat prices in 1931-32 were strikingly low, not only in terms of gold, but

also in terms of the purchasing power of wheat over other commodities. The "deflated" British import wheat prices shown in Chart 13, like the "gold" wheat prices, averaged lower in 1931-32 than in any other crop year in at least half a century, and probably lower than ever before. During this long period, the purchasing power of wheat over commodities in general has been more stable than the purchasing power of wheat over gold, and since 1924-25 it has declined less steeply. The deflated and undeflated wheat price series summarized in the chart show that it is not easy to say exactly when the "world wheat price" is lowest or highest, or what have been the largest or smallest changes from year to year. Yet the main fact pertinent to a review of the crop year 1931-32 stands forth clearly: international wheat prices, whether adjusted or unadjusted for changes in wholesale prices in general, ruled at a level which, within the experience of the present generation, was unprecedentedly low.

Five years ago, when in 1927-28 British

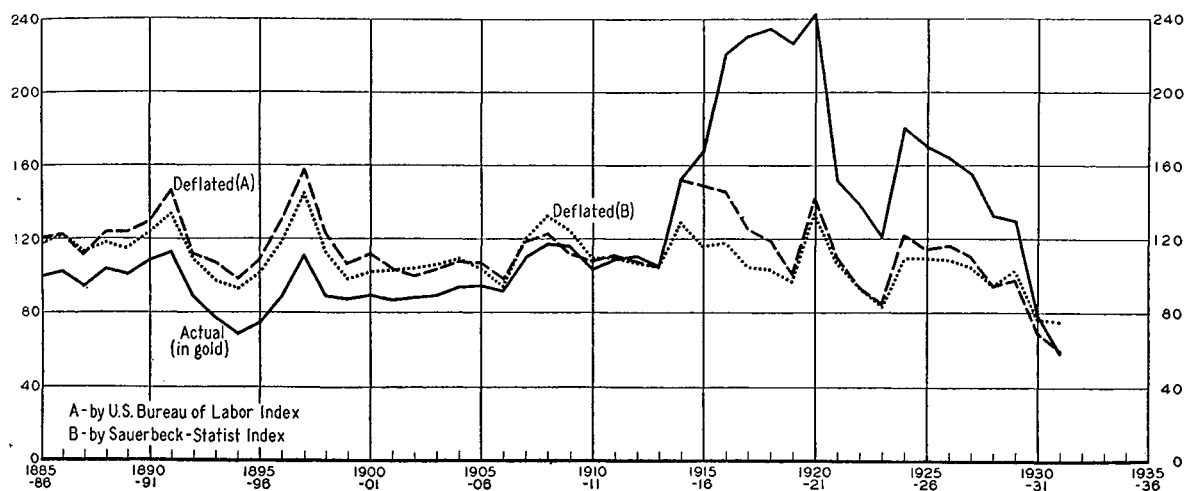
¹ But only on a maximum quantity of 27 million hundredweight or 50.4 million bushels of wheat of accepted milling quality.

² To judge from calendar-year average prices of British wheat, as given in *Agriculture Yearbook, 1922*, pp. 605-6, one must go back to the sixteenth century to find an annual average price lower than 60 cents (gold) per bushel.

import wheat sold on the average for \$1.55 per bushel, a price as low as 57 cents seemed almost outside the realm of possibility. The ensuing four years witnessed decisively important developments that were at best only partially predictable. On the one hand, there came an enormous world wheat crop (ex-Russia) in 1928, and two sizable crops in 1930

Members of the grain trade have occasionally ascribed the low prices in 1931-32 directly to governmental stabilization operations in the United States, apparently reasoning that since the price was higher before stabilization than after, stabilization caused the change. Detailed analysis of this reasoning is unnecessary here. Stabilization operations

CHART 13.—BRITISH IMPORT WHEAT PRICES, ACTUAL AND DEFLATED,
ANNUALLY FROM AUGUST-JULY 1885-86*
(U.S. cents per bushel)



* Monthly values of all wheat imports into the United Kingdom divided by quantities imported, converted at current rates of exchange; crop-year prices are simple averages of resulting monthly prices. Index numbers base, 1910-14 = 100.

and 1931, together with expansion of wheat exports from Russia. Thus aggregate wheat supplies were abundant. On the other hand, an effective system of wheat import restrictions was built up in many importing countries, and world-wide economic crisis and recession supervened. Thus wheat consumption was restrained. The net result (to which other developments contributed) was the emergence and persistence of a world wheat-surplus problem. Wheat stocks were built up to an unprecedented height, especially in North America; and with weakened willingness and ability to carry the heavy stocks, wheat prices fell drastically.¹

¹ It is unnecessary here to analyze in greater detail the influences which brought international wheat prices to the extraordinarily low average level of 1931-32. See WHEAT STUDIES, December 1931, VIII, 88-95, for an account covering developments up to July 1931, when world wheat prices touched levels almost as low as any witnessed in the crop year now under review; see also "The World Wheat Problem," *ibid.*, July 1932, VIII, 428-32.

brought into visible positions in the United States wheat that otherwise would have been less prominently displayed, and probably weakened private disposition to hold stocks. It may also have tended somewhat to restrain wheat consumption and to maintain production, thus serving to build up carryovers. Yet it had no connection with the big world wheat crop of 1928 or with the return of Russia to the world wheat market, and no direct connection with the onset and progress of recession. In the absence of stabilization operations the world wheat price probably would not have fallen exactly as it did fall from August 1929 to July 1931. The course of prices was affected; but there is little reason to suppose that stabilization materially affected major shifts in the level of world wheat prices. Stabilization operations were of major importance in affecting the spreads between United States and foreign prices, and the course of United States prices themselves. This influ-

ence, however, was much smaller in 1931-32 than in 1930-31.

THE LEVEL IN DIFFERENT COUNTRIES

In the many countries and markets where wheat is bought and sold, wheat prices seldom move precisely together, and often move diversely. Thus "gold" wheat prices in 1931-32 declined from the average level of 1930-31 more in the United States than in Canada, Argentina, or Australia (Chart 14). Among several significant price series in exporting countries and the United Kingdom (Table XXXIV), the fall in prices between 1930-31 and 1931-32 was as follows, in cents per bushel:

United Kingdom, all imports.....	22
United Kingdom, British parcels....	17
United States, all classes, weighted ^a	22
United States, all classes, unweighted ^b	14
Winnipeg, principal grades.....	16
Winnipeg, No. 3 Northern.....	12
Buenos Aires, 78-kilo.....	12
Melbourne, f.a.q.	10

^a July-June; weighted by marketings.

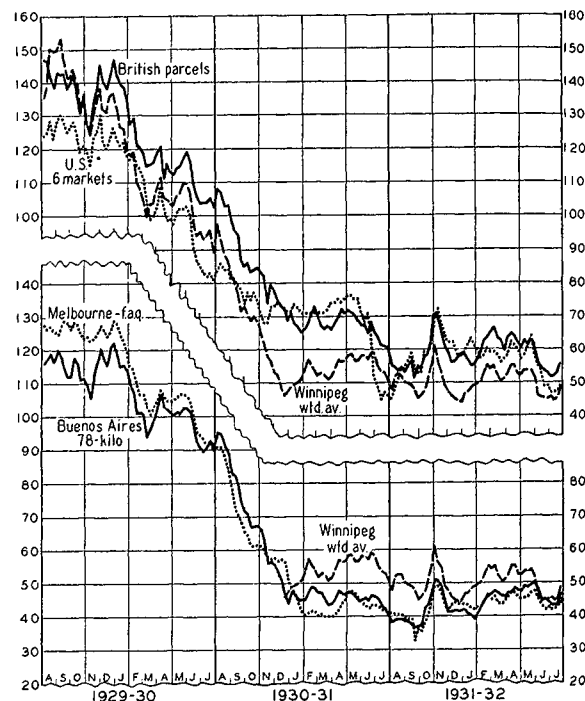
^b August-July; simple average of weighted monthly prices.

To a substantial extent differences in the extent of decline rest upon differences in the sorts of wheat whose prices enter into the several series, differences in methods of calculation, and diverse seasonal movements. A significant factor in the relatively large decline of British as compared with export prices was a general decline in ocean freight rates (Table XXIV) between the two crop years. This decline ranged from 0.7 to 6.1 cents per bushel. British import prices fell more than British parcels prices largely because the first series was slower than the second in recording the decline in 1930-31. United States prices declined by a surprisingly small relative amount, in view of the fact that the support given by stabilization purchases in many weeks of 1930-31 was absent in 1931-32. If in 1931-32 Americans had failed to display their usual disposition to hold strongly at low prices,¹ the decline in United States prices between 1930-31 and 1931-32 would have been substantially larger than it was.

Although "gold" wheat prices in all four of

the major exporting countries and in the United Kingdom (import wheats) averaged lower in 1931-32 than in 1930-31, this was not true of prices expressed in the domestic currencies of the several countries. Chart 15

CHART 14.—REPRESENTATIVE WHEAT PRICES (IN GOLD) IN EXPORTING COUNTRIES AND THE UNITED KINGDOM, WEEKLY FROM AUGUST 1929* (U.S. cents per bushel)



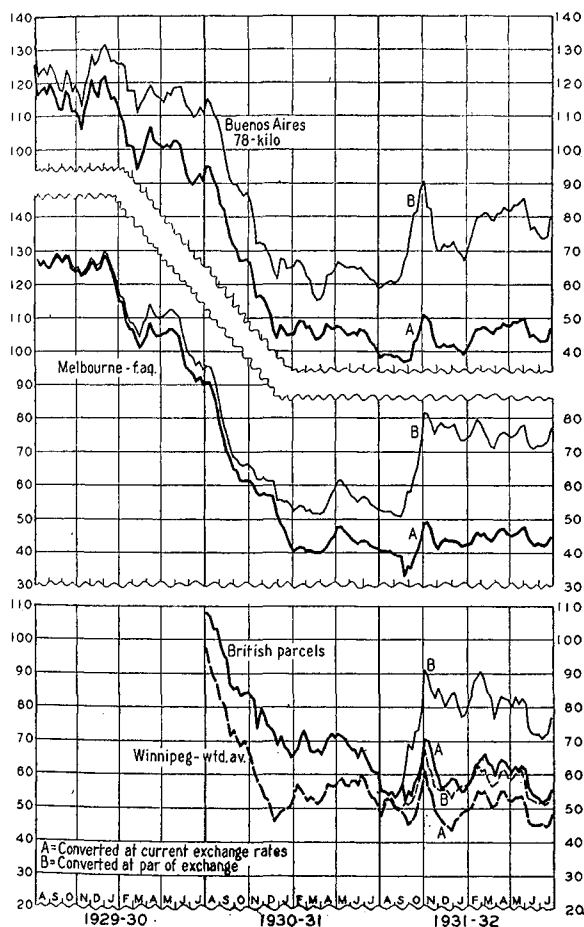
* Series described in Table XXXIV.

shows price series of wheat in four foreign countries converted to United States dollars first at current rates of foreign exchange (giving the "gold" price), and second at par of exchange (giving a picture of price movements in domestic currencies). Argentine and Australian currency has been depreciated practically throughout the past three crop years, but much more so in 1931-32 than earlier. British and Canadian currency was not depreciated prior to 1931-32; but with departure from the gold standard in Great Britain in September 1931, depreciation became marked

¹ On this subject, with particular reference to the events of 1931-32, see "Price Spreads and Restraint of United States Wheat Exports," WHEAT STUDIES, October 1932, IX, 14-17, 22.

—more so in Great Britain than in Canada. In the United States, however, the gold standard was maintained; hence wheat prices in gold and in domestic currency were identical and the course and level were as given in Chart 14. It is clear from Chart 15 that prices expressed in domestic currency were higher,

CHART 15.—MOVEMENT OF WHEAT PRICES (A) IN GOLD AND (B) IN DEPRECIATED DOMESTIC CURRENCIES, WEEKLY FROM AUGUST 1929*
(U.S. cents per bushel at current rates of exchange and at par)



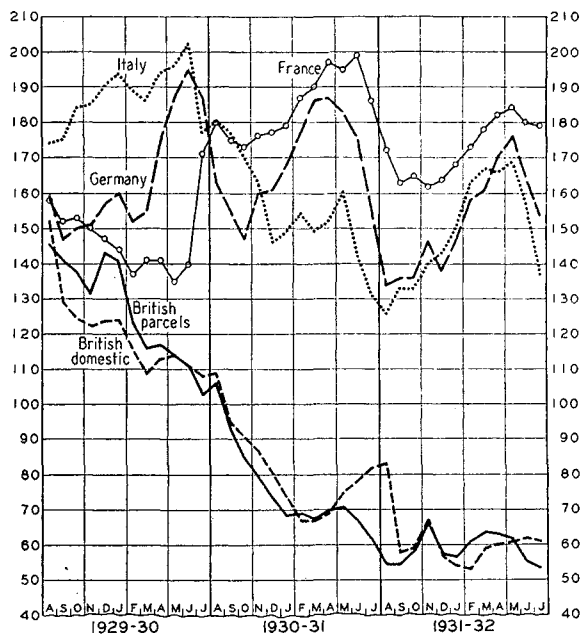
* Series described in Table XXXIV.

not lower, in 1931-32 than in 1930-31 in Argentina, Australia, and the United Kingdom; and in Canada depreciation kept prices higher throughout 1931-32 than they had been on the average in the second half of 1930-31. Among these five countries, the United States was the one in which the low level of wheat

prices in 1931-32 was most strongly in evidence. This was a price reflex of our maintained gold standard. Farmers in Argentina and Australia, and Canadian farmers who had marketed slowly in 1930-31, had reason to regard 1931-32 as a year of improved prices; farmers in the United States watched prices drop early in the season to an unprecedentedly low level, and rise only momentarily to the level of the pegged price of November-May 1930-31.

In the three great wheat-importing countries of Continental Europe, the level of domestic wheat prices in 1931-32 cannot be described as very low. Monthly prices in France, Germany, and Italy are shown in Chart 16,

CHART 16.—SIGNIFICANT EUROPEAN WHEAT PRICES, MONTHLY FROM AUGUST 1929*
(U.S. cents per bushel)



* See Tables XXXIV, XXXV.

with comparisons, in terms of gold. In these countries the steep recession of international gold wheat prices, especially from August 1929 to January 1931, was prevented from having full effect on domestic wheats by maintained and increased wheat and flour import duties coupled with regulation of domestic milling quotas. In 1931-32, tightening of milling regulations was more relied upon

than further upward revisions of tariffs to maintain domestic wheat prices. Average annual prices in all three of these countries (Table XXXV) declined between 1930-31 and 1931-32, by amounts somewhat less than the decline of 17 cents in British parcels prices. Italy, whose prices declined least, was the only one of these countries to increase the basic import duty. The declines did not bring prices low. Domestic prices lower than those of 1931-32 had been witnessed in two of the eight preceding years in Italy and Germany, and in four years in France.

Wheat growers in these and some other net-importing countries have fared far better in the past few years of depressed world wheat prices than have producers in the countries which normally produce large exportable surpluses, or in countries like the United Kingdom, where the absence of protection has caused domestic (gold) prices to move with world prices (Chart 16). Already, however, protective policies applied to wheat, tending as they do to encourage expansion of wheat acreage and production, threaten to create domestic wheat-surplus problems in two of these importing countries themselves. In both France and Germany, where at least self-sufficiency is sought, the new wheat crops of 1932 are so large that domestic production appears to exceed current domestic requirements, as it did in France in 1929-30.

Comparisons of the change in level of wheat prices between 1930-31 and 1931-32 could readily be extended to different types and grades of wheat within each of several countries. Only one of these, however, was outstanding. Mainly as a result of the distinctly short crop of spring wheat and the huge crop of winter wheat in the United States in 1931, spring-wheat prices in 1931-32 fell much less from their level of 1930-31 than did winter-wheat prices. The tariff contributed to this development by preventing an inflow of competitive Canadian wheat that would have occurred in the absence of a tariff, or under substantially lower rates.

With the average level of wheat prices so low in overseas exporting countries, returns to wheat growers in 1931-32 were inevitably extremely unsatisfactory. The farm value of

the United States crop of 1931 (crop multiplied by the estimated average farm price per bushel on December 1) was below 400 million dollars, the lowest since 1900, and a reduction of nearly 120 million dollars from the low figure of the preceding year. The Department of Agriculture has estimated farmers' cash income from wheat at the very low figure of 242 million dollars, as compared with 406 million in 1930-31 and 698 million in 1929-30. The weighted average crop-year farm price per bushel (preliminary) was only 38.5 cents, much the lowest figure recorded since comparable data were first compiled in 1908-9; and the December 1 farm price of 44.3 cents was the lowest since comparable annual data were first compiled in 1866.¹

Pressure upon wheat farmers to reduce expenditures, already severe in 1930-31, was accentuated in 1931-32. There was further or continued resort to substitution of share for cash rentals; to horse-drawn in place of motor-driven machinery; to farm feeding of wheat and to custom milling in place of purchase of feeds and flour; to exchange of labor with neighbors in place of hiring; and even, though doubtless in isolated instances, to direct barter of wheat rather than its sale, and to the use of wheat for fuel in place of coal or wood. Costs per bushel of wheat production were certainly lower in 1931-32 than in 1930-31;² more rigid economy, a larger aggregate crop, and lower prices of materials entering into the cost of production all tended in this direction. Yet lower costs cannot have offset the effect of lower prices; and if very few farmers could have made a profit on their 1930 wheat crop, still fewer could have made a profit in 1931-32.

Canadian farmers also suffered a sharp reduction in returns. The official estimate of the crop value was 205 million Canadian dollars for the crop of 1930, but only 117 million

¹ Cf. Chart 30 in *WHEAT STUDIES*, December 1931, VIII, 107.

² Returns to inquiries mailed to crop reporters, summarized by the Bureau of Agricultural Economics (see especially *Crops and Markets*, June 1932), show the following net cost per bushel for the crops of 1923 to 1931:

1923 ...	\$1.24	1926 ...	\$1.12	1929 ...	\$1.24
1924 ...	1.22	1927 ...	1.18	1930 ...	1.09
1925 ...	1.32	1928 ...	1.24	1931 ...	.81

for the crop of 1931. The impact of this reduction (due more to the short crop of 1931 than to the fall of wheat prices) was somewhat softened by the bonus of 5 cents a bushel on wheat marketed, and presumably by some reduction in cost of production. In Argentina, Australia, and the United Kingdom, on the other hand, farmers probably fared rather better in 1931-32 than in 1930-31; reductions in crops were about offset by increased prices of wheat in domestic currencies, and there was a bonus in Australia. But both years were relatively unremunerative. In France and Germany, perhaps also in Italy, larger crops and reduced costs of production¹ may have offset moderately lower wheat prices. On account of the maintenance of wheat prices close to the level prevailing before the depression, neither of the past two years stands out as strikingly unfavorable to wheat producers in these countries.

The maintenance of the price of domestic wheat in several Continental European countries goes far to explain the maintenance or even expansion of wheat acreage there, particularly because wheat more than other agricultural products has been singled out for preferential treatment. Low wheat prices and low returns to wheat growers in overseas exporting countries have not led to really extensive or rapid reduction of sown wheat acreage. The area sown in the United States, Canada, Argentina, and Australia for the crop of 1932 appears to have been reduced no further than to 94 per cent of the peak area sown for the crop of 1928; and it was about 103 per cent of the area sown for the crop of 1931. In different degrees in the several exporting countries, currency depreciation, actual and contemplated governmental measures of relief, and difficulties in finding profitable alternative uses of land have tended to keep land in wheat. In the United States, where reduction has been most persistent, low wheat prices have been only partly responsible for gradual reduction of sown acreage from about 66.2 million acres for the crop of 1929 to about 62.3 million for the crop of 1932.

¹ In these three countries the general price level has fallen substantially, presumably with some effect upon costs of wheat production.

BEHAVIOR OF WHEAT PRICES DURING THE RECESSION

In retrospect, it is clear that recession in business began to appear in the summer of 1929. From the autumn of 1929 the recession proceeded at a sharper pace, with a few notable interruptions, until the summer of 1932. Then evidences appeared suggesting that the depression was giving place to recovery. It is pertinent here briefly to review a few features of the behavior of wheat prices during three years of recession, with reference particularly to the United States and to the events of the crop year 1931-32. We use "recession" here to mean a period of persistent downward drift of the wholesale price level and of production and trade.

Wheat prices have not receded alone during these three years, as is clear from certain comparisons in Chart 17 (p. 92). Commodity prices in general, the prices of farm products as a group, industrial production, silver (also other metal) prices, and industrial stocks prices all have fallen. In July 1932, only the index number of wholesale prices in general, and silver prices, were even 50 per cent as high as they were in August 1929; and these two were not 70 per cent as high. The direction of change of the several series has been the same, as would be expected in a recession of such magnitude.

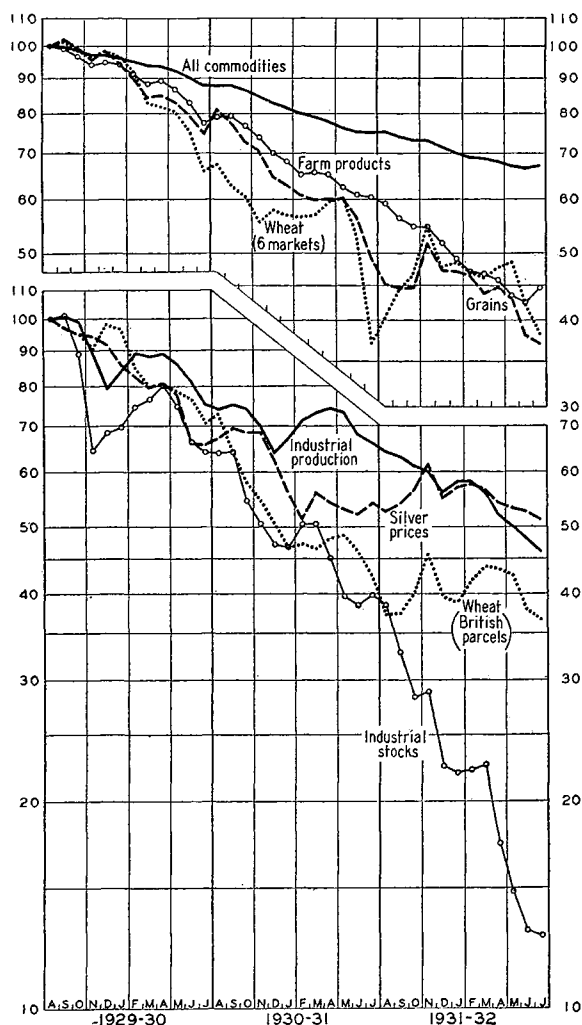
Analyses of the behavior of prices in the business cycle have not yet succeeded in showing that wheat prices normally can be expected to decline in a business recession *proportionally* with decline in one or another of the series plotted in Chart 17. The supply and demand factors affecting each of many commodities are almost certain to differ in different recessions, and the price behavior of the several commodities will be correspondingly more or less diverse.

In any business recession, however, a decline in wheat prices is to be expected, in the absence of special influences, such as a short crop. The amount of the decline in wheat prices is specifically related to associated declines in wholesale prices in general rather than to associated declines in industrial and commercial activity. Moreover, a number of

independent investigations indicate clearly that in a cyclical decline of commodity prices it is to be expected that wheat prices should

CHART 17.—MOVEMENT OF IMPORTANT INDEXES DURING THE RECESSION, MONTHLY FROM AUGUST 1929*

(Index numbers, August 1929 = 100; logarithmic vertical scale)



* Data of U.S. Bureau of Labor for all commodities, farm products, and grain prices; of U.S. Department of Agriculture for wheat (6 markets) prices; of U.S. Federal Reserve Board for industrial production; our compilations of silver prices at New York, of British parcels wheat prices, and of Dow-Jones averages of industrial stock prices.

decline more than the general wholesale price index number. The best quantitative measurements of the average relationship between wholesale prices and wheat prices indicate

that in cyclical fluctuations wheat prices tend, over twelve-month periods, to move from 50 to 80 per cent more than the general wholesale price level.¹ On this ground, the decline of the wholesale price index number from 96.1 in September 1929 to 71.2 in September 1931 might be expected to have accompanying it a decline in wheat prices between these months from \$1.27 (all classes and grades of wheat in the United States) to 81 cents, or even to 74 cents. The actual price of 56 cents represents a price 41 and 24 per cent, respectively, under these two figures. In other words, a decline in wheat prices amounting to from 34 to 42 per cent was to have been expected in connection with the decline in general price level alone over this interval. The further decline of from 24 to 41 per cent below the figures thus obtained may be regarded as measuring the effect of purely commodity influences.

It is doubtful, however, if this type of reasoning can be applied to the whole three-year period from August 1929 to July 1932. Over long periods of time, the demonstrable relationship is not that wheat prices move from 50 to 80 per cent more than wholesale prices, as over twelve-month periods, but that they change in about an equal degree. Over an intermediate period of years, wheat prices may move downward faster than wholesale prices, and then remain steady or rise, while wholesale prices decline further or remain steady. There was probably some tendency toward readjustment of this sort in 1931-32, quite apart from the commodity position of wheat.

The commodity position was such that in the absence of three-year recession in business and in commodity prices, wheat prices would not have declined nearly as much as they actually did. Gross supplies of wheat available to the world ex-Russia and China were not significantly smaller in 1928-29 than they were in any of the following three years. Yet wheat prices (British parcels) averaged \$1.29 a bushel in 1928-29, and only \$.59 in 1931-32. The outstanding difference between these two years (aside from the outlook,

¹ See "Cycles in Wheat Prices," WHEAT STUDIES, November 1931, VIII, especially p. 45.

which in 1928-29 was toward reduction of supplies, and toward maintenance in 1931-32) was in the nature of the demand for wheat—demand mainly for stock-holding, partly for consumption. The nature of the demand was different largely because consumers and stock-carriers were less willing and less able to buy or to hold in 1931-32. They were less willing and less able to buy or to hold largely because of the onset and persistence of general recession.¹ Certainly the wheat supply position of the three crop years just past would not in itself have brought wheat prices so low.

Wheat prices, unlike industrial stocks prices, industrial production, farm products prices, grain prices, and all-commodity prices, had fallen about as far by the beginning of 1931-32 as by the end. But continued decline was characteristic of other series except silver. Factors in the wheat situation itself were such as to have prevented wheat from sharing the decline in these other series. Yet world wheat supplies for the year were only slightly smaller than in 1930-31, and much larger than in 1929-30 (Table XXXIII), so that the gross supply position in itself would seem to have been conducive to declining prices in 1931-32 as much as in the two preceding years. Further, the general demand position for wheat, if so complex a matter is subject to appraisal, seems to have been even weaker in 1931-32 than in the two preceding years, and hence such as to cause prices to decline. European import restrictions were no less severe; the ability and willingness of holders to carry wheat stocks and of consumers to use wheat could hardly have received greater support from the general economic situation; and stabilization purchases were not undertaken in the United States, as they had been in 1930-31.

All told, wheat prices in 1931-32 seem to have fluctuated about a level instead of declining further largely because the absolute level reached early in the crop year was already so low. In a given market the price of

wheat cannot fall below some positive figure, even if that figure cannot be defined in advance. The early-season price of 1931-32 unquestionably was much nearer to this undefined "bottom" than was the early-season price of 1930-31 or 1929-30.

Another factor tending to keep prices more stable, however, was that the shocks experienced by the wheat market in 1931-32 were on the whole less severe than in the two preceding years. In all three years the world wheat supply was underestimated early in the season. In 1929-30, however, severe shocks were administered to the wheat market by a serious early-season misjudgment of import requirements, by rapid erection of trade barriers, and by the onset of general recession. In 1930-31, the appearance of heavy wheat exports from Russia, superimposed upon continued recession and further upbuilding of trade barriers, was a price-depressing factor of great importance. By 1931-32, recession had lost its novelty if not its force; fewer changes were made in trade restrictions; and Russian exports, instead of exceeding early expectations, fell somewhat below. The general pressure of superabundant wheat supplies continued in 1931-32 as in the two preceding years; and 1931-32 was not without its particular shocks, especially political upheavals, the departure of Great Britain from the gold standard in September 1931, and accumulating evidence of reduction in wheat use for food. But on the whole the adverse developments in 1931-32 seem in retrospect to have been less unexpected and striking than those of the two preceding years.

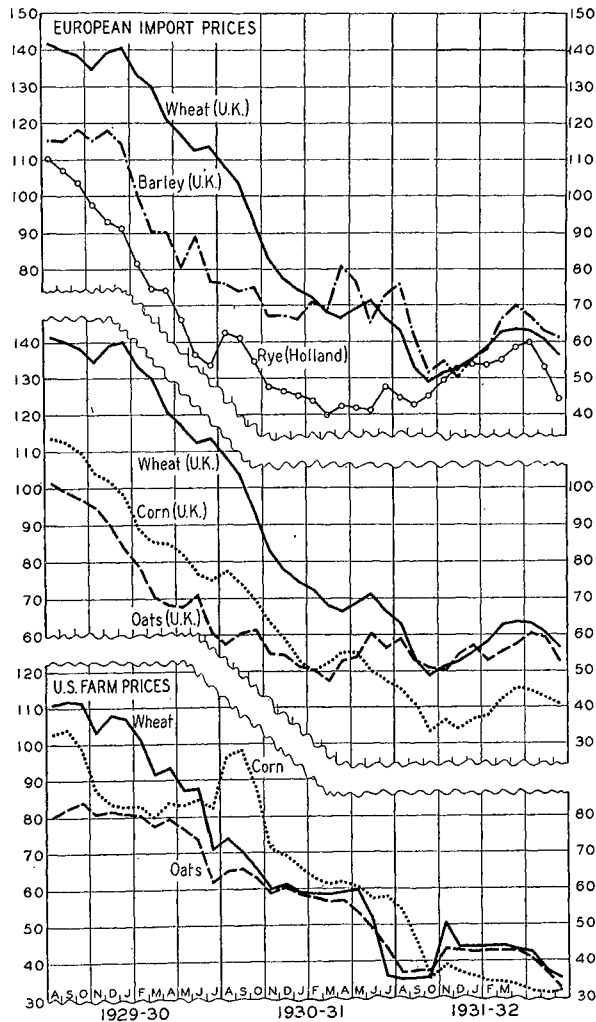
These conclusions regarding the resistance of wheat prices to declines common in other significant economic series rest on analysis of the commodity position. Apart from this, it would be expected that over a period as long as three years a price-sensitive commodity like wheat would first decline more rapidly, and later be relatively firmer, than the wholesale price index which contains the prices of so many commodities characteristically sluggish in price-movement.

The behavior of grain prices during the recession warrants more detailed consideration. In the United States, the effects of wheat sta-

¹ The erection of European trade barriers, which in turn tended to reduce wheat consumption in some countries, may properly be regarded as due in considerable part to the onset and progress of recession.

bilization operations in 1930-31 and of the short corn crop of 1930 are apparent both in Chart 17 and in Chart 18. The short corn crop of 1930 pushed corn prices (per 60

CHART 18.—CEREAL PRICES ON THE INTERNATIONAL MARKET AND IN THE UNITED STATES, MONTHLY FROM AUGUST 1929* (U.S. cents per 60 pounds)



* British import prices (monthly values divided by quantities, converted) of cereals other than rye, for which similar data of the Netherlands are used. United States farm prices as published by the U.S. Department of Agriculture.

pounds) above wheat prices in July 1930, and kept them higher until October 1931; stabilization operations kept wheat prices steady in November-May 1930-31 while other grains declined; the abandonment of price pegging permitted wheat prices to drop sharply in

June and July, 1931, but with corn still scarce, corn prices were above wheat prices in June-September; and the advent of a sizable 1931 corn crop brought and kept corn prices after October 1931 farther below wheat prices than they had been in over a year. The high price of corn relative to wheat, very pronounced in several livestock-producing regions, promoted the use of wheat for feed and helped to keep the world wheat surplus problem from growing even more acute than it became.

On the international market, the grain-price situation was remarkable in that barley in most months of 1931-32, and oats in some months, brought higher prices pound for pound than wheat; rye prices were unusually close to wheat prices; and the corn-wheat price spread was rather narrow. Something of a narrowing in grain-price spreads can be expected to occur in the course of a steep decline of grain prices in general. The supply positions of the several grains, however, contributed substantially to the narrow spreads of 1931-32. The supplies of rye, barley, and oats available to European importing countries were relatively small; and those of corn were not over-abundant (see above, p. 72, and Tables V, VI). The crop year 1931-32 was one in which grain-price relationships provided an exceptional stimulus to the use of wheat to supplement other grains for feed, and of wheat to supplement rye for food, at least in countries where duty-free grain was available to users.

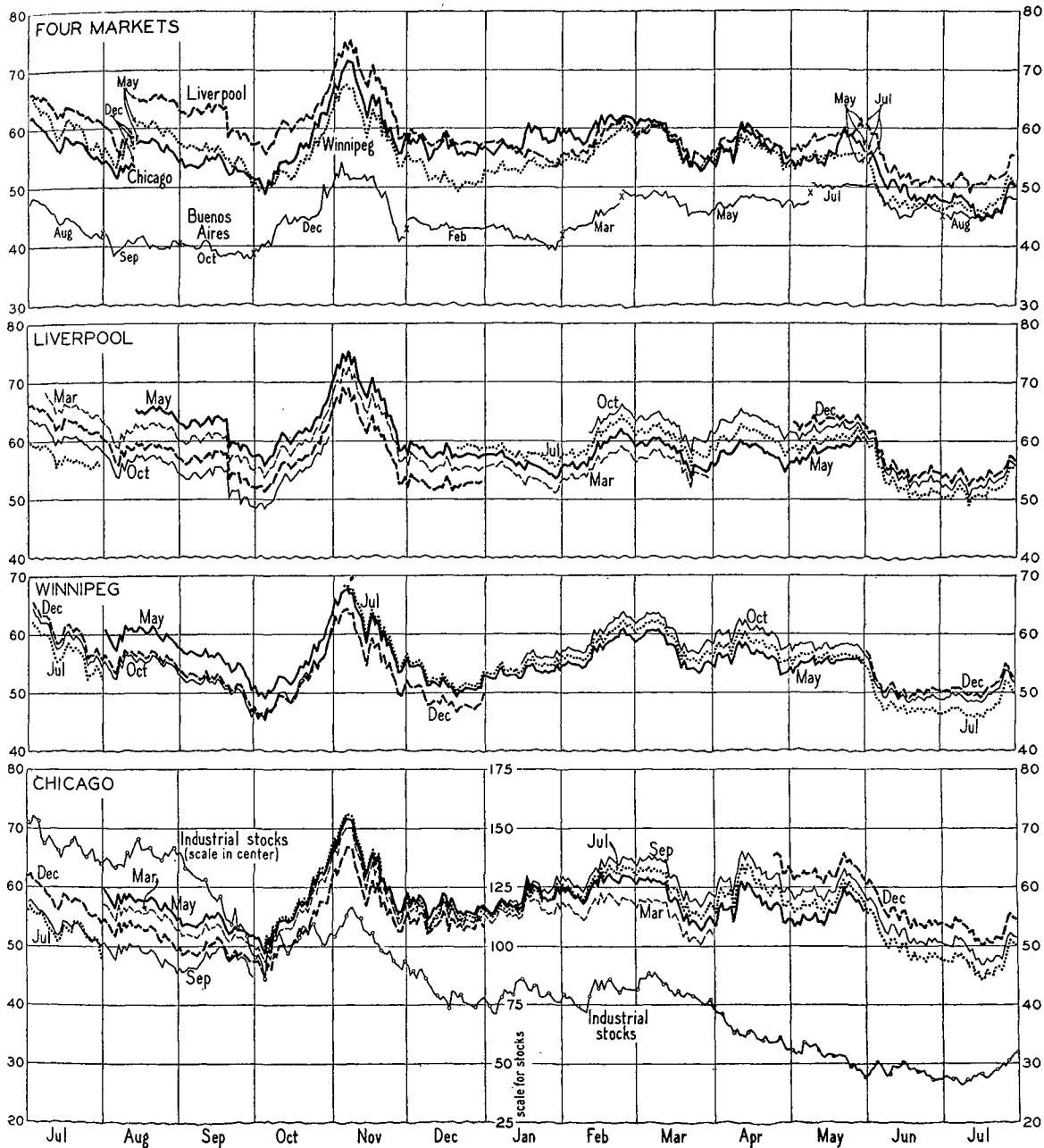
WHEAT-PRICE MOVEMENTS IN 1931-32

Within the crop year, five principal short-time movements stand forth clearly,¹ as appears from Chart 19. A downward drift in August-September 1931 was followed by a sharp advance and reaction in October-November. For six months thereafter there was little change in the level, though declines and advances were of appreciable magnitude. Rapidly in early June 1932 and more slowly

¹ Detailed analyses of price movements over brief periods in 1931-32 have appeared in three issues of our "Survey of the World Wheat Situation," *WHEAT STUDIES*, VIII, 211-15, 392-94, 487-89. Here we consider the larger and more outstanding of the short-time movements.

CHART 19.—COURSE OF FUTURES PRICES IN LEADING MARKETS, AND OF INDUSTRIAL STOCKS, 1931-32*

(U.S. cents per bushel; U.S. dollars per share)



* Daily closing prices. Futures from *London Grain, Seed and Oil Reporter*, *Winnipeg Grain Trade News*, and *Chicago Daily Trade Bulletin*; conversions at noon cable transfer rates. Dow-Jones averages of 30 industrial stocks prices (in dollars per share) from *Wall Street Journal*.

in later weeks, prices fell until mid-July. The year closed with prices advancing, but still at a very low level.

Prices sagged in August-September 1931

(and had been drifting downward since May) in the face of an outlook for a smaller world wheat crop in 1931 than in 1930. But world wheat stocks and visible supplies continued

heavy (Charts 10 and 11, pp. 73, 75); the new-crop estimates tended to exceed early anticipations; there was export pressure from Russia and the Danube countries, to which shipments data and accumulation of stocks in British ports give indirect testimony (Chart 23, p. 102, and Chart 10, p. 73); and there were critical financial developments in Europe, finally overstraining British financial resources and precipitating a breakdown in London. The British departure from the gold basis on September 21 was probably significant for world wheat prices mainly in the evidence it provided of the serious general international financial situation. It was foreshadowed and followed by a very sharp decline (Chart 19) in the New York stock market. Relative strength in the wheat market as compared with the stock market in September prior to September 21 rested mainly on heavy purchases of cash wheat by millers and dealers in the United States to replenish low stocks; these purchases, with the Stabilization Corporation holding most of the old wheat, had to be made largely from new-crop wheat, of which the marketings were light (Table XII).

In the sharp advance and reaction of October–November, the upturn culminating on November 6 must be attributed to an extreme change in sentiment founded on news which, in many circumstances, would have created scarcely a ripple in the wheat market. It is true that dry weather continued in much of the American hard-winter-wheat belt, and that reports appeared pointing to small Russian exports during the remainder of the season. The former bore only remotely on the wheat supply situation, and the latter were not surprising in view of the fact that Russian exports had been declining since early September. Wheat had already fallen so low, however, that these developments were seized upon as increasing the chances of higher prices, the more so because it seemed possible that Europeans would at last have to come to North America for supplies and meet North American ideas of prices. Wheat prices carried the other grains upward, and shortly the rise in wheat was heralded as the first substantial evidence of a turn in the general eco-

nomie situation. Enthusiasm in the wheat market was transmitted to other markets and from them reflected back to stimulate the wheat market.

The ensuing sharp decline occurred in the face of reports of frost in Argentina. It was helped in early November by a substantial increase in the official Canadian crop estimate, and by a marked decrease in European import demand. But in the main the decline represented heavy profit-taking, liquidation of long accounts, and probably short selling by futures traders who realized that the fundamental supply outlook had not changed materially since early October.

During December–May the wheat market was relatively quiet. The gross supply position was fairly clear, and did not change significantly. Prices drifted slightly and irregularly downward in Liverpool and Buenos Aires for about two months, but tended to rise a little in North America, where the proposed Reconstruction Finance Corporation and the Imperial Conference were regarded as potentially bullish influences. These changes in spreads were presumably partly seasonal, associated with the advent of new crops in the Southern Hemisphere. Prices in all markets moved upward in February, in response to good demand from ex-Europe and increase in Continental European demand as milling quotas in France and Italy permitted wider use of import wheat; to reports of scarcity of supplies and of damage to winter wheat in Russia, and of drought in India; and to introduction and passage of the Glass-Steagall bill (February 11 and 27) in the United States Congress, which led to fairly widespread discussion of prospective general price inflation. The sharp drop in March was associated both with heavy shipments from Argentina and with a flood of news and rumors concerning the possibility that the Stabilization Corporation's stocks might be pressed for export.¹ Recovery in late March and early April, in the

¹ These rumors were not altogether unfounded. Up to the end of February, net sales under the quota were only 27 million bushels; the balance of 33 million was sold in March–June, chiefly in export markets. Quota sales (net) averaged more than four times as much in March–June as in November–February.

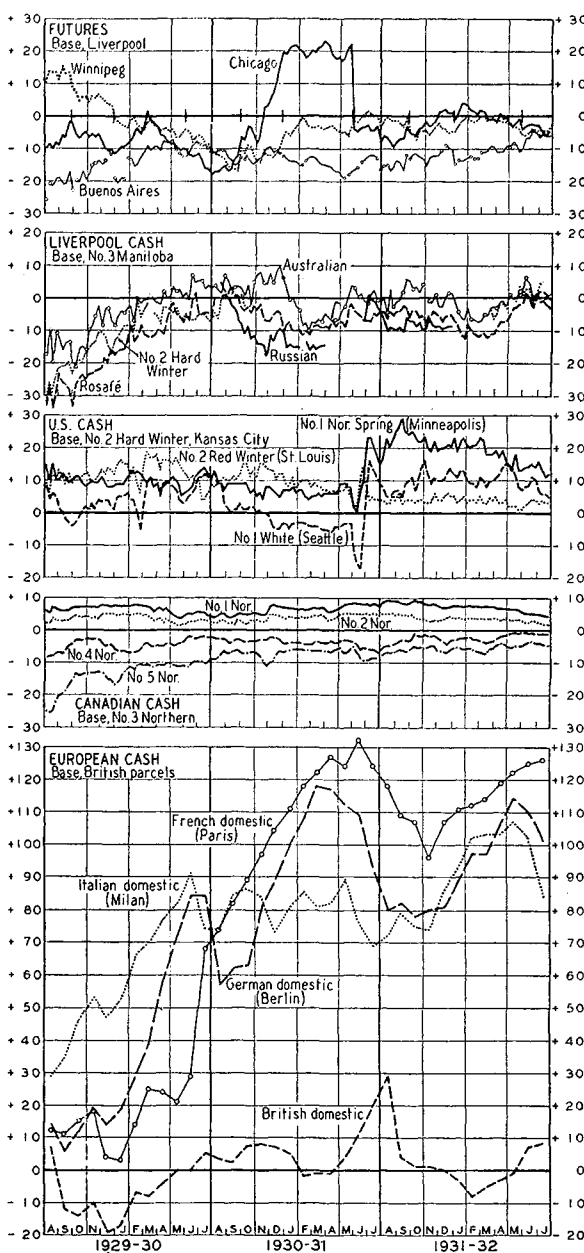
face of a weakness in the stock market, accompanied reports of crop damage in the American Southwest; there were also official assurances against unloading of stabilization wheat, large decreases in United States visible, and further liberalization of French and Italian milling quotas. Weakness later in April was due mainly to rain in the American Southwest. Return of dry weather there firmed the market in May; in addition, European crops were backward, Russia purchased wheat for import, and the diminishing supplies of Argentine wheat tended to minimize export pressure.

The six or seven weeks from early June to mid-July undoubtedly were part of a period of extreme gloom, characterized in the United States by fears of the possible form and extent of relief and tax legislation, by prolongation of a flow of gold to export, and by continued business recession and additional business failures; there were further disturbing political and financial events in Europe. Yet wheat prices seem to have weakened mainly on account of persistently favorable crop advices both from the North American spring-wheat belt and from the large importing countries in Continental Europe. Canadian wheats led the market down. The upturn beginning in the latter part of July rested somewhat upon a general swing toward optimism. Encouraging announcements came from Lausanne regarding German reparations, Congress adjourned, prices of some non-grain farm products advanced, business activity and commodity prices gave evidence of approaching stability, and stock prices rose. The daily press was pervaded with optimistic advices. More important for the wheat market, however, were reports of dry, hot weather from the North American spring-wheat belt, less favorable crop advices from Europe, and absence of export pressure from Russia, the Danube countries, and the Southern Hemisphere.

WHEAT-PRICE RELATIONSHIPS IN 1931-32

The outstanding feature of wheat-price relationships in 1931-32 was the extraordinarily high prices of domestic wheat in protected European markets as compared with duty-

CHART 20.—SIGNIFICANT WHEAT-PRICE SPREADS, WEEKLY AND MONTHLY FROM AUGUST 1929* (U.S. cents per bushel)



* First tier: weekly averages of daily closing prices as in Chart 19; for each year, as indicated by vertical lines, the base is successively the Liverpool October, the December, the May, and the July. Second tier: Tuesday prices of Liverpool parcels (afloat or early shipment) from the *Corn Trade News*; Australian and Russian quotations are lows of the quoted range. Third tier: series described in Table XXXIV. Fourth tier: data from *Canadian Grain Statistics*. Fifth tier: series described in Tables XXXIV, XXXV.

free imported wheat (Chart 20, lowest tier). These premiums ranged between 95 cents and

\$1.30 in France, 75 cents and \$1.15 in Germany, and 70 cents and \$1.10 in Italy. They were made possible first by domestic crops substantially less than domestic requirements, second by unprecedentedly high tariffs on wheat and flour and by milling regulations requiring high but adjustable admixtures of domestic wheat (Table XXXVI). In eight years prior to 1929-30, before either sort of regulation became so stringent, the highest premium of Italian wheat over British parcels in any month was around 70 cents; the highest French premium was less than 50 cents; and the highest German premium was less than 30 cents. The small premiums—even the discounts—on British domestic wheat in relation to imported wheat indicate roughly what prices in the three protected countries might have been in the absence of restrictions on wheat imports and utilization. Changes in the spreads during the course of the year were mainly seasonal, intensified on the Continent by the timing of changes in milling quotas.

Extremely low freight rates, on the ocean and on the Great Lakes, tended to keep futures prices in North America and Argentina closer than usual to the Liverpool future in 1931-32 (upper tier, Chart 20); the advantage probably accrued mostly to importers. The position of Chicago near futures in relation to the Liverpool was remarkable—sometimes (in mid-year) even above, never (even in August-September) as much as 10 cents below in terms of weekly averages. These relationships, which prevented all but a trickle of commercial exports, prevailed in the face of a huge exportable surplus and in the absence of governmental wheat purchases such as had kept the Chicago May future around 20 cents above the Liverpool in November-May 1930-31. The generally small Chicago-Liverpool spread reflected relative bullishness in the United States, a phenomenon which ordinarily appears in years of low wheat prices.¹ Changes in this spread—the upward drift of Chicago in relation to Liverpool in August-

January, the downward drift in February-July—were probably partly seasonal, but mainly represented waxing and waning of this relative bullishness. Winnipeg futures shared in these influences; it is not clear whether some of the reduction of the Winnipeg-Chicago and Winnipeg-Liverpool spreads was due to officially sponsored operations (see above, p. 82). Governmentally sponsored purchases were significant in mid-July, when Winnipeg futures held steady in the face of a fairly steep dip at Chicago. The upward drift of Buenos Aires futures, partly due to seasonal factors and partly to the nature of the price quotations (successive futures), was more pronounced than usual toward the end of the crop year, suggesting a reduction of Argentine stocks to a rather low level and perhaps some tendency to hold wheat on farms. At the end of the crop year, for the first time in at least three years, near futures in all three exporting markets simultaneously stood less than 10 cents below the near future in Liverpool, so that Liverpool was not at a shipping differential with any of these markets. The position was only temporary, presumably representing a brief period when purchasing for import was small in volume and perhaps based largely on distressed wheat or off-grades.

With wheat stocks persistently heavy in the United States, Canada, and the United Kingdom, the spreads between near and distant futures (Chart 19, p. 95) were positive and wide in all three of the futures markets. The Liverpool spreads narrowed as stocks were reduced. At Chicago and Winnipeg, the spreads were narrowest in mid-winter, when a very short United States winter-wheat crop seemed in prospect, when the outlook for spring wheat was entirely uncertain, and when substantial expansion of exports later in the year seemed reasonably to be expected. Exports below anticipations and accumulating evidence pointing to good spring-wheat crops tended to widen the spreads.

On the Liverpool parcels market (second tier, Chart 20), Russian wheat was the cheapest among competitive types practically until January; thereafter it was not quoted. In the second half of the year, until July, Rosafé

¹For a detailed discussion of Chicago-Liverpool futures price spreads in 1931-32, see "Price Spreads and Restraint of United States Wheat Exports," WHEAT STUDIES, October 1932, IX, No. 1.

undersold other wheats. Australian wheat as usual brought a premium over Rosafé, but fell below it late in the year; this shift reflected relatively more abundant supplies of old-crop wheat in Australia than in Argentina. No. 2 Hard Winter from the United States was naturally infrequently quoted, and never ranked as one of the cheapest wheats. In mid-winter, as often occurs when Southern Hemisphere wheats are being shipped freely and navigation is closed on the Great Lakes and the St. Lawrence, No. 3 Manitoba was dearer than competing wheats. Heavy Canadian stocks and the outlook for a large 1932 crop brought it into a more competitive position by the end of the crop year. In Canada, the spreads between cash wheat prices (fourth tier, Chart 20) were relatively small throughout the year, and tended to narrow from month to month.

In the United States, No. 1 Northern Spring at Minneapolis commanded a high premium

over No. 2 Hard Winter at Kansas City (third tier, Chart 20) on account of the relatively short supplies of spring wheat. The adaptations of millers, involving a substantial movement of hard winter wheat into Minneapolis, tended to reduce the premium, and further impetus in this direction was given by the outlook for a small winter-wheat crop but a large spring-wheat crop in 1932. No. 1 White at Seattle commanded an unusually high premium over No. 2 Hard Winter at Kansas City during most of the crop year, both because hard winter was so abundant and because wheat supplies available in the Pacific Northwest were short. Supplies of soft red winter were so abundant that No. 2 Red at St. Louis was cheaper in relation to No. 2 Hard at Kansas City than it had been since 1926-27. The spread between these two grades changed only slightly, for both hard and soft winter-wheat crops promised to be short in 1932.

IV. INTERNATIONAL TRADE AND CONSUMPTION

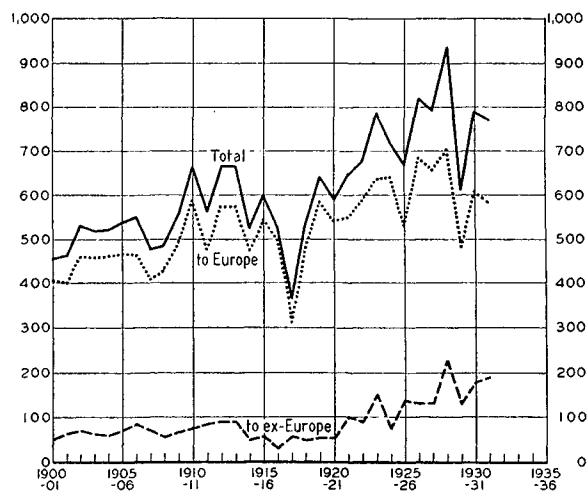
VOLUME AND COURSE OF TRADE

In the perspective of history (as reflected in shipments data shown in Chart 21) the volume of international trade in wheat and flour was large in 1931-32, larger than in any year prior to 1926-27 except 1923-24. In comparison with recent years and considering the great abundance of exportable supplies, the trade was only of moderate size but by no means small as in 1929-30.

Limitations of effective import demand, notably from Continental Europe, were responsible for the moderate international movement in the face of very low export prices. Despite small inward carryovers of wheat and reduced rye crops to offset good wheat crops, the various restrictions upon wheat and flour imports in numerous European countries tended to reduce wheat consumption and to insure full utilization of domestic wheat; at the same time the risks of holding imported wheat were increased, and import purchasing was kept on a hand-to-mouth basis. The general economic depression stimulated the adoption of such policies (partly for reasons of public finance), in addition to weakening

national and individual purchasing power. Several ex-European countries enforced high

CHART 21.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, ANNUALLY FROM 1900-1901*
(Million bushels)



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

tariffs and/or other measures to restrict wheat and flour imports. As a result, only

Great Britain, a few Continental European countries (most of which had in force no important restrictions), Brazil, and China imported heavily in 1931-32. Shipments to Europe (Chart 21) were smaller than in any recent year except 1925-26 and 1929-30. As in 1930-31, and similarly reflecting export pressure, shipments to orders for European destinations (Table XVIII) were very large. Shipments to ex-Europe, however, were larger than in any previous year except 1928-29, chiefly because of unprecedentedly heavy shipments to the Far East.

The burden of carrying wheat fell upon United States and Canadian holders, including farmers, millers, speculators, and the Grain Stabilization Corporation, and (indirectly) the Canadian government. The North American exportable surplus was larger than ever before except in the crop year 1928-29,¹ when both the United States and Canada had big crops; yet net exports from North America (Chart 22) were smaller than in any year since the war (even 1929-30) and were 235 to 245 million bushels less than in 1928-29. Prior to 1929-30, North America had for several years contributed around 60 per cent of the world wheat trade; in the past three years its share declined to barely 40 per cent in 1931-32.

Except from North America and India, exportable supplies of wheat were shipped freely in 1931-32. For the first time in history, Argentina and Australia together exported nearly as much as North America, though their actual exports had been larger in 1928-29 following Argentina's extraordinary crop

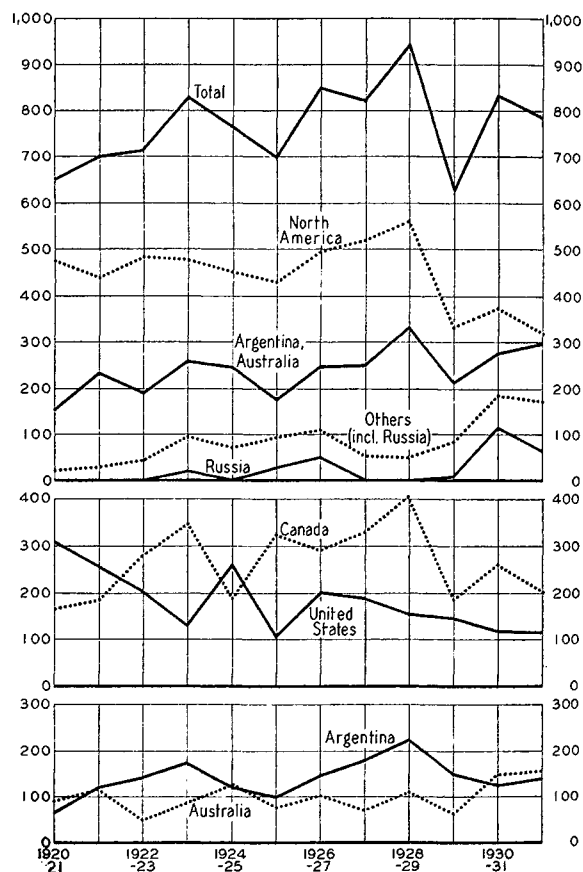
¹ Combined figures for the United States and Canada (Table XXXI) were as follows, in million bushels:

Year	Carryover plus crop			Surplus over domestic use		
	U.S.	Canada	Total	U.S.	Canada	Total
1924-25	984	307	1,291	373	219	592
1925-26	784	422	1,206	194	360	554
1926-27	933	443	1,376	327	341	668
1927-28	993	528	1,521	317	411	728
1928-29	1,050	645	1,695	387	510	897
1929-30	1,055	409	1,464	434	296	730
1930-31	1,149	532	1,681	434	392	826
1931-32	1,213	438	1,651	490	338	828

The true exportable surplus was larger in the past two years than the figures in the last column would indicate, for much of what might readily have flowed to export was fed to livestock because prices were so low. Expected official revisions will probably raise both total figures for 1931-32.

of 1928. Australian exports in August-July 1931-32 slightly exceeded the record exports of 152 million bushels in the preceding year; the small reduction in crop was more than offset by larger initial stocks and freer export

CHART 22.—NET EXPORTS OF WHEAT AND FLOUR FROM PRINCIPAL EXPORT AREAS, FROM 1920-21* (Million bushels)



* See Table XIX. Canadian figure for 1931-32 should be 4 million bushels larger; also total for North America and grand total.

movement in January-July. For the same reasons Argentina exported more than in 1930-31, and less than in some past years only because her surplus was smaller.

Net exports of all other countries combined were about as large as in 1930-31 (Tables XVIII, XIX), and constituted a larger proportion of the total than in any year since the war except 1930-31. The outstanding contributions were made by the Danube basin and Russia.

The Danubian exporting countries exported more than in any year since the war—some 82 million bushels net. Partly in response to the export bounty in Roumania and other export-facilitating measures, 56 million bushels of this total went out in August–November alone. Both Roumania and Bulgaria exported much more than in any year since before the war. Jugo-Slavian exports had been exceeded only in 1929–30. Hungarian exports from a mediocre crop, however, were below the 1926–31 average.

Russia exported in August–July 1931–32 about 65 million bushels net, including about 2 million bushels in the form of flour, as compared with 114 million in 1930–31 from a much larger crop.¹ The winter-wheat crop of 1931 was far better than that of spring wheat, and July–August collections were large; hence August–October exports accounted for some 78 per cent of the year's net total. Though evidence is only fragmentary, there is no doubt that the liberal exports of 1931–32 caused Russian domestic wheat consumption to be much more restricted than in the year following the big crop of 1930. During the spring Russia bought several cargoes of Australian and Canadian wheat for shipment to Vladivostok for use in Siberia; and the country was a net importer to the extent of 2.8 million bushels in June–August 1932.

Exports from northern Africa (practically all to France)² were exceptionally large, especially from Tunis and Morocco, which har-

¹ Broomhall reported South Russian shipments in August–July 1931–32 as 70.4 million bushels, including none after April 23, whereas the official total for August–July is 67.5 gross. For August–July 1930–31, shipments were reported as 98.7 million as compared with official export figures of 113.9. See Tables XVIII, XIX, and *Foreign Crops and Markets*, October 24, 1932, p. 620.

² July–June imports into France (commerce spécial) from these countries have been as follows in recent years, in thousand bushels (*Foreign Crops and Markets*, Nov. 14, 1932, p. 720):

Year	Algeria	Tunis	Morocco	Total	Durum
1927–28	5,082	280	3,327	8,689	4,790
1928–29	5,805	4,001	3,590	13,396	7,650
1929–30	4,917	5,482	3,727	14,126	7,843
1930–31	9,009	3,440	1,184	13,583	6,768
1931–32	5,910	6,830	5,726	18,466	8,527

³ Germany, the only net-importing country that exported appreciable quantities in 1931–32, exported about 12 million bushels gross.

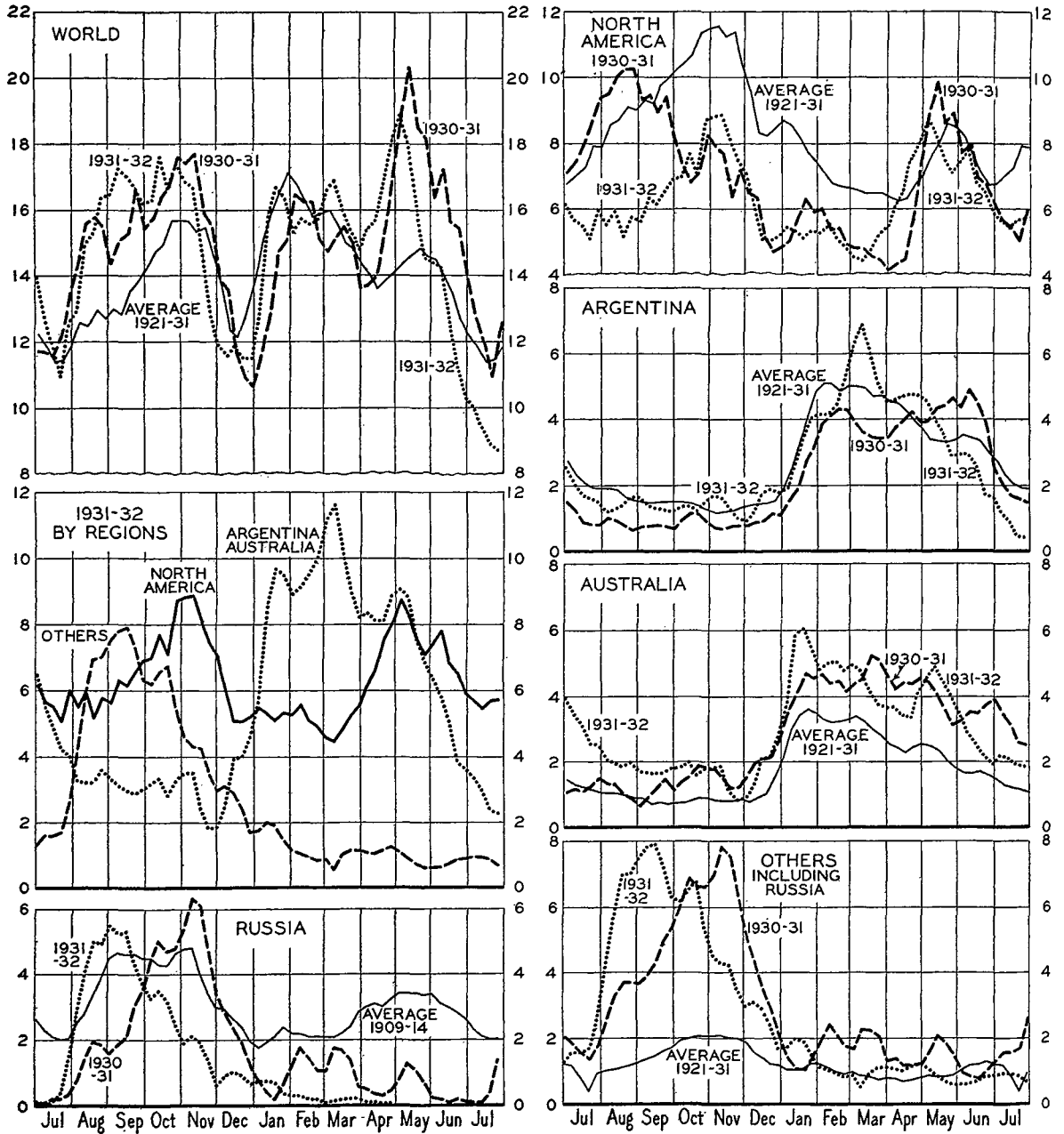
vested big crops in 1931. Exports from Tunis were swelled by big end-year shipments (Table XXV) from the still larger crop of 1932. Poland exported some 3.3 million bushels net—not more because the rye crop was short. Indian net exports were only about 2 million bushels; although the carryover was probably large and the crop above average, domestic demand for consumption and storage held prices too high in relation to unattractive Liverpool prices to permit significant exports. Other net-exporting countries³ shipped negligible quantities; but Turkey, usually a net importer, exported about 1½ million bushels after three large crops in succession.

The course of international shipments in 1931–32 was broadly similar to that in the preceding year (Chart 23, p. 102). From a low level in July 1931, shipments rose much more sharply than usual, in spite of light exports from the United States. High levels were reached in September–October as shipments from Russia and the Danube basin reached their peak and Canadian shipments rose seasonally. Australian exports were heavier than usual in August–October, but went mostly to the Orient. Because of this and exports of stabilization wheat to China and Brazil, shipments to ex-Europe were unprecedentedly heavy in August–November.

After mid-November world shipments fell off greatly, somewhat earlier than usual or in 1930–31. This represented chiefly declines in Canadian shipments while United States, Russian, and Danubian exports were small. Throughout December, shipments were exceptionally light, but with an early rise in Australian shipments the total did not fall as low as in late December 1930. British port stocks were very heavy, Continental European demand was weak, and available North American wheat was not pressed upon the export market.

In January shipments rose sharply as Southern Hemisphere exports of new wheat increased rapidly. With relaxation of milling quotas in France and Italy, and better European demand reflected in rising prices in February, a high level of shipments was well maintained until mid-March, with much Aus-

CHART 23.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, 1931-32, WITH COMPARISONS*
(Million bushels; 3-week moving average)



* Broomhall's weekly data from *Corn Trade News* and *Corn Trade Year Books*. Averages are for periods ending July 1914 and July 1931.

tralian wheat and at least one cargo of Argentine wheat going to the Orient.¹ In the next four weeks, when prices first declined and

then recovered, shipments were higher than usual at this season of the year; and the spring peak reached early in May was much higher than usual, though not quite as high as in May 1931. Continental European stocks of native wheat were so depleted that heavier imports were necessary for a time.

¹ This shipment of about 280,000 bushels, dispatched to Shanghai early in February, is said to have been the first full cargo ever shipped from Argentina to that port.

From the May peak, however, shipments declined earlier than usual (as in 1931), with almost unprecedented severity, to exceptionally low levels in July–August. Favorable crop developments in importing Europe and in Canada led to radical reductions in European purchases; the exportable supplies of pressing exporters had already been largely shipped out; and European restrictions were tightened promptly as anticipated. This exceptional decline in shipments late in the crop year caused stocks afloat to Europe to be unusually low on August 1, 1932. International trade for the year therefore fell below the expectations we had entertained before the favorable crop news appeared,¹ in part, however, because net exports did not exceed shipments as much as had seemed probable.

The course of shipments from North America was broadly similar to the average save in three respects. Partly because Russia and the Danube countries billed an unusually large fraction of the early-season import demand, the rise in North American shipments that usually begins early in July did not start until late in August. The decline from the peak began earlier in November than usual, partly because both United States and Canadian holders were unwilling to force wheat upon congested export markets as prices declined from their short-lived heights.² The expansion of North American shipments in the spring was much sharper than usual, but Australia and Argentina shipped so freely that the limited European demand was too readily satisfied to permit the North American movement to continue heavy.

¹ Net exports of net-exporting countries, which we had forecast at about 840 million bushels, now appear to have been less than 800 million (Table XIX). Broomhall's forecast of total shipments, which stood unchanged throughout the year, proved only slightly too high. As shown in Table XVII, shipments to Europe exceeded his forecast while shipments to ex-Europe fell below.

² The Grain Stabilization Corporation sold less than 2 million bushels in November, and net sales in November–February were only 7 million bushels, as compared with the quota of 20 million.

³ Shipments data understate the full export movement from the Danube countries, for considerable overland trade escapes inclusion in such unofficial trade reports.

The course of shipments from Argentina was notable chiefly for the high peak of shipments in March (some weeks later than usual), after prices had strengthened in February; for continued big shipments in April and early May, after the recovery from price declines late in March; and for the rapid decline in the next three months as Argentine supplies ran low. The course of shipments from Australia was remarkable for the liberal shipments of old wheat in August–November, mainly to the Orient; for the rapid movement of high-quality new wheat to a record peak in the month of January; and for a second peak in the middle of May as Australia shared in the temporary revival of European import demand.

The course of shipments from other countries,³ dominated by those from Russia and the Danube basin, was noteworthy not only for the high peak attained, as in 1930–31, but for the fact that the peak was reached as early in the season as late September. Surpluses from carryover and winter-wheat harvests made wheat available for export during the summer and early autumn; and financial stringency, shipping considerations, and official devices for facilitating exports combined to accelerate the export movement. Prospects, eventually realized, for a rapid decline in Russian and Roumanian shipments during the autumn were a factor of considerable importance in the speculative price advance that occurred in October–November (see above, p. 96).

UNITED STATES EXPORTS AND DOMESTIC USE

Wheat and flour exports from the United States were very small, considering the huge exportable surplus. Though somewhat larger than in 1930–31, when price-stabilization measures radically curtailed exports after the summer of 1930, they were smaller than in any other year since the war except following the very short crop of 1925 (Table XIII). Net exports plus shipments to possessions, officially reported as 126 million bushels for July–June, probably actually amounted to around 134 million (see p. 104). Nearly two-thirds of the total was exported by the Grain Stabilization Corporation. Its exports of 86.4

million bushels were distributed as follows, in million bushels:¹

On contracts with governments.....	38.25
To Brazil, wheat.....	15.75
To China, half in flour.....	15.00
To Germany, wheat.....	7.50
On commercial sales.....	48.11

Three factors were mainly responsible for relatively light exports from the United States. Farmers were unwilling to sell freely at the low prices obtainable, preferring to feed wheat liberally and to hold as much as they could. The Grain Stabilization Corporation limited its net sales to a cumulative monthly quota of 5 million bushels, except for sales to foreign governments. Speculative interests predominantly felt, especially after unfavorable conditions for winter wheat sowing, that prices were so low that they must go higher. Consequently, market prices of United States wheat were out of line with prices in foreign markets, and the business went mainly to other exporting countries.²

Gross exports of wheat grain from the United States in July-June 1931-32 were officially reported as 96,425,000 bushels. This understates the true total, for it is now recognized that some wheat shipped into Canada on certificates that permit its re-entry without payment of duty is eventually exported without being recorded as exported.³ How much the understatement was in 1931-32 we cannot yet ascertain; it probably approached but did not exceed 10 million bushels.⁴ We think it reasonable to assume the actual exports of

¹ Information furnished by Mr. George S. Milnor, August 22, 1932. On the Brazil contract of 25 million bushels, a balance of 9.25 million bushels remained on June 30, 1932, to be shipped.

The report of the Farm Board states that total exports by the Corporation were 79 million bushels. We infer that this figure does not include the wheat equivalent of flour shipped to China.

² More fully discussed in "Price Spreads and Restraint of United States Wheat Exports," *WHEAT STUDIES*, October 1932, IX, 1-22.

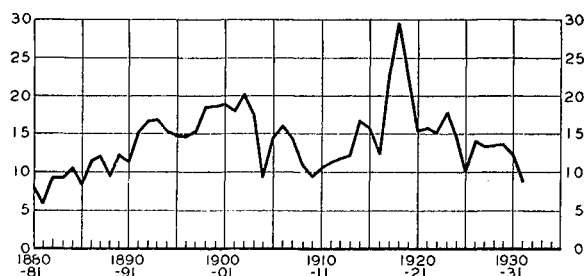
³ See *World Wheat Prospects*, February 20, 1932, pp. 9-10. Correspondence with Department of Commerce officials confirms this.

⁴ The understatement was undoubtedly exceptionally high in 1931-32, in view of unusually large export shipments of United States wheat from storage in Canadian lake ports.

wheat grain were roughly 105 million bushels. Of this total the Stabilization Corporation grain exports of 78.9 million bushels constituted approximately 75 per cent. In all probability, private commercial and co-operative exports of United States wheat grain in 1931-32 did not exceed 26 million bushels. Low as prices were in this country, they were not low enough to permit private exporters to get more than a small fraction of their usual trade.

American flour exports (Chart 24) declined to the lowest level in 50 years with the single

CHART 24.—NET EXPORTS OF FLOUR FROM THE UNITED STATES, ANNUALLY FROM 1880-81* (Million barrels)



* Including shipments to Alaska, Hawaii, and Puerto Rico. Official data, here from Table XIII and *WHEAT STUDIES*, December 1927, IV, 101.

exception of 1885-86. Combined net exports and shipments to possessions in years of low flour exports are as follows, in thousand barrels:

1885-86	8,177	1909-10.....	9,391
1888-89	9,374	1925-26.....	10,103
1904-05	9,141	1931-32.....	8,936

Previous years of low exports of flour, except 1909-10, were preceded by short crops in the United States, and the good crop of 1909 was preceded and followed by small crops. In 1931-32, however, flour exports were very small in the face of superabundant supplies. The outstanding reasons were two: under the joint influence of stabilization policies and relatively strong holding by others, domestic wheat prices were such as to put even the lowest American flour prices too high to permit liberal commercial exports; and tariff and other barriers abroad against flour imports

were more general and more restrictive than ever before.¹

Since nearly a third of the total flour exported or shipped to possessions was ground in bond from Canadian wheat, only about 6 million barrels out of the total of 8.94 million represented United States wheat. Of this low figure, about 1.74 million barrels represented stabilization exports to China on credit. Ordinary commercial exports of flour milled from United States wheat were equivalent to only about 20 million bushels of grain.²

Small exports of flour helped to bring flour production in 1931-32 to a very low level. Our present estimate of total mill grindings may not allow enough for grindings in custom mills, which have presumably been relatively large in the past two crop years. As it stands, our figure is only 113.4 million barrels

¹ Among these may be mentioned a Brazilian embargo on flour imports for 18 months, announced late in August 1931 with the contract with the Grain Stabilization Corporation; the Dutch Wheat Law, effective July 4, 1931, under which domestic millers obtained a practical monopoly of the flour trade (*Southwestern Miller*, September 23, 1932); and the British import tariff of 10 per cent ad valorem on non-Empire flour, effective March 1, 1932. See Tables XXI, XXII.

² The supporting calculations, which are necessarily rough, may be summarized as follows:

	Million barrels	Million bushels
Flour exports plus shipments to possessions	8.94	
Flour equivalent of mill grindings of bonded wheat, 12,825,000 bu. (at 4.47 bu. per bbl.)	2.87	
—		
Balance, flour exports ground from United States wheat	6.07	
Flour equivalent of stabilization wheat exported to China (at 4.3 bu. per bbl.)	1.74	
Commercial exports of flour ground from United States wheat (including 1.64 from Pacific Northwest)	4.33	
Approximate equivalent in United States wheat:		
Pacific Northwest (at 4.3 bu. per bbl.)		7.05
Other (at 4.7 bu. per bbl.)		12.63
Total		19.68

The conversion figure here used for wheat milled in bond is that officially reported for Canadian millings in 1931-32; that for stabilization wheat and commercial flour exports from the Pacific Northwest is the one commonly used by flour exporters in that region; that for the balance is the one employed by the Department of Commerce, and is probably not far from the truth for the purpose here in hand.

³ WHEAT STUDIES, December 1931, VIII, 123.

⁴ This important subject will be more fully considered in a later issue of WHEAT STUDIES.

(Table XXX), 4.2 million barrels less than in 1930-31, and 10.2 million less than in 1928-29, the peak year of the past decade. The decline was due not only to curtailment of exports, but also to a reduction in domestic disappearance of flour.

The flour retained domestically (production minus exports) was only 104.5 million barrels, around three-quarters of a million below the figure for 1930-31, which itself had been the lowest in six years. It earlier seemed to us reasonable to explain the low figure of 1930-31 by reference to drafts upon flour stocks during the year, coupled with increase in custom mill grindings; and to conclude that there was "no reliable basis for inferring that economic depression and widespread unemployment in 1930-31 led to appreciable change in per capita flour consumption."³ The still lower figure for 1931-32, however, cannot be so explained. We have no evidence that flour stocks were drawn down in the course of the year, or that grindings by custom mills again increased.

Hence the low domestic flour disappearance in 1931-32 (and in large degree the decline between 1928-29 and 1931-32, except in so far as reduction in consumers' inventories was important over this period) can be explained only (a) by decline in per capita human ingestion; (b) by decline in animal ingestion; (c) by decline in wastage; and/or (d) by decline in industrial use. We know of no adequate basis for determining which decline was quantitatively the most important. Perhaps the outstanding factors, attendant upon reduced income and forced household economy, have been reduced wastage of bread and reduced ingestion of sweet baked goods.⁴

Although domestic disappearance of flour (and correspondingly of flour in terms of wheat) was low in 1931-32, total wheat disappearance (Table XXXI) was strikingly large. Seed use was small, but feed use was very heavy. The quantity of wheat fed on farms was officially estimated at 184 million bushels, 25 million more than in 1930-31 and 130 million above the estimated average for the five years preceding 1930-31. Corn and oats prices were relatively high in relation to wheat prices (Chart 18, p. 94), thus stimulating the

use of wheat for feed, though perhaps not so effectively as in 1930-31. The absolutely low price of wheat doubtless induced many farmers to feed home-grown wheat rather than to sell it and use the proceeds for customary purchases of other grains or mixed feeds for livestock; this afforded an important stimulus to farm feeding, probably more so than in 1930-31 because wheat prices were so much lower in 1931-32. As a result of heavy farm feeding of wheat, and despite reduced net mill grindings and seed use, the sum of these three major items in domestic use was 748 million bushels, as against 732 million in 1930-31 and a maximum of 650 million in the preceding decade.

NET EXPORTS AND DOMESTIC USE IN OTHER OVERSEAS EXPORTING COUNTRIES

For the third successive crop year, Canada exported less than 50 per cent of her total available supplies; in the seven preceding years of the decade she had never exported less than 62 per cent. World import requirements were too small, in relation to export surpluses weakly held in the Southern Hemisphere and Eastern Europe, to permit exportation of a normal fraction of the Canadian supplies. Depression did not lower the Canadian opinion of the relative value of her strong wheat. Canada continued to perform, with the United States, the necessary function of stock-carrying which importing countries and other exporting countries would not or could not assume. Net exports of 207 million bushels were the third smallest in a decade, exceeding only those of 1924-25 and 1929-30 when crops and available supplies were smaller than in 1931-32. Net exports of flour, restrained partly by barriers in importing countries, were the smallest in a decade (Table XXI). The Canadian government, by holding Winnipeg futures and probably adding to its accumulation, participated with speculators and traders in stock-carrying. Winnipeg futures were held high in relation to Liverpool futures in much of the year, especially February-May (Chart 20, p. 97).

As in the United States, mill grindings in Canada were exceptionally low in 1931-32; flour production, 14.7 million barrels, was

the smallest in a decade. The low figure was apparently due entirely to extraordinarily small exports of flour (Table XXI), for which the principal reasons were similar to those that operated in the United States. Net retention of flour was a little the highest in a decade, sharply in contrast with the United States. The official estimate of wheat "milled for food," however, was a little below estimates for recent years (Table XXXI). The crop of 1931 was so good in quality that less than the average number of bushels of wheat was required to produce a barrel of flour, and the quantities unmerchantable and lost in cleaning were the smallest in a decade. In view of the record acreage sown for the crop of 1932, seed use must have been heavy unless average seed requirements per acre have tended downward; but the official estimate does not show this. Less sound wheat was fed to livestock on farms than in 1930-31, partly because the bonus stimulated wheat marketings, partly because coarse grains were more abundant; yet feeding of good wheat was larger than usual because of the low farm prices and pressure for economy in farmers' cash outlay for feed. On account of relatively heavy use for seed and feed, and despite small quantities unmerchantable and lost in cleaning, total domestic use of wheat in Canada was probably larger than usual in 1931-32, though not so large as in the preceding year.

Australia and Argentina, unlike the United States and Canada, exported wheat freely in 1931-32. Australian exports of 156 million bushels were the largest in a decade. Sizable stocks existed on August 1, 1931; the crop of 1931 (probably underestimated) was high in quality and nearly of record size; domestic use, so far as can be ascertained, was not exceptionally heavy; and stocks on August 1, 1932, were no larger than would accord with the big crop, though they exceeded any in a decade except those of the year before. Flour exports from Australia (Table XXI) were more strikingly large than wheat exports, in sharp contrast with reduced flour exports from North America and Argentina. Australian flour exporters, aided by high-quality wheat and depreciation of their exchange, were able to take advantage of the impaired

competitive position of North American flour exporters.

The Argentine crop was too small to permit exports as large as the average in recent years; and exports even of 140 million bushels brought stocks down to a relatively low level on August 1, 1932. Unless domestic use was exceptionally heavy, as appears unlikely from the meager evidence, the crop of 1931 was probably officially overestimated (Table XXXI). Argentine flour exports were the smallest in a decade, in part because of the Brazilian embargo imposed late in August 1931 and in part because of import restrictions and other factors that caused the world trade in flour to fall to very low levels (Table XXI).

EUROPEAN IMPORTS AND CONSUMPTION

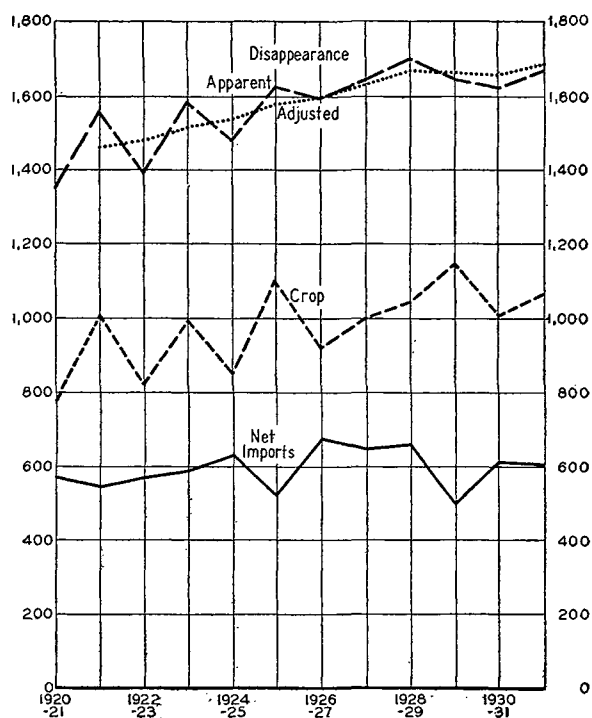
Net imports of wheat and flour into importing Europe were light in 1931-32. In the past decade, smaller imports had been reported only in the earliest two years, 1922-23 and 1923-24, and in the years following the big crops of 1925 and 1929. Net imports plus the good wheat crops of 1931, however, made a total appreciably exceeded only in 1928-29 (Chart 25). After allowing for changes in stocks (our estimates), domestic disappearance appears to have been even above its peak in 1928-29. However, when one considers the upward trend of wheat use in Europe from the end of the war to the peak year, net imports and disappearance in the past year look small. Had this trend persisted through the past three years, importing Europe would probably have imported about 75 million bushels more in 1931-32.

Net imports and disappearance were large in a few European countries where import restrictions were at a minimum, and were relatively smallest in Germany and Italy where restrictions have been at a maximum. As shown by Chart 26 (p. 108), the heavy imports into the British Isles in 1931-32 were in striking contrast to the small net imports of the three most variable importers (in spite of large French takings). The rest of importing Europe took about as much as in 1928-29.

The high level of British imports was due partly to the fact that the domestic crop, harvested from the smallest acreage in more than

a century, was very small. In addition, apparently, the carryover was enlarged a little and feed use of wheat was liberal. There are no clear indications that food consumption was unusually large or small, or that the flour tariff or prospects of action at the Ottawa Conference affected total net imports significantly. The striking features of the course of

CHART 25.—WHEAT SUPPLIES AND DISAPPEARANCE IN IMPORTING EUROPE, FROM 1920-21*
(Million bushels)



* Data in Tables II, XX, and XXXIII. The dotted line represents crop plus net imports adjusted for our estimates of changes in stocks.

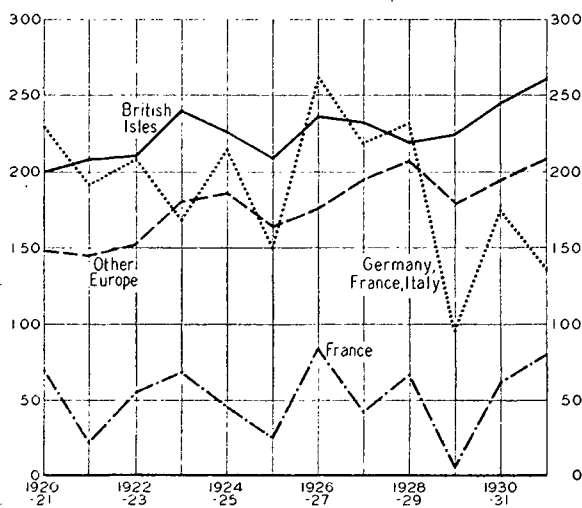
British trade¹ were the exceptionally heavy imports in August-November 1931, when native wheat was sold sparingly while Russian and Danubian wheat piled up in British ports; and the decline to a very low point in January 1932, as these stocks were drawn upon pending the arrival of big supplies from the Southern Hemisphere.

Net imports of France were larger than usual in 1931-32, but not much more than sufficient, with a low carryover and a medi-

¹ See Table XXV in this issue, and Chart 40 in WHEAT STUDIES, December 1931, VIII, 119.

ocere crop of poor quality, to make total supplies about equal to the average annual consumption. Imports from Algeria, Tunis, and Morocco, which enter France duty-free and are treated as domestic wheat in the application of milling quotas, amounted to 21 million

CHART 26.—NET IMPORTS OF WHEAT AND FLOUR BY EUROPEAN IMPORTING COUNTRIES, FROM 1920-21*
(Million bushels)



* See Table XX.

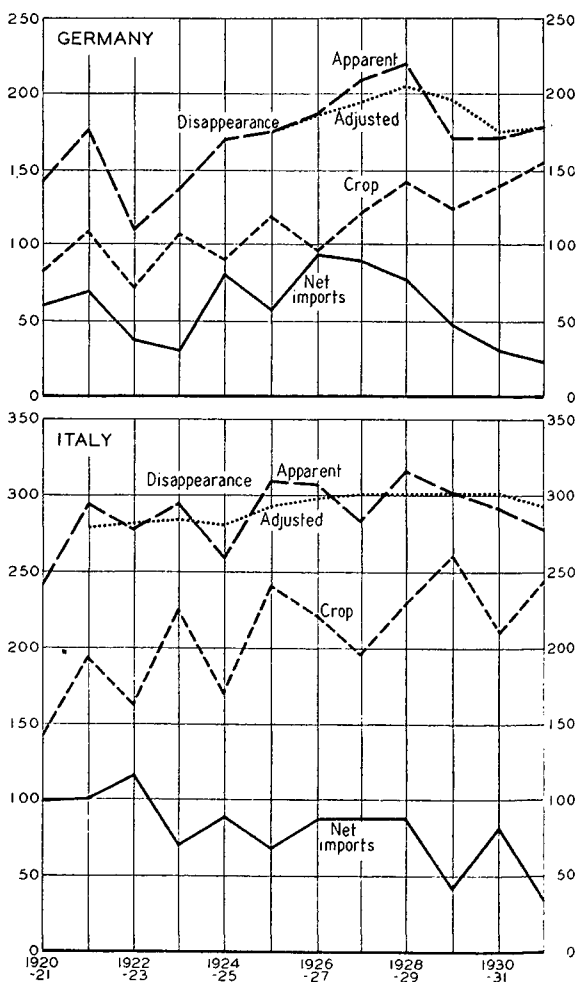
bushels out of total imports of 91 million bushels and net imports of 80 million. Mainly because of substantial relaxations of milling quotas in the spring of 1932, imports were really heavy only in April-July. Probably the year's imports would have been somewhat larger in the absence of the high tariff and milling regulations. But toward the end of the crop year, the good harvest prospects alone were such as to discourage building up or even maintaining stocks of import wheats.

Both Germany and Italy had the smallest net imports since the war (Chart 27). In both countries protective and other measures have stimulated wheat production, and politico-economic measures seem to have broken the upward trend in use of wheat. The limited absorption of foreign wheats in importing Europe in the past three years is due predominantly to the restricted imports into these two countries.

The German crop, harvested from a record

acreage, was larger than ever before; but it was only 14 million bushels larger than the crop of 1928, while net imports were 55 million bushels less than in 1928-29. In spite of a great reduction in the rye crop, wheat consumption was little larger than in 1930-31; it was on a much lower level than before the business recession began, and below levels to

CHART 27.—WHEAT SUPPLIES AND DISAPPEARANCE IN GERMANY AND ITALY, FROM 1920-21*
(Million bushels)



* Data in Tables II, XX, and XXXIII. Figures for Germany are understated, probably in all years prior to 1926-27 or 1927-28. The dotted lines represent crop plus net imports adjusted for our estimates of changes in stocks.

which it would presumably have gone in the absence of price enhancement and of deterioration in bread quality resulting from restrictive measures of various sorts. German gross

imports, only 36 million bushels, consisted almost wholly of wheat grain. Of this, 7.5 million bushels were obtained on credit from the Grain Stabilization Corporation and 6.9 million bushels were imported duty-free for poultry feed under special arrangements effective April 18, 1932. During the crop year, 12 million bushels of German wheat, as usual mainly from East Prussia, were exported; in September–November, indeed, wheat exports exceeded imports.¹ The bulk of the imports came in June–July 1932, when domestic supplies were almost exhausted and regulations were relaxed for a time; but prospects for a bumper 1932 crop and prompt tightening of quota restrictions prevented the import movement from reaching large proportions.

The Italian crop of 1931 was also large, exceeded only by the bumper harvest of 1929. Net imports, however, were extremely small. Even allowing for a substantial reduction in wheat stocks, it seems fairly clear that Italy used less wheat in 1931–32 than in any year since 1924–25. A tariff higher than ever before, severe milling quotas applied for the first time, and the general depression all contributed to reduction of imports and consumption. The corn crop of 1931 was small, but imports were so heavy that total corn supplies were larger than usual. Much as in 1929–30, but in 1931–32 partly because of rigid milling quotas, wheat imports ran below a million bushels a month until January. Thereafter, as the quota limitations were relaxed, imports rose to a fair level in April–June, when some 58 per cent of the year's total was imported. In July imports declined heavily as quota restrictions were tightened sharply and the big new crop began to come to market.

In Belgium, Denmark, Norway, Switzerland, and Greece, net imports were larger in 1931–32 than in any recent year except (in

three cases) one, and sufficient to maintain the upward trend of consumption characteristic of post-war years (Tables XX, XXXIII). Denmark, as in 1928–29, imported wheat liberally for feed use. In all of these countries except Denmark the domestic crop is small as compared with net imports, and, while governmental measures affecting wheat have not been lacking, they have not served materially to expand production or restrict consumption.

In the Netherlands, until recently a free-trade member of this group, a wheat-quota law came into effect with the crop of 1931. Partly in anticipation of its application, imports of wheat and flour had been unprecedentedly large in 1930–31; but they declined in 1931–32 to about the level of 1927–30, and imports of flour fell off sharply in consequence of the new law (Tables XX, XXI). Under its stimulus, acreage and production were sharply increased in 1932, and a further decline in wheat imports is in prospect.

In Sweden, wheat policies in recent years have led to marked expansion of wheat acreage and production, while the growth of wheat consumption at the expense of rye has apparently ceased since 1928–29. The wheat crop of 1931 was poor, and net imports increased somewhat in compensation; but total supplies were less than in any of the three years preceding.

Czecho-Slovakia imported more wheat and flour in 1931–32 than in any previous year since the war, in spite of restrictions of various kinds, but only because the domestic crop of 1931 was relatively short. For somewhat the same reasons as in Germany and Italy, the upward trend of wheat disappearance that marked the post-war years up to 1928–29 has been followed by a moderate falling off in consumption; and the large imports of 1931–32 were insufficient to prevent the continuation of this decline.

Austria had a short wheat crop in 1931 and was in desperate financial straits. Imports of wheat and flour were so severely restricted that total supplies and presumably consumption as well were smaller than in any year since 1922–23.

In four small Baltic States, where wheat production and consumption have both been

¹ Exports were facilitated by the export-certificate system, whereby exporters obtain transferable certificates acceptable for import duties on corresponding quantities of foreign wheat. This system (a modification, instituted in August 1931, of the import-certificate system that had been suspended in October 1930) applied only to wheat exported before the end of December 1931; see *WHEAT STUDIES*, January 1932, VIII, 218.

rising at a rapid rate, the 1931 crops were large except in comparison with the bumper crops of 1930. Imports, however, were held down by restrictive measures of various kinds, and crops plus net imports were smaller than in any year since 1926-27.

Spain had so short a crop that net imports had to be permitted in the closing two months of the crop year, and the year's total, though only 5 million bushels, was the second largest in a decade. Consumption was probably maintained close to its recent trend by drafts upon stocks. Moderate Portuguese net imports added to the above-average crop were probably not large enough to prevent a slight reduction in consumption from the levels of the two preceding years.

If one divides Europe broadly into two groups of countries, an "A" group comprising Great Britain, Belgium, Denmark, Norway, Switzerland, and Greece, and a "B" group comprising the other net-importing countries including Poland, one gets the following comparative figures, in million bushels:

Year	Net imports		Crop		Total supplies	
	A	B	A	B	A	B
1926-27	324	350	92	830	416	1,180
1927-28	330	316	102	900	432	1,216
1928-29	326	332	99	944	425	1,276
1929-30	319	179	93	1,054	412	1,233
1930-31	352	261	81	928	433	1,189
1931-32	375	230	80	985	455	1,215

It is clear that in the "A" group of countries net imports have risen enough to maintain the upward trend of wheat supplies in the face of declining domestic production; while in the "B" group net imports have latterly been so restricted that in spite of expansion of wheat production the upward trend of total supplies has been checked if not reversed.

TRADE WITH EX-EUROPE

Shipments into India were negligible in 1931-32, and the trickling exports made a net outward movement of only 2 million bushels. The wheat tariff imposed from March 21, 1931, appears to have been effective in preventing imports; for in the preceding crop year, when domestic supplies were presumably larger in consequence of the bumper crop of 1930, shipments to India (mainly from Australia) were reported as 11 million

bushels and net imports as 5 million (Tables XVIII, XX).

Total shipments to all other ex-European countries than India were almost as large in 1931-32 as in the year of maximum movement (1928-29)¹ when India took nearly 28 million bushels, and larger than in any other year. The big total of the past year was due to an unprecedentedly heavy movement to China and Japan. Broomhall reported shipments to these countries as 88.1 million bushels, some 20 million bushels more than in 1928-29 or 1930-31, which were both years of unusually large shipments to the Orient. Exports to China and Japan from the United States, Canada, and Australia, which supply almost all the wheat and flour imports, totaled 95 million bushels in July-June 1931-32, as compared with the previous high figures of 83 million in 1923-24 and 70 million in 1928-29.² The course of shipments (Chart 28) reflects mainly the movement to the Orient.

China took the bulk of the shipments and accounted for most of the increase. The domestic wheat crop of 1931 was below average. The large imports in 1931-32 were due chiefly, however, to the fact that imports could be had at very low prices; for experience has repeatedly shown that China tends to import heavily when wheat and flour are to be had very cheap. The heaviest wheat-grain imports came from Australia, which shipped wheat liberally to the Shanghai mills and also dominated the Hongkong flour import market. Flour imports from Japan, reduced by boycotts, were below the average of the three preceding years (Table XXII). The Tientsin flour market in North China was largely supplied with flour milled in Shanghai. The great bulk of the imports, as usual, was absorbed in the coastal fringe of China.

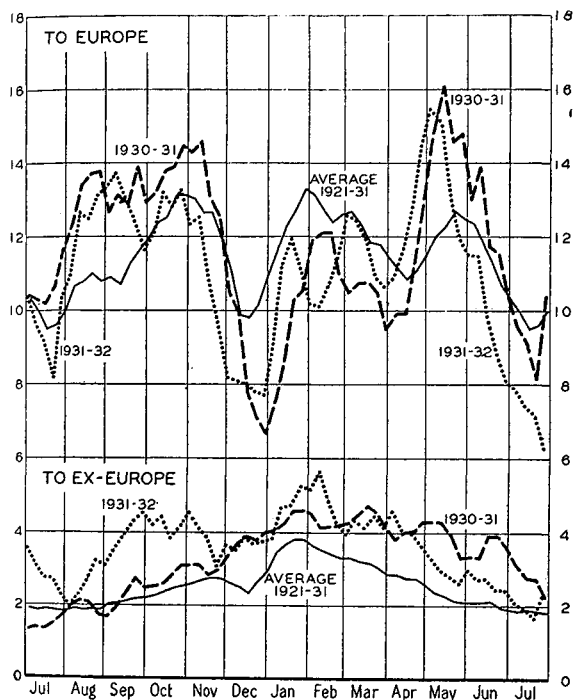
A special factor, however, was responsible for 10 million bushels or more of the heavy imports. Catastrophic floods on the Yangtze and its tributaries in the summer of 1931 dev-

¹ See Table XVIII. The difference is still less if one allows for the fact that Broomhall's shipments data covered 53 weeks in 1928-29 and only 52 weeks in 1931-32.

² See Table XXII. Above, Japanese flour exports to China are subtracted from total exports to China and Japan.

astated some 34,000 square miles of Central China, directly affecting a farm population of 25 million, and causing property damage estimated at 2 billion Chinese dollars (over 400 million dollars gold). This disaster created pressing problems of food supply, finance,

CHART 28.—SHIPMENTS TO EUROPE AND EX-EUROPE, 1931-32, WITH COMPARISONS*
(Million bushels; 3-week moving average)



* See note to Chart 23.

relief, and rehabilitation with which China was ill-prepared to cope, particularly under the prevailing disturbed conditions. The national government set up a National Flood Relief Commission headed by T. V. Soong;¹ it authorized a bond issue (later withdrawn) and imposed a 10 per cent surtax on customs for 8 months from December 1 for financing its work; and on September 25, 1931, it contracted with the Grain Stabilization Corporation for the purchase of 15 million bushels of wheat.²

¹ See his preliminary report to members of the Commission, in *Chinese Economic Journal*, July 1932, XI, 67-81.

² See Federal Farm Board press release, No. 2-96, September 26, 1931.

Shipments of such stabilization wheat were made from the Pacific Northwest, half in grain and half in flour milled on toll in the export region. They reached Shanghai (where presumably most of the grain was milled) and Yangtze River ports between November 15 and May 16. The f.o.b. cost (as determined under the contract by "the current market price on the day of issue of ocean bills of lading f.o.b. at the port of loading") was \$9,212,828.46. Notes presumably representing this sum, bearing 4 per cent interest payable semi-annually, are payable in gold in three equal installments maturing December 31, 1934-36. To provide for service of the debt, the Chinese government imposed a 5 per cent surtax on customs, effective from August 1, 1931, until the notes are paid off. The credit thus obtained represented about twice as much as the cash receipts of the Commission from all sources including the 10 per cent customs surtax and private contributions.

The agreement provided that the wheat and flour thus obtained were to be "used . . . exclusively for charitable purposes in the flooded areas of China." "Charitable" presumably meant "relief." Roughly two-thirds of the supplies were allocated to the Engineering and Labor Division, which distributed supplies as wages to workers repairing the more important dykes. Two-thirds of the balance was allocated to the Emergency Relief Division, which distributed free relief and a larger amount as a subsidy in proportion to work done on private and subsidiary dykes. The balance was allocated to farm rehabilitation. Disturbed internal conditions, limitations of transport facilities, and Japanese military action all impeded operations under the plan. Consequently the Commission found itself with more supplies than it could effectively distribute with its limited resources. The Chinese government therefore got the United States government to permit the Commission to sell part of the supplies and apply the proceeds to flood relief. Of the total 445,558 short tons, 73,300 tons of wheat and 19,350 tons of flour (equivalent in all to about 3.4 million bushels of wheat) were thus disposed of by June 20, and a balance of 20,000 tons remained.

Probably total Chinese imports of wheat and flour in 1931-32 were somewhat larger because of this credit purchase. There is little doubt that China took more American wheat and flour than she would otherwise have imported, perhaps by something like 10 million bushels. A cash credit of equal amount would presumably have resulted in larger imports of Australian wheat, and less of American. Somewhat larger amounts penetrated Central China because of this arrangement; but there is little basis for inferring that future sales of United States wheat and flour in China will be significantly facilitated by this relief experience. The arrangement doubtless reduced commercial exports of wheat and flour from the Pacific Northwest. During the period of delivery on the contract such private sales were practically nil, chiefly because the disposal of so large a fraction of the supply available in that area raised prices there above export parities.

Japanese net imports, 20.2 million bushels in August-July 1931-32, were larger than for several years past. The import requirements of that country were presumably increased by a short rice crop in 1931 and extensive military operations in Manchuria and around Shanghai. However, an important factor in the increased imports was liberal importation late in the spring of 1932, as millers laid in heavy stocks in anticipation of the weakening of the exchange and the increase in tariff duties that became effective on June 16. As in most recent years, on account of high duties on flour, the Japanese imports consisted almost wholly of wheat grain. In even greater degree than in 1930-31, the great bulk of the imports consisted of Australian wheat, which in Japan as in China undersold wheat from Canada and the United States practically throughout the year.¹

Shipments to Brazil, though not so large as in 1928-29 (Tables XVIII, XXII), were large, considering the severe depression and disturbed conditions prevailing in Brazil in 1931-32. An important factor was the arrangement concluded in August 1931 by which the Brazilian government undertook to

exchange part of Brazil's huge surplus of coffee for 25 million bushels of stabilization wheat from the United States. Wheat shipments on this contract during July-June (15.743 million bushels) represented about half of the total shipments to Brazil. The balance, almost wholly from Argentina, was much less than Argentina usually exports to Brazil. Since Brazil imposed an embargo on flour imports to run for the 18-month period of the contract mentioned above, the year's imports consisted almost wholly of wheat grain. It is pertinent to add that North American and Argentine flour exports to Brazil had previously declined (in wheat equivalent) from over 9 million bushels in 1926-27 and 1927-28 to a little over 5 million bushels in 1930-31. The sudden loss of the Brazilian flour market was partly responsible for low flour exports and mill grindings in Argentina and the United States; but the United States mills affected were chiefly those grinding Canadian wheat in bond, and exports of United States wheat as flour were not significantly reduced.

Shipments to other ex-European areas were smaller than usual (Table XVIII). The movement to the Caribbean area and the Dutch East Indies, reported as 56.7 million bushels, was only a little below average; but mainly because of depressed purchasing power, it was fully 13.7 million bushels less than in 1928-29 in spite of much lower prices in 1931-32. Shipments to Egypt were below average because of the big Egyptian crop of 1931, increased tariff barriers, and the advent of a still larger crop in 1932.

WORLD WHEAT CONSUMPTION

Within those countries of the world for which usable estimates of crops, exports or imports, and stocks are available, the aggregate disappearance of wheat was higher in 1931-32 than ever before (Table XXXIII). By reason of a good crop, a record inward carryover, and sizable imports from Russia, total available supplies in wheat-producing countries (outside of Russia, China, Turkey, and some unimportant producing countries) were larger than in any year of the past decade except 1930-31. The significant avenues

¹ On this paragraph see Tables XX and XXII; and *Foreign Crops and Markets*, September 26, 1932, p. 437.

of disappearance are seed, food, and feed uses within the area, and exports from it to outside countries.

Neither seed use nor food use was exceptionally heavy in 1931-32. Areas sown for the crop of 1932 were probably not large enough, on account of substantial reduction in the United States not fully offset by increases elsewhere, to bring seed use higher than it had been in the three preceding years. Wheat consumption for food was smaller in the United States and several European countries than it had been in several years. Heavy aggregate disappearance in wheat-producing countries (ex-Russia, China, Turkey, and some others) was therefore due mainly to extensive use of wheat for feed, notably in the United States but also in Canada, the United Kingdom, and Denmark; and to heavy exports to outside areas, notably China. Given the supplies of wheat available in 1931-32, reduction of stocks could and did occur during the year only because these two avenues of disappearance absorbed exceptional quantities; this absorption prevented further intensification of the world wheat surplus problem, but afforded no solution of it.

Nor does solution or even amelioration seem in prospect in 1932-33, of which four months have already passed. Total wheat supplies seem to be about equal to those of 1931-32. Wheat import restrictions, undoubtedly potent in restraining consumption both for food and for feed in 1931-32, cannot be expected to be relaxed significantly in 1932-33. Reduction of the burdensome world wheat stocks in 1932-33 will require exceptionally heavy feed use and heavy shipments to tropical countries and China. But rye and feed grains are abundant in Europe, and corn in the United States; therefore certain stimuli to heavy feed use of wheat that were present in 1931-32 are lacking in 1932-33. Wheat shipments to ex-Europe in August-November were only two-thirds as high in 1932 as in 1931. Under the circumstances, an increase in world stocks in 1932-33 now seems in prospect. It remains to be seen whether a fifth successive year of burdensome wheat surplus will drive home to legislators throughout the world the pressing need for reduction of trade barriers that restrain consumption and for abandonment of measures that tend to maintain or increase wheat acreage.

This review was written mainly by M. K. Bennett and Joseph S. Davis, with the aid of Robert F. Lundy on tables and P. Stanley King on charts, and the counsel of Helen C. Farnsworth, Alonzo E. Taylor, and Holbrook Working. Ada F. Wyman contributed the discussion of governmental measures abroad.

APPENDIX

TABLE I.—WHEAT PRODUCTION, ACREAGE, AND YIELD PER ACRE IN PRINCIPAL PRODUCING AREAS, 1922-31*

Year	World ex-Russia ^a			Four chief exporters					India	North- ern Africa ^b	Europe ex-Russia			USSR	World includ- ing Russia
	Total	North- ern Hemi- sphere	South- ern Hemi- sphere	Total	United States	Can- ada	Aus- tralia	Argen- tina			Lower Danube ^c	Other Europe	Total		
A. PRODUCTION (million bushels)															
1922	3,138	2,781	357	1,552	847	400	109	196	367	35	224	821	1,045	...	....
1923	3,448	3,017	431	1,607	760	474	125	248	372	66	260	997	1,257	...	....
1924	3,061	2,652	409	1,458	840	262	165	191	361	51	204	853	1,057	...	....
1925	3,311	2,946	365	1,370	669	395	115	191	331	68	296	1,101	1,397	782	4,093
1926	3,372	2,924	448	1,632	834	407	161	230	325	57	294	922	1,216	914	4,286
1927	3,588	3,118	470	1,755	875	480	118	282	335	60	272	1,002	1,274	785	4,373
1928	3,925	3,350	575	2,002	926	567	160	349	291	69	367	1,043	1,410	807	4,732
1929	3,425	3,060	365	1,408	813	305	127	163	321	77	303	1,147	1,450	694	4,119
1930	3,686	3,186	500	1,725	858	421	214	232	391	64	353	1,009	1,362	989	4,675
1931	3,635	3,156	479	1,620	900	304	190	226	347	70	368	1,065	1,433	...	....
Average															
1926-30 ...	3,599	3,128	471	1,704	861	436	156	251	333	65	318	1,025	1,343	838	4,437
1909-13 ...	3,004	2,721	283	1,124	690	197	90	147	352	58	330	1,018	1,348	757	3,761
B. ACREAGE (million acres)															
1922	219.9	190.3	29.6	109.7	61.4	22.4	9.8	16.1	28.2	6.9	16.0	49.1	65.1	....	....
1923	220.0	189.4	30.6	105.3	56.9	21.9	9.5	17.0	30.9	7.0	16.2	49.9	66.1	....	....
1924	215.6	185.1	30.5	101.4	52.5	22.1	10.8	16.0	31.2	7.2	18.1	49.4	67.5	....	....
1925	218.5	186.7	31.8	101.0	52.4	20.8	10.2	17.6	31.8	7.9	18.5	50.8	69.3	63.1	281.6
1926	227.8	193.2	34.6	110.4	56.8	22.9	11.7	19.0	30.5	8.1	18.7	51.3	70.0	73.9	301.7
1927	233.9	196.8	37.1	114.6	59.6	22.5	12.3	20.2	31.3	7.2	18.9	52.4	71.3	77.4	311.3
1928	242.1	200.3	41.8	120.6	59.3	24.1	14.8	22.4	32.2	8.3	19.6	51.8	71.4	68.5	310.6
1929	239.3	203.5	35.8	118.9	62.7	25.3	15.0	15.9	32.0	8.5	18.3	51.7	70.0	73.5	312.8
1930	247.5	205.1	42.4	123.9	61.1	24.9	18.2	19.7	31.7	8.9	20.0	53.7	73.7	80.5	328.0
1931	238.1	202.3	35.8	111.9	55.3	26.1	14.5	16.0	32.2	8.1	20.8	54.6	75.4	92.1	330.2
Average															
1926-30 ...	238.1	199.8	38.3	117.7	59.9	23.9	14.4	19.5	31.5	8.2	19.1	52.2	71.3	74.8	312.9
1909-13 ...	196.5	170.9	25.6	79.5	47.1	9.9	7.6	14.9	29.2	6.5	19.6	53.2	72.8	74.0	270.5
C. YIELD PER ACRE (bushels)															
1922	14.3	14.6	12.1	14.1	13.8	17.8	11.2	12.2	13.0	5.1	14.0	16.7	16.1	....	....
1923	15.7	15.9	14.1	15.3	13.4	21.7	13.1	14.6	12.0	9.4	16.0	20.0	19.0	....	....
1924	14.2	14.3	13.4	14.4	16.0	11.9	15.2	12.0	11.6	7.1	11.3	17.3	15.7	....	....
1925	15.2	15.8	11.5	13.6	12.8	19.0	11.2	10.8	10.4	8.6	16.0	21.7	20.2	12.4	14.5
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	12.4	14.2
1927	15.3	15.8	12.7	15.3	14.7	21.4	9.6	14.0	10.7	8.3	14.4	19.1	17.9	10.1	14.0
1928	16.2	16.7	13.8	16.6	15.6	23.5	10.8	15.6	9.0	8.3	18.7	20.1	19.7	11.8	15.2
1929	14.3	15.0	10.2	11.8	13.0	12.1	8.5	10.2	10.0	9.1	16.6	22.2	20.7	9.4	13.2
1930	14.9	15.5	11.8	13.9	14.0	16.9	11.7	11.8	12.3	7.2	17.6	18.8	18.5	12.3	14.3
1931	15.2	15.6	13.4	14.5	16.3	11.6	13.0	14.1	10.8	8.6	17.7	19.5	19.0	....	....
Average															
1926-30 ...	15.1	15.6	12.3	14.5	14.4	18.3	10.9	12.7	10.5	8.0	16.6	19.6	18.8	11.2	14.2
1909-13 ...	15.3	15.9	11.1	14.1	14.6	19.9	11.8	9.9	12.1	8.9	16.8	19.1	18.5	10.2	13.9

* Data summarized from Tables II-IV.

^a Excludes China and numerous small producing countries, of which Turkey is the largest.

^b Morocco, Algeria, Tunis.

^c Hungary, Jugo-Slavia, Roumania, Bulgaria.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1922-32*

(Million bushels)

Year	U.S. total	U.S. winter	U.S. spring	Canada	India	Australia	Argentina	Uruguay	Chile	Hungary	Jugo-Slavia	Roumania	Bulgaria	USSR
1922.....	846.7	571.5	275.2	399.8	367.0	109.5	195.8	5.2	25.9	54.7	44.5	92.0	32.6	....
1923.....	759.5	555.3	204.2	474.2	372.4	125.0	247.8	13.3	28.1	67.7	61.1	102.1	29.1	....
1924.....	840.1	571.6	268.5	262.1	360.6	164.6	191.1	9.9	24.5	51.6	57.8	70.4	24.7	....
1925.....	669.0	401.0	268.0	395.5	331.0	114.5	191.1	10.0	26.7	71.7	78.6	104.7	41.4	782.3
1926.....	833.5	631.9	201.6	407.1	324.7	160.8	230.1	10.2	23.3	74.9	71.4	110.9	36.5	913.8
1927.....	874.6	547.6	327.0	479.7	335.0	118.2	282.3	15.4	30.6	76.9	56.6	96.7	42.1	784.6
1928.....	926.1	591.0	335.1	566.7	290.9	159.7	349.1	12.3	29.7	99.2	103.3	115.5	49.2	807.3
1929.....	812.6	577.0	235.6	304.5	320.7	126.9	162.6	13.2	33.5	75.0	95.0	99.8	33.2	693.6
1930.....	858.2	601.9	256.3	420.7	390.8	213.6	232.3	7.4	21.2	84.3	80.3	130.8	57.3	989.2
1931.....	900.2	787.4	112.8	304.1	347.4	189.7	225.9	12.0	21.2	72.6	98.8	135.3	61.2	....
1932.....	726.8	462.1	264.7	431.2	337.0	.....	231.5	.....	.....	58.6	53.5	73.5	50.6	....
Average 1926-30..	861.0	589.9	271.1	435.7	332.4	155.8	251.3	11.7	27.7	82.1	81.3	110.7	43.7	837.7
1909-13..	690.1	.....	.....	197.1	351.8	90.5	147.1	6.5 ^a	20.1	71.5	62.0	158.7 ^a	37.8	757.3

Year	Morocco	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Switzerland
1922.....	12.9	18.9	3.7	36.0	66.6	243.3	71.9	161.6	10.8	6.2	9.2	.64	9.5	2.55
1923.....	20.0	36.2	9.9	40.7	60.6	275.6	106.4	224.8	13.7	6.2	8.9	.59	11.0	3.84
1924.....	28.8	17.3	5.1	34.2	53.9	281.2	89.2	170.1	13.3	4.6	5.9	.49	6.8	3.33
1925.....	23.9	32.7	11.8	36.2	53.7	330.3	118.2	240.8	15.0	5.7	9.7	.49	13.4	3.76
1926.....	20.6 ^c	23.6	13.0	37.2	52.2	231.8	95.4	220.6	13.4	5.5	8.8	.59	12.2	4.24
1927.....	23.5 ^c	28.3	8.1	44.3	57.2	276.1	120.5	195.8	17.0	6.2	9.4	.60	15.3	4.34
1928.....	24.7 ^c	30.3	13.7	37.3	50.9	281.3	141.6	228.6	17.9	7.3	12.2	.80	18.3	4.47
1929.....	31.8	33.3	12.3	45.2	50.9	337.3	123.1	260.1	13.5	5.5	11.8	.75	19.0	4.37
1930.....	21.3	32.2	10.4	39.8	43.4	228.1	139.2	210.1	13.7	6.1	10.2	.72	20.8	3.60
1931.....	30.0	25.6	14.0	46.1	38.6	264.1	155.5	244.2	14.2	6.8	10.1	.59	18.0	4.36
1932.....	22.0	32.9	14.7	52.6	....	331.4	183.8	276.1	15.6	13.3	...	.78	25.8	4.18
Average 1926-30..	24.4	29.5	11.5	40.8	50.9	270.9	124.0	223.0	15.1	6.1	10.5	.69	17.1	4.20
1909-13..	17.0	35.2	6.2	33.7	59.6	325.6	131.3	184.4	15.8	5.0	6.3	.31	8.1	3.31

Year	Spain	Portugal	Austria	Czecho-Slovakia	Poland	Finland	Latvia	Estonia	Lithuania	Greece	Japan, Chosen	Mexico	South Africa	New Zealand
1922.....	125.5	10.0	7.4	33.6	46.8	.71	.96	.76	3.4	9.0	38.1	....	6.3	8.40
1923.....	157.1	13.2	8.9	36.2	54.9	.69	1.64	.74	3.0	8.8	33.6	....	6.0	4.18
1924.....	121.8	10.6	8.5	32.2	37.5	.79	1.58	.54	3.3	7.7	35.7	10.4	7.1	5.45
1925.....	162.6	12.5	10.7	39.3	63.9	.93	2.16	.79	5.3	11.2	40.0	9.2	9.2	4.62
1926.....	146.6	8.6	9.4	39.9	52.5	.92	1.86	.88	4.2	12.4	38.7	10.3	8.0	7.95
1927.....	144.8	11.4	12.0	47.2	61.1	1.06	2.64	1.08	5.2	13.0	38.3	11.9	5.7	9.54
1928.....	122.6	7.5	12.9	52.9	59.2	1.00	2.50	1.04	6.3	13.1	39.4	11.0	7.2	8.83
1929.....	154.2	10.6	11.6	52.9	65.9	.76	2.34	1.26	9.3	11.4	38.8	11.3	10.6	7.24
1930.....	146.7	13.8	12.0	50.6	82.3	1.21	4.06	1.64	11.3	9.7	38.5	11.4	9.3	7.58
1931.....	134.4	13.0	9.4	41.2	83.2	1.16	3.50	1.74	8.3	12.2	39.2	16.2	14.1	6.66
1932.....	180.7	18.1	12.8	53.8	55.9	1.36	5.08	1.91	6.3	18.4	40.8	8.9	...	....
Average 1926-30..	143.0	10.4	11.6	48.7	64.2	.99	2.68	1.18	7.3	11.9	38.7	11.2	8.2	8.23
1909-13..	130.4	11.8 ^d	12.8	37.9	61.7	.14	1.48	.36	3.3	16.3 ^d	32.0	11.5 ^a	6.3	6.93

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Figures for 1932 are preliminary. Averages for 1909-13 are U.S. Department of Agriculture estimates of production within post-war boundaries. Dots (....) indicate that comparable data are not available.

^a Four-year average.

^b Including Luxemburg.

^c Mean of maximum and minimum production reported.

^d One year only.

TABLE III.—WHEAT ACREAGE IN PRINCIPAL PRODUCING COUNTRIES, 1922-32*

(Million acres)

Year	U.S. total	U.S. winter	U.S. spring	Canada	India	Australia	Argentina	Uruguay	Chile	Hungary	Jugoslavia	Romania	Bulgaria	USSR
1922.....	61.40	41.65	19.75	22.42	28.21	9.76	16.06	.66	1.47	3.52	3.67	6.55	2.30	....
1923.....	56.92	38.71	18.21	21.89	30.85	9.54	17.04	1.06	1.54	3.29	3.84	6.65	2.38	....
1924.....	52.46	35.42	17.04	22.06	31.18	10.82	15.98	.85	1.43	3.50	4.24	7.84	2.49	....
1925.....	52.44	31.96	20.48	20.79	31.78	10.20	17.62	.96	1.45	3.52	4.31	8.16	2.55	63.12
1926.....	56.82	37.60	19.22	22.90	30.47	11.69	18.95	.99	1.48	3.71	4.18	8.22	2.62	73.90
1927.....	59.63	38.20	21.43	22.46	31.30	12.28	20.20	1.15	1.84	4.02	4.52	7.66	2.67	77.39
1928.....	59.31	36.96	22.35	24.12	32.19	14.84	22.43	1.08	1.72	4.14	4.68	7.92	2.81	68.52
1929.....	62.67	40.58	22.09	25.26	31.97	14.98	15.90	1.10	1.72	3.71	5.21	6.76	2.66	73.46
1930.....	61.14	39.51	21.63	24.90	31.65	18.21	19.68	.86	1.61	4.19	5.25	7.55	3.01	80.49
1931.....	55.34	41.35	13.99	26.12	32.19	14.49	16.03	1.08	1.52	4.01	5.29	8.57	2.96	92.07
1932.....	55.18	33.66	21.52	27.18	33.75	15.58	....^a	....	1.57	3.90	5.24	7.14	2.91	88.72
Average														
1926-30..	59.91	38.57	21.34	23.93	31.52	14.40	19.43	1.04	1.67	3.95	4.77	7.62	2.75	74.75
1909-13..	47.10	28.38	18.72	9.94	29.22	7.60	14.88	.79 ^b	1.00	3.71	3.98	9.52 ^b	2.41	74.03

Year	Morocco	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy	Belgium ^c	Netherlands	Denmark	Norway	Sweden	Switzerland
1922.....	2.07	3.74	1.07	1.52	2.08	13.07	3.40	11.49	.323	.150	.237	.025	.356	.110
1923.....	2.25	3.12	1.61	1.54	1.84	13.67	3.65	11.55	.361	.154	.205	.025	.362	.112
1924.....	2.46	3.53	1.20	1.42	1.63	13.62	3.62	11.28	.362	.118	.149	.021	.322	.111
1925.....	2.62	3.61	1.62	1.38	1.58	13.87	3.84	11.67	.392	.132	.199	.022	.363	.112
1926.....	2.56	3.74	1.84	1.53	1.68	12.97	3.96	12.14	.386	.132	.252	.022	.381	.134
1927.....	2.30	3.47	1.38	1.66	1.74	13.06	4.32	12.30	.427	.153	.274	.025	.561	.134
1928.....	2.66	3.66	2.02	1.59	1.49	12.96	4.27	12.26	.445	.148	.252	.028	.561	.134
1929.....	3.01	3.80	1.73	1.61	1.41	13.34	3.96	11.79	.377	.112	.260	.030	.574	.134
1930.....	2.96	4.03	1.90	1.52	1.43	13.28	4.40	11.92	.436	.142	.249	.030	.647	.134
1931.....	2.48	3.64	1.98	1.65	1.27	12.50	5.36	11.98	.404	.192	.259	.029	.683	.134
1932.....	2.45	3.70	2.10	1.76	....	13.23	5.64	12.20	.413	.293	....	.028	.747	.137
Average														
1926-30..	2.70	3.74	1.77	1.58	1.55	13.12	4.18	12.08	.414	.137	.257	.027	.545	.134
1909-13..	1.70	3.52	1.31	1.31	1.89	16.50	4.03	11.79	.431	.138	.154	.012	.255	.105

Year	Spain	Portugal	Austria	Czechoslovakia	Poland	Finland	Latvia	Estonia	Lithuania	Greece	Japan, Chosen	Mexico	South Africa	New Zealand
1922.....	10.31	1.16	.460	1.53	3.02	.038	.070	.052	.201	1.06	2.12	....	.85	.276
1923.....	10.49	1.06	.475	1.51	2.99	.038	.106	.056	.201	1.06	2.07	....	.78	.174
1924.....	10.38	1.04	.482	1.51	3.16	.037	.106	.044	.210	1.15	2.03	1.40	.76	.167
1925.....	10.72	1.05	.484	1.53	3.20	.038	.119	.051	.277	1.15	2.04	1.13	.97	.152
1926.....	10.78	1.06	.500	1.80	3.25	.039	.122	.059	.303	1.30	2.04	1.29	.88	.220
1927.....	10.83	1.06	.505	1.85	3.36	.044	.145	.067	.297	1.23	2.06	1.31	.77	.261
1928.....	10.57	1.10	.514	1.92	3.19	.046	.164	.070	.393	1.33	2.10	1.28	.82	.255
1929.....	10.62	1.08	.515	2.02	3.53	.034	.145	.082	.488	1.24	2.09	1.29	1.15	.236
1930.....	11.13	1.12	.508	1.96	4.07	.051	.179	.090	.526	1.43	2.05	1.22	1.14	.249
1931.....	11.24	1.27	.507	2.05	4.50	.047	.215	.099	.478	1.39	2.04	1.50	1.72	.276
1932.....	10.60	....	.536	2.10	4.26	.050	.255	.128	.437	....	....	1.07	....	....
Average														
1926-30..	10.79	1.08	.508	1.91	3.48	.043	.151	.074	.401	1.31	2.07	1.28	.95	.244
1909-13..	9.55	1.21 ^d	.635	1.72	3.34	.008	.085	.023	.211	1.13 ^e	1.75	....	.74	.241

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Figures for 1932 are preliminary. Averages for 1909-13 are U.S. Department of Agriculture estimates of area within post-war boundaries. Dots (....) indicate that comparable data are not available.

^a See Table VIII for area sown.

^b Four-year average.

^c Including Luxemburg.

^d Three-year average.

^e One year only.

TABLE IV.—WHEAT YIELD PER ACRE IN PRINCIPAL PRODUCING COUNTRIES, 1922-32*
(Bushels per acre)

Year	U.S. total	U.S. winter	U.S. spring	Canada	India	Australia	Argentina	Uruguay	Chile	Hungary	Jugoslavia	Roumania	Bulgaria	USSR
1922.....	13.8	13.7	13.9	17.8	13.0	11.2	12.2	7.9	17.6	15.5	12.1	14.0	14.2	....
1923.....	13.3	14.3	11.2	21.7	12.1	13.1	14.5	12.5	18.2	20.6	15.9	15.4	12.2	....
1924.....	16.0	16.1	15.8	11.9	11.6	15.2	12.0	11.6	17.1	14.7	13.6	9.0	9.9	....
1925.....	12.8	12.5	13.1	19.0	10.4	11.2	10.8	10.4	18.4	20.4	18.2	12.8	16.2	12.4
1926.....	14.7	16.8	10.5	17.8	10.7	13.8	12.1	10.3	15.7	20.2	17.1	13.5	13.9	12.4
1927.....	14.7	14.3	15.3	21.4	10.7	9.6	14.0	13.4	16.6	19.1	12.5	12.6	15.8	10.1
1928.....	15.6	16.0	15.0	23.5	9.0	10.8	15.6	11.4	17.3	24.0	22.1	14.6	17.5	11.8
1929.....	13.0	14.2	10.7	12.1	10.0	8.5	10.2	12.0	19.5	20.2	18.2	14.8	12.5	9.4
1930.....	14.0	15.2	11.8	16.9	12.3	11.7	11.8	8.6	13.2	20.1	15.3	17.3	19.0	12.3
1931.....	16.3	19.0	8.1	11.6	10.8	13.0	14.1	11.1	13.9	18.1	18.7	15.8	20.7	....
1932.....	13.2	13.7	12.3	15.9	10.0	....	....	....	....	15.0	10.2	10.3	17.4	....
Average 1923-30..	14.3	14.9	12.9	18.0	10.8	11.7	12.6	11.3	17.0	19.9	16.6	13.8	14.6	11.0
1909-13..	14.7	....	....	19.8	12.0	11.9	9.9	8.2 ^a	20.1	19.3	15.6	16.7 ^a	15.7	10.2

Year	Morocco	Algeria	Tunisia	Egypt	British Isles	France	Germany	Italy	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Switzerland
1922.....	6.2	5.1	3.5	23.7	32.0	18.6	21.1	14.1	33.4	41.3	38.8	25.6	26.7	23.2
1923.....	8.9	11.6	6.1	26.4	32.9	20.2	29.2	19.5	38.0	40.3	43.4	23.6	30.4	34.3
1924.....	11.7	4.9	4.2	24.1	33.1	20.6	24.6	15.1	36.7	39.0	39.6	23.3	21.1	30.0
1925.....	9.1	9.1	7.3	26.2	34.0	23.8	30.8	20.6	38.3	43.2	48.7	22.3	36.9	33.6
1926.....	8.0	6.3	7.1	24.3	31.1	17.9	24.1	18.2	34.7	41.7	34.9	26.8	32.0	31.6
1927.....	10.2	8.2	5.9	26.7	32.9	21.1	27.9	15.9	39.8	40.5	34.3	24.0	27.3	32.4
1928.....	9.3	8.3	6.8	23.5	34.2	21.7	33.2	18.6	40.2	49.3	48.4	28.6	32.6	33.4
1929.....	10.6	8.8	7.1	28.1	36.1	25.3	31.1	22.1	35.8	49.1	45.4	25.0	33.1	32.6
1930.....	7.2	8.0	5.5	26.2	30.3	17.2	31.6	17.6	31.4	43.0	41.0	24.0	32.1	26.9
1931.....	12.1	7.0	7.1	27.9	30.4	21.1	29.0	20.4	35.1	35.4	39.0	20.3	26.4	32.5
1932.....	9.0	8.9	7.0	29.9	....	25.0	32.6	22.6	36.8	45.4	....	27.9	34.5	30.5
Average 1923-30..	9.4	8.2	6.2	25.7	33.1	21.0	29.1	18.4	36.9	43.3	42.0	24.7	30.7	31.8
1909-13..	10.0	10.0	4.7	25.7	31.5	19.7	32.6	15.6	36.7	36.2	40.9	25.8	31.8	31.5

Year	Spain	Portugal	Austria	Czechoslovakia	Poland	Finland	Latvia	Estonia	Lithuania	Greece	Japan, Chosen	Mexico	South Africa	New Zealand
1922.....	12.2	8.6	16.1	22.0	15.5	18.7	13.7	14.6	16.9	8.5	18.0	...	7.4	30.4
1923.....	15.0	12.5	18.7	24.0	18.4	18.2	15.5	13.2	14.9	8.3	16.2	...	7.7	24.0
1924.....	11.7	10.2	17.6	21.3	11.9	21.4	14.9	12.3	15.7	6.7	17.6	7.4	9.3	32.6
1925.....	15.2	11.9	22.1	25.7	20.0	24.5	18.2	15.5	19.1	9.7	19.6	8.1	9.5	30.4
1926.....	13.6	8.1	18.8	22.2	16.2	23.6	15.2	14.9	13.9	9.5	19.0	8.0	9.1	36.1
1927.....	13.4	10.8	23.8	25.5	18.2	24.1	18.2	16.1	17.5	10.6	18.6	9.1	7.4	36.6
1928.....	11.6	6.8	25.1	27.6	18.6	21.7	15.2	14.9	16.0	9.8	18.8	8.6	8.8	34.6
1929.....	14.5	9.8	22.5	26.2	18.7	22.4	16.1	15.4	19.1	9.2	18.6	8.8	9.2	30.7
1930.....	13.2	13.3	23.6	25.8	20.2	23.7	22.7	18.2	21.5	6.8	18.8	9.3	8.2	30.4
1931.....	12.0	10.2	18.5	20.1	18.5	24.7	16.3	17.6	17.4	8.8	19.2	10.8	8.2	24.1
1932.....	17.0	....	23.9	25.6	13.1	27.2	19.9	14.9	14.4	....	....	8.3	...	....
Average 1923-30..	13.5	10.3	21.5	24.8	17.8	22.4	17.0	15.1	17.2	8.8	18.4	8.5 ^c	8.6	31.9
1909-13..	13.7	9.8	20.2	22.0	18.5	17.5	17.4	15.7	15.6	14.4 ^d	18.3	...	8.5	28.8

* Computed from data in Tables II and III. Figures for 1932 are preliminary. Dots (...) indicate that comparable data are not available. Averages for 1923-30 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 Average for 1924-30.

^d One year only.

TABLE V.—CEREAL AND POTATO PRODUCTION IN EUROPE EX-RUSSIA AND USSR, 1922-31*

(Million bushels)

Year	Europe ex-Russia						USSR ^a				
	Wheat	Rye	Barley	Oats	Corn	Potatoes	Wheat	Rye	Barley	Oats	Corn
1922	1,045	720	588	1,473	424	4,555	...	...	...	...	...
1923	1,257	831	649	1,722	469	3,707	...	...	...	...	...
1924	1,057	654	565	1,572	589	4,049	...	...	...	...	...
1925	1,397	946	672	1,709	626	4,582	782	906	269	838	172
1926	1,216	762	674	1,843	652	3,714	914	941	246	1,071	131
1927	1,274	813	659	1,748	485	4,610	785	950	203	917	118
1928	1,410	904	743	1,879	384	4,561	807	760	260	1,135	130
1929	1,450	940	827	2,060	705	5,188	694	801	331	1,084	119
1930	1,362	923	758	1,705	611	5,039	989	937	311	1,145	105
1931	1,433	778	692	1,699	631	4,973	...	...	...	...	...
Average											
1926-30	1,343	868	732	1,847	567	4,622	838	878	270	1,070	121
1909-13	1,348	982	701	1,929	581	4,398	757	744	418	925	52

* Data of U.S. Department of Agriculture and International Institute of Agriculture. Dots (...) indicate that comparable data are not available.

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

TABLE VI.—RYE, CORN, AND POTATO PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES EX-RUSSIA, 1926-31*

(Million bushels)

Year	RYE													
	Germany	Poland	Baltic States ^a	Czecho-Slovakia	Austria	Hungary	Other Danube ^b	Scandinavia ^c	Netherlands	Belgium ^d	France	Spain	United States	Canada
1926	252.2	204.0	36.3	55.7	18.7	31.4	25.8	36.2	13.6	20.5	30.1	23.5	32.9	12.2
1927	269.0	231.8	51.0	60.0	20.1	22.4	22.2	26.1	13.4	22.2	34.0	26.5	51.8	15.6
1928	335.5	240.5	43.7	72.3	19.9	32.6	27.1	27.1	17.3	23.5	34.1	16.4	37.6	14.6
1929	321.0	276.0	47.7	72.2	20.1	31.4	28.9	27.2	18.3	22.6	36.5	22.9	35.0	13.2
1930	302.3	273.9	62.5	70.4	20.6	28.4	38.7	27.8	14.9	19.1	28.4	21.5	45.4	22.0
1931	263.0	224.5	39.5	54.6	18.9	21.7	33.6	20.5	14.2	20.8	29.5	21.1	32.5	5.3
Average														
1926-30 ..	296.0	245.2	48.2	66.1	19.9	29.2	28.5	28.9	15.5	21.6	32.6	22.2	40.5	15.5
1909-13 ..	368.3	224.8	56.0	63.5	23.8	31.4	38.0	44.2	16.4	24.3	52.5	27.6	36.1	2.1

Year	CORN (MAIZE)								POTATOES						
	United States	Argentina	South Africa	Roumania	Jugo-Slavia	Italy	Hungary	Bulgaria	Germany	Poland	France	Czecho-Slovakia	British Isles	Belgium, ^d Netherlands	
1926	2,575	321	65	230	134	118	77	27	1,103	786	409	185	249	224	
1927	2,678	312	69	139	83	87	68	21	1,380	984	644	370	275	220	
1928	2,715	252	67	109	72	65	50	20	1,516	1,016	414	326	297	277	
1929	2,535	281	80	251	163	100	71	37	1,473	1,167	594	393	331	303	
1930	2,060	420	57	178	136	118	55	31	1,731	1,135	512	329	254	226	
1931	2,563	285	62	239	126	76	60	39	1,612	1,139	599	357	214	240	
Average															
1926-30 ..	2,513	317	68	181	118	98	64	27	1,441	1,018	515	321	281	250	
1909-13 ..	2,712	192	34	193	112	103	61	26	1,374	911	527	245	254	221	

* Data of U.S. Department of Agriculture and International Institute of Agriculture.

^a Finland, Estonia, Latvia, Lithuania.

^c Denmark, Norway, Sweden.

^b Jugo-Slavia, Roumania, Bulgaria.

^d Including Luxemburg.

TABLE VII.—UNITED STATES WHEAT PRODUCTION
BY CLASSES, 1920-31*
(Million bushels)

Crop of	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1920	302	247	91	140	52	833
1921	290	237	99	131	57	815
1922	280	248	79	170	91	868
1923	242	271	102	127	55	797
1924	365	189	52	192	66	864
1925	206	170	80	156	65	677
1926	360	229	73	121	48	831
1927	317	181	95	202	83	878
1928	384	140	86	203	102	915
1929	362	166	84	145	56	813
1930	376	175	89	159	59	858
1931	494	249	68	64	19	894
1932	245	147	88	188	44	712
Average 1926-30	360	178	85	166	70	859

* Latest estimates of the U.S. Department of Agriculture from *Agriculture Yearbooks* and *Crops and Markets*, October 1932, p. 373.

TABLE VIII.—WHEAT ACREAGE IN THE UNITED STATES AND ARGENTINA, 1920-31*
(Million acres)

Year	United States				Argentina	
	Winter sown	Winter harvested	Spring harvested	Total harvested	Sown	Harvested
1920	45.51	40.41	21.95	62.36	15.01	13.22
1921	45.48	43.16	21.41	64.57	14.24	14.10
1922	47.42	41.65	19.75	61.40	16.25	16.06
1923	45.41	38.71	18.21	56.92	17.19	17.04
1924	38.64	35.42	17.04	52.46	17.79	15.98
1925	40.92	31.96	20.48	52.44	19.19	17.62
1926	40.60	37.60	19.22	56.82	19.27	18.95
1927	44.13	38.20	21.43	59.63	20.69	20.20
1928	48.35	36.96	22.35	59.31	22.78	22.43
1929	43.34	40.58	22.09	62.67	19.49	15.90
1930	43.63	39.51	21.63	61.14	21.29	19.68
1931	43.15	41.36	13.94	55.30	17.30	16.03
1932	40.17	33.24	22.17	55.41	19.79	.....

* Data as reported by the U.S. Department of Agriculture in *Agriculture Yearbooks*, *Crop Reports*, and *Foreign Crops and Markets*. For 1926-31 official estimates are available for durum wheat sown in Minnesota, the Dakotas, and Montana, and for other spring wheat sown in the Dakotas, Montana, Wyoming, and Colorado.

TABLE IX.—NORTH AMERICAN WHEAT CROP FORECASTS AND ESTIMATES, 1926-32*
(Million bushels)

Date	1926	1927	1928	1929	1930	1931	1932
UNITED STATES—WINTER							
May 1	549	594	486	595	525	653	441
June 1	543	537	512	622	532	649	411
July 1	568	580	544	583	558	713	432
Aug. 1	626	553	578	568	598	775	442
Dec. 1	627	553	579	578	604	787	462
Revised ^a	627	553	579	576	602	787	...
UNITED STATES—SPRING							
July 1	199	274	256	251	249	156	305
Aug. 1	213	298	313	206	223	119	281
Sept. 1	212	308	322	218	240	111	273
Oct. 1	213	314	325	224	242	109	270
Dec. 1	205	319	324	228	247	105	265
Revised ^a	204	325	336	233	256	113	...
UNITED STATES—TOTAL							
July 1	767	854	800	834	807	869	737
Aug. 1	839	851	891	774	821	894	723
Sept. 1	839	861	901	786	838	886	715
Oct. 1	840	867	904	792	840	884	712
Dec. 1	832	872	903	806	851	892	727
Revised ^a	831	878	915	809	858	900	...
CANADA—PRAIRIE PROVINCES							
Aug. 31	376	432	527	269	362	246	446
Oct. 31	381	419	480	272	374	279	411
Dec. 31	383	415	511	277	374	284 ^b	...
Revised	381	455	545	282	397	...	...
CANADA—TOTAL							
Aug. 31	399	459	550	294	385	271	467
Oct. 31	406	444	501	294	396	298	431
Dec. 31	410	440	534	300	398	304 ^b	...
Revised	407	480	567	305	421	...	...

* Data for the United States from *Agriculture Yearbooks* and crop reports of the Department of Agriculture; Canadian data from *Monthly Bulletin of Agricultural Statistics* and press releases.

^a Published in December of the following year. Still later revisions are given in Table II.

^b Official information points to the probability of an upward revision by perhaps 18-26 million bushels.

TABLE X.—INDEXES OF THE QUALITY OF UNITED STATES WHEAT CROPS, 1923-31

Year	Weight per measured bushel ^a (pounds)	Bushels ground per barrel of flour ^b	Percentage of high medium quality ^c		Percentage of protein content ^d	
			Winter	Spring	Winter	Spring
1923 ...	57.4	4.70	89.0	83.4	.....	.....
1924 ...	58.9	4.65	93.0	93.4	.....	.....
1925 ...	58.3	4.70	90.4	87.0	13.00	12.48
1926 ...	59.1	4.64	94.5	87.1	13.02	13.26
1927 ...	58.5	4.69	88.5	87.7	12.27	11.89
1928 ...	58.5	4.64	88.7	90.9	11.91	12.34
1929 ...	58.2	4.67	86.7	88.7	12.27	13.59
1930 ...	58.9	4.68	93.4	86.5	12.41	14.43
1931 ...	59.1	4.64	92.1	82.7	11.81	13.89

^a Agriculture Yearbook, 1931, p. 592, and Crops and Markets.

^b Computed from data as given in U.S. Department of Commerce, Wheat Ground and Wheat Milling Products.

^c From Crops and Markets.

^d See World Wheat Prospects, October 19, 1931, p. 16.

TABLE XI.—CANADIAN SPRING WHEAT GRADINGS, SEPTEMBER-AUGUST, 1923-32*

Year	(Percentages of total)						
	No. 1 ^a	No. 2	No. 3	Total Nos. 1-3	Nos. 4-6 and feed	No grade ^b	Other ^c
1923-24..	37.3	25.8	22.9	86.0	7.4	1.0	5.6
1924-25..	19.3	18.3	18.6	56.2	28.9	11.7	3.2
1925-26..	22.4	27.0	13.9	63.3	4.3	28.6	3.8
1926-27..	9.2	17.5	7.8	34.5	5.9	51.2	8.4
1927-28..	.9	7.7	22.3	30.9	21.4	43.1	4.6
1928-29..	1.5	12.3	19.7	33.5	58.0	1.4	7.1
1929-30..	40.0	35.9	11.8	87.7	2.9	1.4	8.0
1930-31..	39.6	20.8	5.1	65.5	2.2	25.3	7.0
1931-32..	36.2	33.8	9.9	79.9	4.6	10.8	4.7

* Computed from data in Canadian Grain Statistics.

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

^b Wheat of straight grades except that it contains a higher proportion of moisture. Aside from higher moisture content, it may be as good quality as these grades. Designation changed to "tough and damp" beginning with 1930-31.

^c Largely durum.

TABLE XII.—WHEAT RECEIPTS AT PRIMARY MARKETS IN NORTH AMERICA, MONTHLY, 1923-32*

Year	(Million bushels)														
	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Total ^a
	UNITED STATES (14 MARKETS) ^b														
1923-24	33.8	65.3	45.3	40.5	37.2	28.4	15.9	19.8	18.0	10.1	15.4	16.4	35.1	93.0	346.1
1924-25	35.1	93.0	82.1	88.0	60.5	36.3	24.7	19.9	17.3	10.4	17.7	21.9	41.8	43.3	506.9
1925-26	41.8	43.3	57.9	36.0	34.1	34.9	21.6	16.2	15.1	14.0	15.7	21.1	77.0	71.6	351.7
1926-27	77.0	71.6	48.7	37.1	29.8	22.4	24.6	21.0	16.6	14.4	19.3	20.7	58.8	81.6	403.2
1927-28	58.8	81.6	79.7	73.2	44.8	26.5	23.5	22.5	26.3	17.9	25.9	15.5	72.6	84.2	496.2
1928-29	72.6	84.2	73.3	84.4	43.5	33.0	22.5	28.7	27.2	17.5	18.6	25.7	94.2	101.7	531.2
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	99.0	85.5	425.4
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	104.0	61.5	494.9
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	40.7	38.4	374.8
	CANADA (LEADING TERMINAL MARKETS) ^c														
1923-24	6.2	2.1	28.4	70.2	75.6	58.3	20.1	11.2	10.5	13.0	21.2	24.3	14.5	1.5	348.8
1924-25	14.5	1.5	7.6	44.8	47.8	24.6	8.2	8.5	9.5	9.4	8.8	5.0	6.9	1.7	182.8
1925-26	6.9	1.7	46.2	60.2	61.6	59.4	20.4	11.6	9.5	5.8	18.4	13.8	6.6	1.6	315.1
1926-27	6.6	1.6	33.1	62.5	67.7	32.9	20.9	12.8	12.2	16.2	18.9	8.0	10.8	2.5	298.5
1927-28	10.8	2.5	8.9	57.6	81.7	52.8	37.6	22.1	13.7	11.8	25.0	23.8	16.8	4.6	356.4
1928-29	16.8	4.6	41.7	94.1	87.5	65.2	24.9	12.2	20.7	17.0	17.7	17.7	17.9	3.1	419.7
1929-30	17.9	3.1	32.6	36.2	23.2	10.9	7.1	8.1	8.5	5.7	10.5	27.3	17.5	16.1	203.7
1930-31	17.5	16.1	55.2	36.7	24.8	20.2	12.7	12.9	10.5	13.3	18.2	25.4	15.3	6.0	251.2
1931-32	15.3	6.0	21.8	34.5	38.4	17.4	9.8	9.2	11.5	12.5	12.7	31.8	19.7	18.3	237.6

* United States data unofficial, compiled from Survey of Current Business; Canadian data computed from official figures given in Canadian Grain Statistics.

^a For United States, July-June; for Canada, September-August.

^b Includes Chicago, Detroit, Duluth, Indianapolis, Kansas City, Milwaukee, Minneapolis, Omaha, Peoria, Sioux City, St. Joseph, St. Louis, Toledo, and Wichita.

^c Fort William, Port Arthur, Vancouver, and (after October 1926) Prince Rupert. Vancouver markets comprise Harbour Commissioners' Elevators alone through October

24, 1924; Private Elevators included after October 24, 1924; and Terminal Grain Co., Ltd., Elevators included after December 5, 1924. Monthly totals for Vancouver are computed from weekly figures by summing weekly receipts wholly within the month and the proportional sixths of the weekly figures at the beginning and the end of the month until September 1926. Thereafter, monthly figures, apparently on the same basis, compiled from Canadian Grain Statistics.

TABLE XIII.—UNITED STATES TRADE IN WHEAT AND FLOUR WITH FOREIGN COUNTRIES AND ALASKA, HAWAII, AND PUERTO RICO, FROM 1920-21*
(Thousand bushels)

July-June	Wheat				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
1920-21	293,268	51,004	778	243,042	76,046	69,584	369,314	56,688	312,626	2,696	315,322
1921-22	208,321	14,466	4	193,859	74,245	71,731	282,566	16,976	265,590	2,688	268,278
1922-23	154,951	18,013	148	137,086	69,949	67,994	224,900	19,820	205,080	2,908	207,988
1923-24	78,793	27,284	28	51,537	81,087	80,355	159,880	27,988	131,892	2,973	134,865
1924-25	195,490	6,169	70	189,391	65,313	65,304	260,803	6,108	254,695	2,871	257,566
1925-26	63,189	15,583	261	47,867	44,846	44,816	108,035	15,352	92,683	2,741	95,424
1926-27	156,250	13,235	81	143,096	62,910	62,899	219,160	13,165	205,995	3,082	209,077
1927-28	145,999	15,707	39	130,331	60,260	60,247	206,259	15,681	190,578	2,692	193,270
1928-29	103,114	21,430	43	81,727	60,574	60,575	163,688	21,386	142,302	3,172	145,474
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	39,276	135,795 ^a	12,022	123,773 ^a	2,757	126,530 ^a

* Data from *Monthly Summary of Foreign Commerce*. 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.
^a Probably understated by 7 to 9 million bushels.

TABLE XIV.—UNITED STATES IMPORTS OF WHEAT AND FLOUR, ANNUALLY FROM 1922-23*

(Million bushels)

Crop year July-June	Withdrawn for consumption, duty-paid	Withdrawn for milling in bond	General imports		
			Wheat grain	Flour as wheat	Total
1922-23..	7.51	9.28	18.01	1.93	19.94
1923-24..	13.78	13.90	27.28	0.76	28.04
1924-25..	0.27	5.81	6.17	0.03	6.20
1925-26..	1.64	13.44	15.60	0.08	15.68
1926-27..	0.05	13.17	13.24	0.03	13.27
1927-28..	0.16	15.04	15.71	0.03	15.74
1928-29..	0.08	21.68	21.43	0.01	21.44
1929-30..	0.03	12.01	12.95	0.01	12.96
1930-31..	0.04	19.90	19.05	0.01	19.06
1931-32..	0.01	13.56	12.88	0.00	12.88

* Data of U.S. Department of Commerce direct.

TABLE XV.—UNITED STATES WHEAT GRAIN EXPORTS BY CLASSES, FROM 1923-24*

(Million bushels)

July-June	Hard red winter	Soft red winter	White	Hard red spring	Durum	Total
1923-24	27	11	20	2	19	79
1924-25	121	8	11	21	34	195
1925-26	10	2	19	5	27	63
1926-27	73	31	28	2	22	156
1927-28	60	13	30	6	37	146
1928-29	35	3	15	2	48	103
1929-30	54	3	18	2	15	92
1930-31	47	3	14	1	12	76
1931-32	76	2	14	0	5	97

* Estimates of the U.S. Department of Agriculture.

TABLE XVI.—CANADIAN WHEAT AND FLOUR EXPORTS, ANNUALLY FROM 1922-23*

(Million bushels)

August-July	Grand total	To United States	Total overseas	Through U.S. ports	Through Canadian ports	
					Total	Pacific
1922-23	278.2	14.9	263.3	150.8	112.5	21.5 ^a
1923-24	345.7	22.1	323.6	164.7	158.8	58.4 ^b
1924-25	192.7	3.2	189.5	99.1	90.4	26.0
1925-26	324.5	10.5	314.0	161.3	152.7	58.7
1926-27	292.9	7.7	285.2	150.8	134.4	39.7
1927-28	333.0	8.5	324.5	151.5	173.0	85.7
1928-29	407.6	10.1	397.5	172.2	225.3	108.1
1929-30	186.3	7.3	179.0	77.2	101.8	54.9
1930-31	258.6	8.1	250.5	96.3	154.2	79.6
1931-32	207.1	4.5	202.6	52.3	150.3	79.8

* Official data from *Reports on the Grain Trade of Canada and Canadian Grain Statistics*.

^a September-August.

^b September-July.

TABLE XVII.—BROOMHALL'S FORECASTS OF WHEAT EXPORT SUPPLIES AND REQUIREMENTS, 1931-32*

(Million bushels)

Date of report	Available for export	Importers' purchases			Margin over importers' purchases
		Total	Europe	Ex-Europe	
Aug. 19	968	776	568	208	192
Sept. 16	992	776	568	208	216
Nov. 18	1,016 ^a	776	568	208	240
Actual	...	770	582	188	...

* Data from *Corn Trade News*.

^a Later changed within a range of 984 to 1,012.

TABLE XVIII.—INTERNATIONAL SHIPMENTS OF WHEAT AND RYE (BROOMHALL) FROM 1922-23*
(Million bushels)

Year ending about Aug. 1	Wheat, including wheat flour, by areas of origin									Rye, including rye flour			
	Total	North America	Argentina ^a	Australia	All other	India	Balkans	Russia	Others ^b	North America	Russia, Danube	Other	Total
1922-23....	676.4	455.1	138.3	47.8	35.2	26.1	6.9	....	2.2	62.9	2.9	1.6	67.4
1923-24°....	782.9	454.2	174.4	78.0	76.3	17.1	36.0	23.2	...	28.7	44.3	...	73.0
1924-25....	715.2	422.6	121.4	117.1	54.1	31.7	13.5	....	8.9	62.3	0.4	0.1	66.8
1925-26....	667.6	413.2	94.0	74.0	86.4	4.8	28.8	23.6	29.2	16.1	4.2	20.6 ^d	40.9
1926-27....	817.6	484.0	139.2	104.0	90.2	10.4	31.2	44.4	4.2	34.8	8.6	7.1	50.5
1927-28....	792.8	489.6	177.6	74.4	61.2	7.2	29.2	4.8	20.0	45.9	3.1	4.8	53.8
1928-29°....	927.6	542.9	223.7	112.1	48.9	0.2	37.4	....	11.3	19.1	0.5	12.2	31.8
1929-30....	612.5	318.4	151.9	64.6	77.6	4.2	46.8	6.4	20.2	2.3	4.8	25.1	32.2
1930-31....	786.7	354.3	123.2	154.0	155.2	3.6	37.6	98.7	15.3	4.8	22.6	12.8	40.2
1931-32....	769.6	331.2	138.4	153.2	146.8	0.3	60.0	70.4	16.1	10.8	31.1	14.4	56.3
Average													
1926-31....	787.4	437.9	163.1	101.8	86.6	5.1	36.4	30.9	14.2	21.4	7.9	12.4	41.7

Year ending about Aug. 1	Wheat and flour to Europe				Wheat and flour to ex-Europe							
	U. K.	Orders	Continent	Total ^a	Total	China, Japan	Central America ^f	Brazil	Egypt	North and South Africa	India	Others
1922-23....	167.4	102.7	315.8	585.9	90.5	....	....	....	....	...	...	...
1923-24°....	188.4	132.4	305.7	634.2	148.7	....	....	....	....	...	...	...
1924-25....	160.2	167.0	312.5	639.7	75.5	....	....	....	....	...	...	...
1925-26....	162.8	109.4	260.1	532.4	135.2	....	....	....	....	...	...	...
1926-27....	176.5	151.3	355.2	685.6	132.0	30.7	55.6	22.7	11.0	7.0	4.0	1.0
1927-28....	164.7	145.0	352.1	661.6	131.2	31.4	55.6	26.7	9.2	5.9	1.5	0.9
1928-29°....	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	0.9
1930-31....	131.0	193.7	282.8	607.7	179.0	67.4	58.0	26.5	11.1	4.1	11.0	0.9
1931-32....	135.8	193.2	252.9	581.6	188.0	88.1	56.7	31.2	8.4	3.1	...	0.5
Average												
1926-31....	153.7	151.1	322.9	628.2	159.3	46.5	57.9	26.9	11.4	2.4	10.1	1.1

* Broomhall's cumulative totals, from the *Corn Trade News*.

^a Includes Uruguay also.

^b North Africa, Chile, Germany, France, etc.

^c For 53 weeks.

^d Chiefly from Germany.

^e As reported by Broomhall in different tables.

^f Includes West Indies, Dutch East Indies, Venezuela, etc.

TABLE XIX.—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 European net-importing countries			
	Total	Four chief exporters	United States	Canada	Australia	Argentina	Lower Danube	USSR	India	Others ^a	Total	British Isles	France, Germany, Italy	Others
1922-23....	715	671	203	279	50	139	12	1	29	2	570	210	208	152
1923-24....	829	735	130	346	86	173	34	22	20	18	589	240	169	180
1924-25....	766	696	259	192	124	121	26	(17)	38	6	627	226	215	186
1925-26....	699	605	106	324	77	98	45	27	8	14	522	208	150	164
1926-27....	850	743	202	292	103	146	45	49	11	2	674	236	262	176
1927-28....	822	769	187	332	71	179	32	2	9	10	646	232	219	195
1928-29....	941	891	154	406	109	222	37	(6)	(25)	13	658	219	232	207
1929-30....	626	544	145	185	63	151	56	9	1	16	498	224	95	179
1930-31....	833	650	116	258	152	124	46	114	(5)	23	613	245	174	194
1931-32....	790 ^b	618 ^b	115 ^b	207	156	140	82	65	2	23	605	261	136	208

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

^a Includes Morocco, Algeria, Tunis, Chile, Spain, and Poland for years in which these countries were net exporters but not net exports from a few other minor exporters, notably Turkey since 1929-30, and Uruguay.

^b Too low by 7-9 million bushels.

TABLE XX.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, ANNUALLY FROM 1922-23*

(Million bushels)

A. NET EXPORTS

Year Aug.-July	United States ^a	Canada	Aus- tralia	Argen- tina	Hun- gary	Jugo- Slavia	Rou- mania	Bul- garia	USSR ^b	India	Al- geria	Tunis
1922-23....	203.1	279.0	50.3	139.4	5.16	1.01	1.64	4.32	0.6	28.6	(2.31)	(0.73)
1923-24....	130.3	346.1	85.6	172.9	16.79	5.84	8.98	2.45	22.1	20.1	7.23	2.77
1924-25....	259.3	192.1	123.6	121.4	13.54	9.55	3.21	(1.70)	(16.7)	38.1	(0.45)	0.17
1925-26....	106.2	324.2	77.3	97.7	19.79	10.81	9.93	4.37	27.1	8.0	4.57	2.65
1926-27....	201.7	292.5	102.7	145.5	21.88	9.70	11.18	2.25	49.5	11.5	(1.61)	0.30
1927-28....	186.7	332.5	70.7	178.9	21.84	0.55	7.46	2.04	1.6	8.5	5.30	0.57
1928-29....	153.9	406.2	108.6	222.4	26.00	8.80	1.59	0.28	(5.8)	(24.3)	3.28	5.31
1929-30....	144.8	184.9	62.6	151.0	30.05	22.92	2.82	(1.42)	8.8	0.7	4.62	5.81
1930-31....	116.0	258.4	152.3	124.4	18.29	5.62	16.09	5.91	113.7	(4.9)	9.56	5.84
1931-32....	114.7 ^c	206.9	156.3	140.3	18.26	14.91	37.36	11.27	65.0	2.0	5.86	8.53
Average 1926-31....	160.6	294.9	99.4	164.4	23.61	9.52	7.83	1.81	33.6	(1.7)	4.23	3.57

B. NET IMPORTS

Year Aug.-July	Egypt	British Isles	United Kingdom	Irish Free State	France ^d	Ger- many	Italy	Belgium ^e	Nether- lands	Den- mark	Nor- way	Sweden
1922-23....	7.68	210.3	205.5	4.8	55.0	37.5 ^f	115.6	39.5	23.9	6.28	6.90	8.78
1923-24....	8.52	239.7	219.4	20.3	68.1	30.7 ^f	69.8	40.0	26.7	9.28	6.11	12.35
1924-25....	9.90	226.2	207.1	19.1	45.6	80.9 ^f	88.7	39.0	26.8	6.55	5.57	10.58
1925-26....	12.78	208.2	189.4	18.8	24.6	57.4	67.9	39.2	27.2	6.00	6.70	6.10
1926-27....	8.77	235.9	216.0	19.9	83.6	91.8	86.6	39.5	28.4	7.24	6.22	6.02
1927-28....	6.59	232.2	213.6	18.6	42.5	88.5	87.7	41.8	31.0	10.96	6.78	8.42
1928-29....	13.65	219.2	200.8	18.4	66.6	77.6	87.7	41.9	30.0	16.67	9.15	8.05
1929-30....	11.27	223.9	206.1	17.8	5.5	47.8	42.1	42.4	30.6	7.97	6.96	7.32
1930-31....	10.17	244.9	225.5	19.4	62.0	31.2	81.2	48.5	35.4	11.74	8.53	4.91
1931-32....	7.45	261.0	240.8	20.2	79.8	23.2	32.9	46.4	31.2	17.56	8.70	6.83
Average 1926-31....	10.09	231.2	212.4	18.8	52.0	67.4	77.1	42.8	31.1	10.92	7.53	6.94

B. NET IMPORTS (Continued)

Year Aug.-July	Spain	Portu- gal	Switzer- land	Austria	Czecho- Slovakia	Poland	Finland	Latvia	Estonia	Lithu- ania	Greece	Japan
1922-23....	(0.18)	....	16.6	13.4	10.2	2.52	5.12	1.11	....	....	17.5	14.5
1923-24....	(0.32)	....	17.1	18.1	21.2	2.63	5.12	1.80	0.97	....	18.8	29.1
1924-25....	0.80	....	13.9	14.7 ^g	21.5	17.10	4.54	1.94	0.86	....	20.8	12.2
1925-26....	(0.73)	....	15.6	14.7 ^h	21.7	(4.60)	5.23	1.56	0.97	....	18.8	22.7
1926-27....	(1.01)	....	16.3	16.9	20.1	8.07	5.14	1.68	0.91	....	19.4	15.3
1927-28....	2.92	....	18.4	16.5	21.4	8.62	6.04	1.51	1.12	....	19.5	16.3
1928-29....	17.20	....	16.6	14.6	17.4	2.45	6.93	2.99	1.25	0.04	22.0	17.2
1929-30....	3.41	6.58	16.0	19.6	13.7	(0.21)	5.93	2.44	1.19	(0.10)	21.7	13.6
1930-31....	(0.18)	2.71	18.5	17.5	17.6	(4.41)	5.27	1.55	0.82	(0.96)	24.1	17.7
1931-32....	5.04	2.80	21.1	13.7	24.8	(3.30)	4.51	0.96	0.44	(0.10)	23.7	20.2
Average 1926-31....	4.47	6.52 ⁱ	17.2	17.0	18.0	2.90	5.86	2.03	1.06	(0.34) ^j	21.3	16.0

* 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. See Table XXIII for calendar year trade data for selected countries. Irish Free State separated from United Kingdom after April 1, 1923.

^a Including shipments to possessions.

^b Grain only through 1929-30; July-June through 1927-28; gross exports in 1922-23, 1923-24, 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 Luxemburg.

^f Data incomplete because of territory occupied by foreign armies.

^g Eleven months.

^h July-June.

ⁱ Average of six calendar years.

^j Three-year average.

TABLE XXI.—INTERNATIONAL TRADE IN WHEAT FLOUR, ANNUALLY FROM 1922-23*
(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	Jugo- Slavia	Rou- mania	Bul- garia	India
1922-23....	35,714	30,930	15,070	10,936	4,081	843	1,759	1,137	163 ^d	293	166	538
1923-24....	46,352	36,543	17,631	11,933	5,222	1,757	3,833	2,333	417 ^d	936	147	708
1924-25....	40,936	30,801	14,475	10,108	4,626	1,592	3,341	2,025	697 ^d	619	(23)	892
1925-26....	35,707	27,597	10,130	10,847	5,009	1,611	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....	34,257	28,231	12,226	9,792	4,381	1,832	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....	34,589	25,408	12,374	6,677	5,308	1,049	2,417	2,045	45	215	112	525
1931-32....	29,223	21,539	8,286	5,363	7,120	789	1,960	1,087	53	436	384	427
Average 1926-30....	36,398	28,631	13,196	8,817	5,076	1,541	2,878	2,249	101	400	124	595

B. NET IMPORTS

Year Aug.-July	Algeria	Tunis	Egypt	British Isles	United Kingdom	Irish Free State	France ^e	Ger- many	Italy	Bel- gium ^f	Nether- lands	Spain
1922-23....	80	79	1,636	6,182	5,575	607 ^g	(2,051)	566 ^h	(393)	24	659	(43)
1923-24....	(62)	(34)	1,798	5,076	2,950	2,126	(3,126)	4,166 ^h	(1,500)	(480)	1,286	(66)
1924-25....	55	95	1,906	3,352	1,445	1,907	(3,295)	5,384 ^h	(1,243)	(787)	698	(59)
1925-26....	5	... ^d	2,436	4,217	2,468	1,749	(2,309)	1,411	(334)	(151)	1,269	(157)
1926-27....	36	(24)	1,891	5,901	4,046	1,855	(772)	492	(195)	(64)	1,751	(218)
1927-28....	(98)	(9)	1,490	5,070	3,163	1,907	(1,150)	2	(207)	(145)	2,008	(82)
1928-29....	(115)	(50)	2,586	3,806	2,129	1,677	(1,752)	(401)	(441)	(176)	1,639	(74)
1929-30....	(40)	(79)	2,411	5,800	3,962	1,838	(3,202)	(263)	(666)	158	1,305	(34)
1930-31....	(107)	(122)	1,817	6,052	4,189	1,863	(3,477)	56	(493)	8	1,903	(38)
1931-32....	(51)	(64)	1,240	4,906	2,855	2,051	(2,180)	85	(988)	(11)	333	(9)
Average 1926-30....	(65)	(57)	2,039	5,326	3,498	1,828	(2,071)	(23)	(400)	(44)	1,721	(89)

B. NET IMPORTS (Continued)

Year Aug.-July	Den- mark	Norway	Sweden	Austria	Czecho- Slovakia	Poland	Finland	Latvia	Estonia	Greece	Japan	Brazil ⁱ
1922-23....	555	603	75	2,016	1,996	535	1,091	72	...	1,099	147	1,172
1923-24....	476	635	264	2,607	3,584	530	1,098	34	99	1,301	37	1,507
1924-25....	201	560	146	1,580 ^k	3,094	3,326	973	2	129	1,324	(518)	2,087
1925-26....	495	775	(17)	1,279 ^l	3,252	43	1,115	...	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	711	35	1,883	1,235	(302)	1,097	(36)	44	84	(1,664)	1,306
1931-32....	652	687	19	649	598	(259)	814	0	2	34	(1,716)	.....
Average 1926-30....	761	748	109	1,754	1,741	(40)	1,248	(11)	68	505	(1,309)	1,970

* 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 Luxemburg.

^g Irish Free State separated after April 1, 1923.

^h Data incomplete because of territory occupied by foreign armies.

ⁱ Net imports of 224 barrels.

^j July-June gross imports.

^k Eleven months.

^l July-June net imports.

TABLE XXII.—EXPORTS OF WHEAT AND FLOUR TO SPECIFIED EX-EUROPEAN COUNTRIES FROM PRINCIPAL SOURCES OF EXPORTS, ANNUALLY FROM 1922-23*

(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
1922-23....	14.08	12.11	1.97	6.50	3.79	3.79	5.35	3.05	3.71	1.15	.74	.08
1923-24....	32.12	30.29	1.83	11.06	7.25	13.81	10.26	6.96	13.07	.80	.29	.74
1924-25....	14.89	14.55	.34	4.35	3.51	7.03	4.10	3.43	7.02	.25	.08	.01
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
Average 1926-31....	24.06	23.39	.67	5.97	11.33	6.76	5.93	10.74	6.72	.03	.60	.04

B. TO CHINA, 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
1922-23....	17.49	1.95	15.54	13.73	2.88	1.11	.80	.04	16.62	2.08	.32	.52
1923-24....	50.86	20.21	30.65	32.87	11.95	8.30	7.40	4.51	24.57	4.55	1.18	.35
1924-25....	7.70	.57	7.13	3.29	1.72	.37	.20	.00	2.92	1.52	.65	2.04
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....	54.87	33.84	21.03	12.34	9.21	1.88	7.27	24.69	10.46	1.94	.38	8.25
1931-32....	71.47	48.24	23.23	25.20	5.18	14.37	3.53	30.34	10.83	1.65	2.88	7.87
Average 1926-31....	32.85	10.64	22.21	10.16	10.16	.72	4.44	5.48	9.44	5.71	.23	6.83

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
1922-23....	18.38	13.63	4.75	2.24 ^b	.11	16.03	8.15	.04	8.11	1.38	.63	6.14
1923-24....	21.93	15.53	6.40	2.49	.34	19.10	11.40	1.34	10.06	.61	.67	10.12
1924-25....	20.50	13.16	7.34	3.24	.15	17.11	11.56	1.89	9.67	.92	.46	10.18
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 ^d
1931-32....	30.89	29.98	15.23	.91	.00	15.66	8.03	1.69	6.34	.76	.04	7.23 ^d
Average 1926-31....	30.63	22.86	7.77	4.62	.36	25.65	13.75	3.68	10.07	1.06	.66	12.03

* Data from official statistics of exporting countries.

^a Total flour exports, the bulk of which go to China and Kwantung.^b Flour as wheat only.^c Exports from Australia to Egypt and Sudan, except as noted.^d Australian exports of wheat to Egypt; Australian flour exports to Egypt and Sudan.

TABLE XXII (Continued).—EXPORTS OF WHEAT AND FLOUR TO SPECIFIED EX-EUROPEAN COUNTRIES FROM PRINCIPAL SOURCES OF EXPORTS, ANNUALLY FROM 1922-23

July-June	Total flour ^a	Flour from		Wheat and flour			Total from		Wheat from		Flour from	
		United States	Canada	Total	Wheat	Flour	Canada	Australia	Canada	Australia	Canada	Australia
1922-23....	12.85	8.66	4.19	4.94	2.66	2.28	.51	4.43	.11	2.55	.40	1.88
1923-24....	14.40	9.76	4.64	6.72	4.59	2.13	1.19	5.53	.87	3.72	.32	1.81
1924-25....	12.65	9.23	3.42	5.60	4.09	1.51	.71	4.89	.42	3.67	.29	1.22
1925-26....	12.77	8.24	4.53	4.70	3.37	1.33	.49	4.21	.25	3.12	.24	1.09
1926-27....	13.10	9.19	3.91	3.58	2.36	1.22	.66	2.92	.35	2.01	.31	.91
1927-28....	13.19	8.93	4.26	8.84	7.44	1.40	.84	8.00	.50	6.94	.34	1.06
1928-29....	14.52	9.49	5.03	7.78	6.29	1.49	2.46	5.32	2.15	4.14	.31	1.18
1929-30....	12.62	8.77	3.85	3.23	2.14	1.09	.81	2.42	.60	1.54	.21	.88
1930-31....	11.59	7.33	4.26	5.14	4.51	.63	3.75	1.39	3.55	.96	.20	.43
1931-32....	10.54	6.78	3.76	4.08	3.99	.09	3.56	.52	3.53	.46	.03	.06
Average												
1926-31....	13.00	8.70	4.26	5.71	4.55	1.16	1.70	4.01	1.43	3.12	.27	.89

^a Flour only, as wheat exports to the West Indies are negligible.

TABLE XXIII.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, AND APPARENT DOMESTIC UTILIZATION, IN SPECIFIED COUNTRIES, BY CALENDAR YEARS FROM 1922*

Year	(Million bushels)						
	Brazil ^a	Portugal ^a	Mo-rocce ^b	Chille ^b	Uruguay ^b	South Africa ^a	New Zealand ^a
NET EXPORTS OR NET IMPORTS							
1922...	22.32	8.14	0.71	0.07	0.43	2.86	(1.21)
1923...	22.97	6.49	0.16	1.49	0.01	7.00	0.00
1924...	28.91	3.18	1.66	7.20	5.18	7.70	3.55
1925...	27.74	5.96	0.72	5.12	2.28	6.13	2.64
1926...	31.52	4.30	0.78	1.05	1.32	4.54	2.97
1927...	32.60	7.94	2.42	(0.30)	1.94	5.81	1.42
1928...	36.53	11.97	4.05	0.54	6.05	8.81	1.21
1929...	35.94	5.76	4.09	0.29	4.28	7.70	0.52
1930...	31.79	5.84	1.01	1.88	2.69	2.80	0.73
1931...	32.46	3.33	5.73	0.11	0.03	2.72	0.74
APPARENT DOMESTIC UTILIZATION							
1922...	27.44	18.15	12.18	23.57	9.54	11.53	9.35
1923...	25.92	19.68	19.89	24.45	5.14	13.27	8.40
1924...	33.23	13.75	27.09	20.89	8.16	13.67	7.73
1925...	32.07	18.45	23.15	19.35	7.63	13.26	8.09
1926...	37.19	12.86	19.80	26.62	8.70	13.75	7.59
1927...	37.56	19.39	21.13	23.60	8.30	13.85	9.37
1928...	41.16	19.52	20.70	30.07	9.35	14.49	10.75
1929...	40.57	16.40	27.67	29.39	8.02	14.94	9.35
1930...	38.06	19.66	20.29	31.65	10.47	13.43	7.97
1931...	37.44	16.33	24.24	21.08	7.34	12.02	8.32

* Trade data from *International Yearbooks of Agricultural Statistics*; apparent domestic utilization data computed from production figures in Table II and the above trade data as follows: (a) for Northern Hemisphere countries, crop of 1922 plus net imports or minus net exports of 1922 and following; (b) for Southern Hemisphere countries, crop of 1921 plus net imports or minus net exports of 1922 and following.

^a Net imports except as noted with parentheses.

^b Net exports except as noted with parentheses.

TABLE XXIV.—OCEAN FREIGHTS ON WHEAT TO EUROPE, ANNUAL AND MONTHLY AVERAGES*

Period	(Cents per bushel)						
	Canada ^a	New York ^b	Northern Pacific ^a	Black Sea ^c	La Plata down river ^a	Karachi ^a	Australia ^a
Jan.-Dec. 1913.....	8.3	5.8	25.7	...	10.6	12.2	20.4
Aug.-July							
1922-23.....	9.2	5.5	22.2	...	14.3	15.4	23.6
1923-24.....	9.4	6.8	21.2	...	13.7	15.0	21.8
1924-25.....	9.4	6.3	21.3	...	12.0	14.7	25.2
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 ^e	16.7
1930-31.....	5.6 ^f	4.6	14.5	7.1	10.9	12.5	19.3
1931-32.....	4.9 ^g	3.9	12.1 ^h	5.5	8.2	11.2 ⁱ	13.2
July.....	4.9	4.6	13.7	6.7	10.2	12.3	16.8
Aug.....	4.8	4.6	13.7	6.9	10.9	12.1	16.9
Sept.....	4.8	4.3	n.q.	6.8	10.0	11.7 ^j	14.3 ^k
Oct.....	5.6	4.2	11.8 ^l	6.0	9.0	11.6 ^l	14.4
Nov.....	6.1	4.9	11.8	5.7	8.0	n.q.	14.5
Dec.....	n.q.	3.4	10.5	4.9	7.3	n.q.	13.1
Jan.....	n.q.	3.2	10.2 ^l	5.2	7.9	n.q.	12.5
Feb.....	n.q.	4.0	10.7	5.1 ^k	8.1	n.q.	12.8
Mar.....	5.4 ^j	3.8	11.6	5.5 ^l	8.2	n.q.	13.8
Apr.....	5.2	3.9	11.3 ^k	5.3	8.3	n.q.	13.5
May.....	4.9	3.4	10.4	5.2 ^k	7.5	10.6 ^l	11.8
June.....	4.2	3.4	8.9 ^k	5.0 ^k	6.4	9.8 ^j	10.4
July.....	3.5	3.3	8.6 ^l	4.4 ^l	6.3	n.q.	9.9 ^k

* Averages of Friday rates published in *International Crop Report and Agricultural Statistics*. New York-Liverpool rates are for parcels in liners; others for cargoes.

^a To United Kingdom.

^b To Liverpool.

^c To Antwerp and Hamburg. Not available before August 1930.

^d April-July.

^e May-July.

^f August-December and April-July.

^g August-November and March-July.

^h August and October-July.

ⁱ August-October and May-June.

^j One week only.

^k Three-week average.

^l Two-week average.

TABLE XXV.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1931*

(Million bushels)

A. NET EXPORTS

Month	United States ^a	Canada	Argentina	Australia	Four exporters	USSR	Hungary	Jugoslavia	Roumania	Bulgaria	Poland	Algeria	Tunis	India
Aug.	10.81	14.24	5.43	8.04	38.52	20.76	1.32	4.35	6.85	0.45	0.14	0.39	1.28	0.02
Sept.	10.91	16.82	6.96	10.89	45.58	17.79	2.08	1.72	11.71	1.67	0.21	0.18	0.52	0.17
Oct.	13.79	21.41	5.58	7.72	48.50	13.90	3.47	1.55	5.88	1.50	0.18}	0.38	{0.21	0.28
Nov.	12.73	29.58	5.87	6.48	54.66	6.29	4.44	1.80	5.76	1.38	0.26}		{0.20	0.22
Dec.	11.52	24.36	7.62	9.40	52.90	4.36	2.32	1.19	1.80	0.66	(0.09)	0.19	0.14	0.22
Jan.	7.05	10.95	12.13	19.71	49.84	2.55	0.68	0.62	1.37	0.80	0.06}	1.06	{(0.03)	0.16
Feb.	7.41	11.41	17.72	21.11	57.65	0.92	0.31	0.30	1.16	1.28	0.36}		{0.03	0.18
Mar.	8.09	11.77	29.24	19.38	68.48	0.09	0.58	0.70	0.59	1.31	0.51	0.54	0.34	0.22
Apr.	11.30	8.66	19.42	15.75	55.13	0.28	0.67	1.32	1.35	0.90	0.63}	0.75	{0.37	0.15
May	8.47	17.60	13.31	17.89	57.27	0.01	0.88	0.27	0.41	0.58	0.37}		{0.18	0.16
June	8.27	18.42	8.63	11.56	46.88	(1.50)	1.29	0.89	0.37	0.44	0.33}	0.69	{2.84	0.14
July	4.21	21.62	3.25	8.38	37.46	(0.43)	0.21	0.20	0.12	0.30	0.34}		{2.44	0.09

B. NET IMPORTS

Month	United Kingdom	Irish Free State	British Isles total	Italy, Germany, France	Italy	Germany	France ^b	Belgium ^c	Netherlands	Denmark	Norway	Sweden	Scandinavia total	Switzerland
Aug.	23.07	1.87	24.94	8.67	0.71	1.74	7.22	3.81	1.78	0.91	0.60	0.34	1.85	1.72
Sept.	31.89	1.94	33.83	5.06	0.54	(0.56)	5.08	3.98	3.17	2.14	0.44	0.32	2.90	2.08
Oct.	28.59	2.38	30.97	7.32	0.58	(0.37)	7.11	5.05	3.68	3.01	0.94	0.47	4.42	2.62
Nov.	22.42	1.20	23.62	5.63	0.97	(0.19)	4.85	3.74	2.64	2.76	1.37	0.90	5.03	1.87
Dec.	15.60	1.65	17.25	6.60	0.59	1.06	4.95	4.20	2.75	1.76	0.95	0.65	3.36	2.26
Jan.	10.29	1.05	11.34	6.23	1.44	1.62	3.17	2.54	2.70	0.97	0.61	0.63	2.21	1.64
Feb.	17.12	1.28	18.40	7.46	2.24	2.42	2.80	2.51	2.37	0.82	1.04	0.38	2.24	0.96
Mar.	19.54	1.94	21.48	10.25	3.98	1.43	4.84	2.68	2.42	1.08	0.63	0.64	2.35	1.46
Apr.	17.39	1.94	19.33	17.04	5.79	1.34	9.91	3.78	2.22	0.82	0.78	0.68	2.28	1.52
May	16.89	1.66	18.55	17.82	6.66	1.87	9.29	4.74	2.02	1.08	0.21	0.21	1.50	1.51
June	18.93	1.69	20.62	24.64	6.68	7.20	10.76	5.16	3.00	1.22	0.68	1.12	3.02	1.47
July	19.05	1.57	20.62	18.21	2.77	5.66	9.78	4.25	2.48	1.00	0.47	0.48	1.95	1.70

B. NET IMPORTS (Continued)

Month	Austria	Czecho-Slovakia	Greece	Spain	Portugal	Finland	Latvia	Estonia	Lithuania	Four Baltic states	Egypt	Japan	New Zealand	South Africa
Aug.	0.66	1.67	1.78	(0.01)	0.51	0.41	0.07	0.07	0.00	0.55	0.40	0.67	0.09}	0.46
Sept.	0.83	2.50	2.25	(0.01)	0.21	0.41	0.10	0.04	0.00	0.55}	1.35	{0.55	0.03}	
Oct.	1.04	2.52	2.20	0.00	0.08	0.66	0.11	0.08	0.00	0.85}		{1.56	0.04}	0.20
Nov.	1.84	2.71	1.91	0.05	0.05	0.85	0.08	0.03	0.00	0.96	1.23	1.03	0.04}	0.22
Dec.	1.87	2.82	1.80	(0.01)	0.12	0.24	0.05	0.03	(0.01)	0.31	0.35	1.45	0.11}	
Jan.	1.43	1.46	1.64	0.00	0.01	0.16	0.04	0.02	(0.01)	0.21	0.59	1.70}	0.08}	0.55
Feb.	0.70	1.52	2.08	0.00	0.03	0.18	0.07	0.02	(0.02)	0.25	0.82	3.22}		
Mar.	1.16	1.84	2.28	(0.01)	0.06	0.25	0.06	0.03	(0.02)	0.32}	1.58	{2.90	0.06}	
Apr.	0.91	1.87	2.01	0.00	0.04	0.23	0.03	0.05	(0.00)	0.31}		{2.01	0.08}	0.07
May	0.72	1.88	2.93	0.21	0.12	0.35	0.05	0.06	(0.01)	0.45	0.56	1.62	0.08	0.06
June	1.57	1.92	1.96	2.27	0.24	0.32	0.05	0.02	(0.01)	0.38	0.39	4.01		{0.13
July	0.98	2.07	1.54	2.54	1.32	0.40	0.25	0.00	(0.01)	0.64	0.17	(0.27)}	0.38}	{....

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

^a Includes shipments of flour to possessions.

^c Including Luxemburg.

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

TABLE XXVI.—WORLD WHEAT STOCKS EX-RUSSIA (APPROXIMATE), ABOUT AUGUST 1, 1922-32*
(Million bushels)

Year	Total	Four chief exporters	In North America ^a			Aus-tralla ^b	Argen-tina ^b	Lower Danube ^c	India ^d	Northern Africa ^e	European In-porters ^e	Afloat to Europe ^d
			Total	U.S. grain	Canadian grain							
1922.....	510	229	160	118	42	18	51	16	15	14	187	49
1923.....	461	272	180	147	33	28	64	26	22	6	96	39
1924.....	581	286	193	145	48	27	66	36	42	12	163	42
1925.....	423	230	148	118	30	24	58	10	37	8	105	33
1926.....	493	224	140	100	40	17	67	30	35	17	148	39
1927.....	531	264	172	119	53	23	69	36	19	19	147	46
1928.....	598	341	219	127	92	27	95	15	19	16	162	45
1929.....	854	529	372	245	127	27	130	65	15	15	192	38
1930.....	810	525	423	296	127	37	65	34	15	24	173	39
1931.....	891	600	474	334	140	46	80	50	57	9	137	38
1932.....	849	615	515	379	136	40	60	41	37	5	120	31

* Based so far as possible upon stocks reported either officially or unofficially. United States wheat stocks as of July 1; others as of August 1 or nearest date possible.

^a Data from Table XXVIII, with adjustment of Canadian data, 1922-23.

^b Data from Table XXXII.

^c Rough estimates based on statistics of net retention

(crops minus net exports or plus net imports, minus estimated seed use) and estimates of consumption; the estimates include arbitrary allowances for minimum stocks.

^d Data from Table XXVII.

TABLE XXVII.—WORLD WHEAT VISIBLE SUPPLIES, AUGUST 1, 1922-32, AND MONTHLY 1931-32*
(Thousand bushels)

Date	Total	U.S. grain		Canadian grain		Total North America	Afloat to Europe	U.K. ports	Total U.K. and afloat	Aus-tralla	Argen-tina
		United States	Canada	Canada	United States						
August 1											
1922.....	103.6	23.1 ^a	1.1	17.1	1.1	42.4	48.9	7.1	56.0	3.0	2.2
1923.....	124.4	40.5 ^a	2.0	11.5	1.0	55.0	38.9	8.1	47.0	18.0	4.4
1924.....	167.5	46.2 ^a	.9	28.9	3.0	79.0	41.7	10.0	51.7	30.0	6.8
1925.....	116.6	34.0 ^a	2.4	18.5	3.0	57.9	33.4	9.2	42.6	8.4	7.7
1926.....	118.9	34.6 ^a	.3	27.1	3.7	65.7	38.6	4.3	42.9	6.2	4.1
1927.....	150.2	33.7	1.3	37.8	4.8	77.6	46.1	7.8	53.9	12.8	5.9
1928.....	201.6	63.1	2.3	52.4	13.6	131.4	44.7	10.1	54.8	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.....	357.7	161.9	4.0	89.5	16.1	271.5	39.2	6.5	45.7	33.5	7.0
1931.....	442.9	233.6	22.9	105.8	5.5	367.8	37.9	10.6	48.5	20.0	6.6
1932.....	385.8	175.9 ^b	15.4	116.8	4.7	312.8	31.4	10.9	42.3	24.5	6.2
1931-32											
Sept. 1.....	475.1	261.7	32.2	95.2	5.3	394.4	46.3	13.4	59.7	15.5	5.5
Oct. 1.....	485.6	256.3	32.5	113.2	7.3	409.3	37.8	22.1	59.9	10.2	6.2
Nov. 1.....	515.7	244.0	31.6	150.6	10.3	436.5	38.5	29.0	67.5	6.2	5.5
Dec. 1.....	527.6	236.6	29.7	169.2	16.7	452.2	35.7	29.5	65.2	5.8	4.4
Jan. 1.....	589.1	226.9	29.2	172.6	19.7	448.4	29.8	23.9	53.7	80.0	7.0
Feb. 1.....	621.0	217.7	28.7	173.5	21.9	441.8	50.7	17.8	68.5	100.0	10.7
Mar. 1.....	605.1	216.3	27.7	172.0	14.8	430.8	58.0	17.2	75.2	85.5	13.6
Apr. 1.....	583.9	207.2	27.6	172.9	11.7	419.4	58.7	15.4	74.1	75.0	15.4
May 1.....	525.1	186.5	26.9	159.7	4.6	377.7	54.8	14.4	69.2	62.0	16.2
June 1.....	469.1	176.2	17.5	137.9	6.0	337.6	59.0	10.4	69.4	48.5	13.6
July 1.....	432.7	168.4	15.9	135.1	4.6	324.0	45.2	11.0	56.2	41.5	11.0
Aug. 1.....	385.8	175.9 ^b	15.4	116.8	4.7	312.8	31.4	10.9	42.3	24.5	6.2

* Data from *Commercial Stocks of Grain in Store in Principal U.S. Markets*; *Canadian Grain Statistics*; and *Corn Trade News*, except as noted.

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

^b Excludes stocks in Toledo, which amounted to 3.2 million bushels on July 23, 1932.

TABLE XXVIII.—WHEAT CARRYOVERS IN THE UNITED STATES AND CANADA, 1922-32*
(Million bushels)

Year	United States (July 1)						Canada (August 31, 1922-23; July 31, 1924-32)						
	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.....	32.4	28.8	20.3 ^d	35.0 ^e	116.5	0.5	2.4	4.6	6.4	4.6	2.6	20.6	1.6
1923.....	35.9	37.1	29.4 ^d	44.0 ^e	146.3	1.2	1.4	2.4	2.7	2.8	2.4	11.7	0.5
1924.....	31.0	36.6	38.6 ^d	38.0 ^e	144.2	0.3	7.4 ^f	4.7	22.7	5.9	4.5	45.2 ^f	3.0
1925.....	29.4	25.3	29.3 ^d	30.6	114.6	2.7	2.7	2.7	15.2	3.9	2.0	26.5	3.0
1926.....	21.0	29.5	16.5 ^d	31.9	98.9	1.0	3.9	1.3	24.1	3.2	3.9	36.4	3.7
1927.....	27.2	21.8	21.1	48.3	118.4	1.4	4.2	1.5	35.6	2.3	4.2	47.8	4.8
1928.....	23.7	19.3	38.6	42.8	124.4	2.5	4.2	4.7	48.9	13.7	6.1	77.6	13.6
1929.....	45.4	41.5	90.4	64.5	241.8	3.3	5.6	6.3	76.3	8.7	7.5	104.4	22.9
1930.....	47.4	60.2	109.3	73.9 ^g	290.8	4.7	5.3	16.8	69.3	12.8	6.9	111.1	16.1
1931.....	31.9	30.3	204.0	52.4 ^g	318.6	15.3	19.5	34.1 ^h	71.1	7.3	2.1 ⁱ	134.1	5.5
1932.....	71.9	41.8	168.4	80.5 ^g	362.6	15.9	7.5	33.5 ^h	78.6	9.3	2.0 ⁱ	130.9	4.7

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

^a Wheat stocks in, and in transit to, city mills reported to the Census Bureau (see Table XXIX), raised by the U.S. Department of Agriculture to 100 per cent to account for stocks in non-reporting mills.

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

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

^d Bradstreet's visible.

^e Rough approximations published and designated as "unofficial" by the U.S. Department of Agriculture in *Wheat Facts*, Part I, July 1930, p. 18.

^f Farm stocks as of August 31, 1924.

^g Includes estimates by the U.S. Department of Agriculture of 12.5, 18.4, and 7.1 million bushels "stored for others" in city mills in 1930, 1931, and 1932, respectively.

^h Including stocks in flour mills, Western Division.

ⁱ In the Eastern Division only.

TABLE XXIX.—CITY MILL STOCKS IN THE UNITED STATES, JUNE 30, 1925-32*
(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	32.31	15.73	48.04	....^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	34.54
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.....	95.0	2.55	2.33	3.30	9.43	60.33	77.94	15.00	92.94	69.76

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

^a Derived from biennial census data as follows:

Census of	Total output (bbls.)
1923	114,438,544
1925	114,689,930
1927	118,132,027
1929 (preliminary)	117,369,505
1929 (final)	120,039,673

Period applied
6-30-25 to 12-31-26
3-31-27 to 9-30-28
12-31-28 to 12-31-30
3-31-31 to 6-30-31
9-30-31 to

^b In private terminal elevators not attached to mills.

^c In mills and elevators attached to mills. In addition to wheat owned, there was reported stored for others 17.73 million bushels on June 30, 1931, and 6.73 on June 30, 1932.

^d In wheat equivalent (4.7 bu. = 1 bbl.).

^e Summation 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 XXX.—UNITED STATES FLOUR PRODUCTION, NET EXPORTS AND SHIPMENTS, AND DOMESTIC DISAPPEARANCE, MONTHLY FROM JULY 1923*
(Thousand barrels)

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Total
A. REPORTED PRODUCTION, ALL REPORTING MILLS													
1923-24.....	7,805	9,642	9,760	10,983	9,403	8,137	8,970	8,433	8,355	7,682	7,896	7,797	104,863
1924-25.....	8,465	9,842	10,459	11,371	9,187	8,855	9,853	8,248	7,347	6,781	6,942	7,745	105,095
1925-26.....	8,840	9,293	9,938	10,728	9,128	8,948	8,679	7,429	8,289	7,589	7,418	8,005	104,284
1926-27.....	9,570	10,447	10,843	10,678	9,618	8,909	8,624	8,023	8,936	8,309	8,497	8,528	110,982
1927-28.....	8,388	9,617	10,470	10,817	9,735	9,235	9,242	8,975	9,772	8,507	8,712	7,758	111,228
1928-29.....	8,516	10,370	10,512	11,587	9,909	9,269	10,014	9,026	9,207	8,636	9,334	8,912	115,292
1929-30.....	9,337	11,058	10,372	10,968	9,538	8,905	9,510	8,783	9,347	9,071	8,981	8,687	114,557
1930-31.....	9,466	10,313	10,674	10,816	9,184	8,973	9,233	8,242	8,724	8,494	8,015	7,762	109,896
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
B. ESTIMATED TOTAL UNITED STATES PRODUCTION													
1923-24.....	8,965	11,069	11,123	12,442	10,604	9,184	10,081	9,477	9,394	8,657	8,898	8,780	118,674
1924-25.....	9,503	11,022	11,694	12,691	10,249	9,870	10,968	9,215	8,217	7,606	7,780	8,655	117,470
1925-26.....	9,869	10,374	11,094	11,957	10,181	9,974	9,671	8,276	9,213	8,438	8,242	8,868	116,157
1926-27.....	10,572	11,520	11,940	11,761	10,582	9,800	9,471	8,809	9,801	9,100	9,334	9,358	122,048
1927-28.....	9,196	10,506	11,417	11,766	10,565	10,009	9,971	9,696	10,526	9,166	9,365	8,377	120,560
1928-29.....	9,186	11,164	11,327	12,449	10,577	9,905	10,682	9,648	9,840	9,236	9,974	9,568	123,556
1929-30.....	9,988	11,810	11,084	11,715	10,179	9,510	10,182	9,411	9,993	9,690	9,602	9,289	122,453
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
C. NET EXPORTS AND SHIPMENTS TO POSSESSIONS													
1923-24.....	918	1,289	1,592	2,118	1,817	1,853	1,765	1,572	1,450	1,095	1,011	1,227	17,707
1924-25.....	831	993	1,511	1,909	1,653	1,510	1,060	976	1,425	1,012	746	859	14,485
1925-26.....	820	910	854	1,062	935	1,048	727	696	733	884	737	699	10,105
1926-27.....	848	1,403	1,617	1,429	1,400	1,270	1,084	905	929	1,062	1,162	914	14,023
1927-28.....	836	1,096	1,317	1,558	1,383	1,175	1,289	1,000	1,053	1,044	905	724	13,380
1928-29.....	683	1,001	1,066	1,436	1,261	998	1,429	1,273	1,245	1,118	986	1,051	13,547
1929-30.....	1,127	1,121	1,200	1,376	1,150	1,165	1,298	971	1,101	985	1,098	999	13,591
1930-31.....	989	1,266	1,461	1,387	1,203	945	996	808	775	811	838	872	12,351
1931-32.....	1,048	692	768	825	905	942	903	753	652	582	388	469	8,927
D. CALCULATED DOMESTIC DISAPPEARANCE													
1923-24.....	8,047	9,780	9,531	10,324	8,787	7,331	8,316	7,905	7,944	7,562	7,887	7,553	100,967
1924-25.....	8,672	10,029	10,183	10,782	8,596	8,360	9,908	8,239	6,792	6,594	7,034	7,796	102,985
1925-26.....	9,049	9,464	10,240	10,895	9,246	8,926	8,944	7,580	8,480	7,554	7,505	8,169	106,052
1926-27.....	9,724	10,117	10,323	10,332	9,182	8,530	8,387	7,904	8,872	8,038	8,172	8,444	108,025
1927-28.....	8,360	9,410	10,100	10,208	9,182	8,834	8,682	8,696	9,473	8,122	8,460	7,653	107,180
1928-29.....	8,503	10,163	10,261	11,013	9,316	8,907	9,253	8,375	8,595	8,118	8,988	8,517	110,009
1929-30.....	8,861	10,689	9,884	10,339	9,029	8,345	8,884	8,440	8,892	8,705	8,504	8,290	108,862
1930-31.....	9,139	9,747	9,934	10,147	8,605	8,630	8,895	8,032	8,576	8,296	7,761	7,459	105,221
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

* Reported production and trade data from U.S. Department of Commerce press releases, *Monthly Summary of Foreign Commerce, and Foodstuffs Round the World*. The estimates of total United States production are based on a detailed, but still partially incomplete, study of relations between monthly reported output and census totals and are subject to minor revisions.

TABLE XXXI.—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	End-year stocks ^g
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^b	Fed on farms ^b	Residual ^e	Total ^f				
1922-23.....	117	847	964	468	83	70	-11	610	354	205	2.9	146
1923-24.....	146	760	906	475	75	95	-18	627	279	132	3.0	144
1924-25.....	144	840	984	479	81	56	- 5	611	373	255	2.9	115
1925-26.....	115	669	784	498	80	28	-16	590	194	92	2.7	99
1926-27.....	99	834	933	501	85	34	-14	606	327	206	3.1	118
1927-28.....	118	875	993	503	93	44	+36	676	317	190	2.7	124
1928-29.....	124	926	1,050	510	85	55	+13	663	387	142	3.2	242
1929-30.....	242	813	1,055	508	85	57	-29	621	434	140	3.0	291
1930-31.....	291	858	1,149	492	81	159	-17	715	434	112 ^h	2.9	319
1931-32.....	319	900	1,219	485	79	184	-19	729	490	124 ^h	2.8	363

B. CANADA (AUGUST-JULY)

Year	Supplies			Domestic disappearance						Surplus over domestic use	Net exports ^g	End-year stocks ^g
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^b	Unmerch- antable ^b	Loss in cleaning ^b	Resid- ual ^e	Total ^f			
1922-23.....	40	400	440	41	40	10	12	+26	129	311	279	32
1923-24.....	32	474	506	42	39	19	12	+ 3	115	391	346	45
1924-25.....	45	262	307	42	38	12	10	-14	88	219	192	27
1925-26.....	27	395	422	42	40	11	6	-37	62	360	324	36
1926-27.....	36	407	443	43	39	12	19	-11	102	341	293	48
1927-28.....	48	480	528	42	42	28	7	- 2	117	411	333	78
1928-29.....	78	567	645	44	44	30	13	+ 4	135	510	406	104
1929-30.....	104	305	409	43	44	7	7	+12	113	296	185	111
1930-31.....	111	421	532	43	36 ⁱ	45 ^j	6	+10	140	392	258	134
1931-32.....	134	304 ^k	438	42	37 ⁱ	36 ^j	5	-20	100	338	207	131

* Based on official data so far as possible.

^a See Table XXVIII.^b Latest official estimates of U.S. Department of Agriculture and Dominion Bureau of Statistics, respectively. Seed and feed estimates for the United States, 1922-24, are our tentative figures.^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, Food Research Institute estimates corresponding to final column in Table XXX; 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 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.

^f Total supplies less net exports (and for the United States, shipments to possessions) and end-year stocks.^g Official trade data, as in Tables XIII, XX.^h Too low; does not include some wheat shipped to Canada; see text, p. 104.ⁱ Probably too low for close comparison with figures of earlier years on account of a change in the estimated seed requirement per acre.^j Including merchantable wheat fed to livestock on farms estimated at 41 million bushels in 1930-31 and 33 million in 1931-32.^k Officially regarded as about 18-26 million bushels too low.

TABLE XXXI (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 ^b	Estimated stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Residual ^f	Total ^g			Aug. 1 total ^h	Aug. 1 ex- portable ⁱ	Dec. 1 visible ^j
1922-23.....	18	109	127	28	10	+11	49	78	50	28	19	1
1923-24.....	28	125	153	28	11	+ 1	40	113	86	27	17	2
1924-25.....	27	165	192	30	11	+ 3	44	148	124	24	13	1
1925-26.....	24	115	139	33	12	0	45	94	77	17	7	0
1926-27.....	17	161	178	31	12	+ 9	52	126	103	23	12	1
1927-28.....	23	118	141	32	15	- 4	43	98	71	27	17	1
1928-29.....	27	160	187	29	15	+ 7	51	136	109	27	15	2
1929-30.....	27	127	154	32	18	+ 4	54	100	63	37	26	2
1930-31.....	37	214	251	32	14	+ 7	53	198	152	46	35	2
1931-32.....	46	190	236	32	15	- 7	40	196	156	40	29	2

D. ARGENTINA (AUGUST-JULY)

Year	Supplies			Domestic disappearance				Surplus over domestic use	Net exports ^b	Estimated stocks		
	Initial stocks ^a	Crop ^b	Total ^c	Milled (net) ^d	Seed use ^e	Residual ^f	Total ^g			Aug. 1 total ^h	Aug. 1 ex- portable ⁱ	Dec. 31 total ^j
1922-23.....	51	196	247	44	21	-21	44	203	139	64	44	10
1923-24.....	64	248	312	49	21	+ 3	73	239	173	66	44	10
1924-25.....	66	191	257	53	23	+ 2	78	179	121	58	35	10
1925-26.....	58	191	249	54	23	+ 7	84	165	98	67	43	35
1926-27.....	67	230	297	57	25	0	82	215	146	69	44	10
1927-28.....	69	282	351	60	25	- 8	77	274	179	95	70	15
1928-29.....	95	349	444	61	23	+ 8	92	352	222	130	105	20
1929-30.....	130	163	293	60	26	- 9	77	216	151	65	40	20
1930-31.....	65	232	297	60	21	+12	93	204	124	80	55	20
1931-32.....	80	226	306	60	24	+22	106	200	140	60	35	15

* Based on official data so far as possible.

^a Australia: adjusted December 1 visible (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.

^c Exclusive of imports, which are taken into account in arriving at net exports.

^d Australia: official data for July-June years to 1928-29; our estimates thereafter. Argentina: our estimates based on official data of flour milled minus flour exports in calendar years 1922-30.

^e Australia: official data prior to 1928-29, for sowings of wheat both for grain and for hay; our estimates from 1928-29. Argentina: based on official data on acreage sown and average seed requirements.

^f See footnote e, p. 131.

^g Total supplies less net exports and end-year stocks.

^h Official trade data, as in Tables XIII, XX.

ⁱ Preceding column minus $\frac{1}{2}$ of net mill grindings for Australia, $\frac{1}{2}$ of net mill grindings for Argentina.

^j Australia: visible adjusted to exclude new-crop wheat. Argentina: rough approximations to December 31 stocks of old-crop wheat, based largely upon estimates by the *Times of Argentina*.

TABLE XXXII.—APPARENT DOMESTIC UTILIZATION OF WHEAT (CARRYOVERS DISREGARDED) IN OTHER IMPORTANT COUNTRIES, FROM 1922-23*
(Million bushels)

Aug.-July	India	Hungary	Jugo-Slavia	Roumania	Bulgaria	Poland	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy
1922-23	338.4	49.5	43.5	90.4	28.3	49.3	21.2	4.4	43.7	276.9	298.3	109.4 ^a	277.2
1923-24	352.3	50.9	55.3	93.1	26.7	57.5	29.0	7.1	49.2	300.3	343.7	137.1 ^a	294.6
1924-25	322.5	38.1	48.2	67.2	26.4	54.6	17.7	4.9	44.1	280.1	326.8	170.1 ^a	258.8
1925-26	323.0	51.9	67.8	94.8	37.0	59.3	28.1	9.2	49.0	261.9	354.9	175.6 ^a	308.7
1926-27	313.2	53.0	61.7	99.7	34.3	60.6	25.2	12.7	46.0	288.1	315.4	187.2 ^a	307.2
1927-28	326.5	55.1	56.0	89.2	40.1	69.7	23.0	7.5	50.9	289.4	318.6	209.0 ^a	283.5
1928-29	315.2	73.2	94.5	113.9	48.9	61.6	27.0	8.4	50.9	270.1	347.9	219.2	316.3
1929-30	320.0	45.0	72.1	97.0	34.6	65.7	28.7	6.5	56.5	274.8	342.8	170.9	302.2
1930-31	395.7	66.0	74.7	114.7	51.4	77.9	22.6	4.6	50.0	288.3	290.1	170.4	291.3
1931-32	345.4	54.3	83.9	97.9	49.9	79.9	19.7	5.5	53.5	299.6	343.9	178.7	277.1
Average													
1926-31	334.1	58.5	71.8	102.9	41.9	67.1	25.3	7.9	50.9	282.1	323.0	191.3	300.1

Aug.-July	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Spain	Switzerland	Austria	Czechoslovakia	Finland	Latvia	Estonia	Greece
1922-23	50.3	30.1	15.5	7.54	18.3	125.3	19.2	20.8	43.8	5.83	2.07	....	26.5
1923-24	53.7	32.9	18.2	6.70	23.4	156.8	20.9	27.0	57.4	5.81	3.44	1.71	27.6
1924-25	52.3	31.4	12.5	6.06	17.4	122.6	17.2	23.2 ^c	53.7	5.33	3.52	1.40	28.5
1925-26	54.2	32.9	15.7	7.19	19.5	161.9	19.4	25.4	61.0	6.16	3.72	1.76	30.0
1926-27	52.9	33.9	16.0	6.81	18.2	145.6	20.5	26.3	60.0	6.06	3.54	1.79	31.8
1927-28	58.8	37.2	20.4	7.38	23.7	147.7	22.7	28.5	68.6	7.10	4.15	2.20	32.5
1928-29	59.8	37.3	28.9	9.95	26.3	139.8	21.1	27.5	70.3	7.93	5.49	2.29	35.1
1929-30	55.9	36.1	19.8	7.71	26.3	157.6	20.4	31.2	66.6	6.69	4.78	2.45	33.1
1930-31	62.2	41.5	21.9	9.25	25.7	146.5	22.1	29.5	68.2	6.48	5.61	2.46	33.8
1931-32	60.6	38.0	27.7	9.29	24.8	139.4	25.5	23.1	66.0	5.67	4.46	2.18	35.9
Average													
1926-31	57.9	37.2	21.4	8.22	24.0	147.4	21.4	28.6	66.7	6.85	4.71	2.24	33.3

* Computed from production and trade data given in Tables II and XX. Dots (...) indicate that comparable production and trade figures are not available. Figures for seven other countries are given in Table XXIII.

^a Probably too low on account of understatement of crops, and also (up to 1924-25) of net imports.

^b Including Luxemburg.

^c Includes trade figures for eleven months only.

TABLE XXXIII.—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	Russian exports	Total supplies	Disappearance	Initial stocks	Crops	Total supplies	Disappearance	Initial stocks	Crops	Net imports	Total supplies	Disappearance
1922-23..	510	3,138	1	3,649	3,188	229	1,552	1,781	1,509	187	821	570	1,578	1,482
1923-24..	461	3,448	22	3,931	3,350	272	1,607	1,879	1,593	96	997	589	1,682	1,519
1924-25..	581	3,061	... ^a	3,642	3,219	286	1,458	1,744	1,514	163	853	627	1,643	1,538
1925-26..	423	3,311	27	3,761	3,268	230	1,370	1,600	1,376	105	1,101	522	1,728	1,580
1926-27..	493	3,372	49	3,914	3,383	224	1,632	1,856	1,592	148	922	674	1,744	1,597
1927-28..	531	3,588	2	4,121	3,523	264	1,755	2,019	1,678	147	1,002	646	1,795	1,633
1928-29..	598	3,925	... ^a	4,523	3,669	341	2,002	2,343	1,814	162	1,043	658	1,863	1,671
1929-30..	854	3,425	9	4,288	3,478	529	1,408	1,937	1,412	192	1,147	498	1,837	1,664
1930-31..	810	3,686	114	4,610	3,719	525	1,725	2,250	1,650	173	1,009	613	1,795	1,658
1931-32..	891	3,629	65	4,585	3,736	600	1,614	2,214	1,599	137	1,065	605	1,807	1,687
1932-33..	849	.....	...	.....	.....	615	.....	.....	.....	120	.....	...	.....	.....

* Summarized from Tables I, XIX, and XXVI.

^a Net imports.

TABLE XXXIV.—ANNUAL AND MONTHLY AVERAGES OF SIGNIFICANT WHEAT PRICE SERIES*
(U.S. cents per bushel)

Year and month	United States (July-June) ^a					Winnipeg ^b		Buenos Aires 78-kilo ^c	Melbourne f. a. q. ^d	United Kingdom (Import wheat)				
	Farm price	All classes	No. 2 H. W. (K.C.)	No. 2 R. W. (St.L.)	No. 1 N. S. (Mnpls.)	Wtd. average	No. 3 Man.			All imports ^e	British parcels ^f	No. 3 Man. ^g	Rosafé ^h	Australian f. a. q. ⁱ
1922-23.....	98	112	113	121	120	106	106	110 ^b	122	138	135	131 ^t	135	145
1923-24.....	92	107	105	107	117	96	97	101	102	121	123	119 ^t	122	128
1924-25.....	128	145	135	159	156	152	170	157	146	180	182	181	181	181
1925-26.....	146	155	163	169	161	139	142	146	148	170	170	168	163 ^t	176
1926-27.....	124	138	135	138	146	130	135	133	137	164	163	164	160	167
1927-28.....	121	133	135	149	136	119	130	130	133	155	152	154	151	160
1928-29.....	100	111	112	139	118	103	115	108	114	132	129	138	128	140
1929-30.....	105	122	120	130	133	126	118	108	115	130	127	137	122	133
1930-31.....	66	77	76	83	83	66	58	56	53	79	76	77	72	78
1931-32.....	39	55	47	52	68	50	46	44 ^j	43	57	59	62	56	61
July	36	47	44	48	61	54	50	43	42	66	62	63	57	64
Aug.	35	51	43	47	65	51	46	39	40	63	54	60	55	59
Sept.	36	56	43	47	69	49	43	38	38	53	54	56	53	60
Oct.	36	58	48	52	71	49	45	40	39	49	58	59	55	64
Nov.	50	69	59	62	80	55	52	48	47	52	66	71	65	70
Dec.	44	60	52	57	73	46	43	42	43	53	57	60	54	60
Jan.	44	61	53	57	75	48	44	41	43	56	57	63	53	59
Feb.	44	59	54	57	75	52	48	44	44	58	61	65	55	59
Mar.	44	58	51	55	70	53	49	47 ^j	45	63	64	68	57	63
Apr.	43	60	53	57	71	54	50	48	46	63	63	66	58	64
May	42	61	54	56	68	53	49	49	46	63	62	62	59	63
June	37	53	46	49	60	47	43	46	44	60	55	54	54	57
July	36	48	45	47	57	46	43	44	43	57	53	54	55	55

* Data partly from official sources, partly our computations from trade journals. Except U.S. prices, annual averages are arithmetic averages of monthly figures, August-July. For various reasons, cross-comparisons of the annual averages are subject to many qualifications. Conversions of foreign prices at par when exchanges were at par, and otherwise at current exchange rates.

^a Data of U.S. Department of Agriculture on farm prices, all classes and grades in six markets, No. 2 Hard Winter at Kansas City, No. 2 Red Winter at St. Louis, and No. 1 Northern Spring at Minneapolis. See especially *Agriculture Yearbook, 1932*, pp. 593-94, and *Crops and Markets*. The annual averages (preliminary for 1931-32) are weighted by marketings, and monthly prices (except farm prices) are weighted by car-lot sales.

^b Based on data in *Canadian Grain Statistics*. Monthly data are simple averages of weekly average prices for weeks ending Saturday; the weekly averages of No. 3 Manitoba are unweighted but the weekly weighted averages are weighted by inspections.

^c Based on daily quotations in *Revista Semanal*. Monthly data are simple averages of daily prices.

^d Based on daily quotations in *Wheat and Grain Review*, Melbourne, of "Wheat, Trucks, Williamstown." Monthly data are simple averages of daily prices.

^e Based on data in *Accounts and Papers Relating to Trade and Navigation of the United Kingdom*. Monthly data represent declared values of all imported wheat divided by quantities imported.

^f Based on data in *London Grain, Seed and Oil Reporter*. Monthly averages of all reported sales of wheat parcels in British markets.

^g Based on data in *Corn Trade News*. Monthly averages are simple averages of Tuesday quotations of parcels afloat or for early shipment to Liverpool.

^h Estimated from prices of Barletta wheat.

ⁱ Based on incomplete data.

^j 80-kilo after March 16.

TABLE XXXV.—MONTHLY AVERAGE PRICES OF DOMESTIC WHEAT IN EUROPE, FROM AUGUST 1929*
(U.S. cents per bushel)

Month	Great Britain			France (Paris)			Italy (Milan)			Germany (Berlin)		
	1929-30	1930-31	1931-32	1929-30	1930-31	1931-32	1929-30	1930-31	1931-32	1929-30	1930-31	1931-32
Aug.	152	109	83	158	180	172	174	180	126	159	163	134
Sept.	129	95	58	152	175	163	175	177	133	147	155	136
Oct.	124	91	59	153	173	165	184	170	133	150	147	136
Nov.	122	87	67	150	176	162	185	163	140	151	160	146
Dec.	124	80	57	147	177	164	190	146	143	157	161	138
Jan.	124	73	54	144	179	168	194	149	150	160	168	146
Feb.	116	67	53	137	187	173	189	154	163	152	177	158
Mar.	108	67	59	141	190	178	186	149	167	155	186	161
Apr.	113	69	60	141	197	182	194	152	166	175	187	170
May	114	75	61	135	195	184	196	160	169	187	183	176
June	111	78	62	140	199	180	202	143	157	195	176	165
July	108	82	61	171	186	179	177	131	137	187	155	154
Average	120	81	61	147	184	172	187	156	149	165	168	152

* Data for Great Britain are averages of weekly average *Gazette* prices as given in the *Economist* (London); for France, averages of daily prices of "Blés indigènes" in Paris (*marché libre*) as given in the *Bulletin des Halles*; for Italy, averages of Friday prices (Saturday prices after August 23, 1930) of soft wheat as given in *International Crop Report and Agricultural Statistics*; for Germany, monthly average prices as given in *Wirtschaft und Statistik*. All data are converted, for convenience, from domestic currencies into United States money by monthly average exchange rates.

TABLE XXXVI.—MINIMUM PERCENTAGES OF DOMESTIC WHEAT REQUIRED TO BE USED BY MILLERS IN SPECIFIED COUNTRIES, 1931-32*

Date effective	France	Italy						Germany		Sweden	Netherlands
		Durum wheat			Bread wheat			Basic	Special		
		North ^a	South ^b	Islands	North	South	Islands				
Before Aug. 1, 1931.....	90	95	95	95	95	95	95	50	..	85	20
1931 Aug. 1.....	..	..	..	..	..	..	..	60	..	80	..
Aug. 16.....	..	..	..	..	..	..	..	97	70 ^c	..	..
Sept. 7.....	..	..	..	..	..	..	..	..	..	..	22½
Oct. 1.....	..	..	..	..	..	..	..	..	..	70	..
Nov. 1.....	..	75	75	75	..	..	..	..	70 ^c	..	..
Nov. 24.....	97	..	..	..	..	..	..	..	..	..	..
Dec. 1.....	..	..	..	..	..	..	..	..	..	60	..
1932 Jan. 1.....	..	50	50	50	..	..	..	..	..	..	..
Jan. 30.....	90	..	..	..	..	..	..	..	..	..	..
Feb. 1.....	..	20	20	20	70	70	70	..	..	..	..
Feb. 9.....	85	..	..	..	..	..	..	..	..	..	..
Feb. 12.....	80	..	..	..	..	..	..	..	..	..	..
Feb. 24.....	75	..	..	..	..	..	..	..	..	..	..
Mar. 1.....	..	..	..	..	60	40	40	..	..	..	..
Mar. 16.....	70	..	..	..	..	..	..	..	..	..	..
Mar. 21.....	65	..	..	..	50	30	30	..	..	..	..
Mar. 26.....	60	..	..	..	..	..	..	..	..	..	..
Apr. 2.....	55	..	..	..	..	..	..	..	..	..	..
Apr. 26.....	..	10	15	15	40	15	15	..	..	..	..
May 1.....	..	..	..	..	..	..	..	..	70 ^c	..	..
May 6.....	60	..	..	..	..	..	..	..	..	..	..
May 23.....	..	5	10	(10) ^d (15) ^e	25	5	0	..	..	..	..
May 24.....	55	..	..	..	..	..	..	..	..	..	..
May 28.....	50	..	..	..	..	..	..	..	..	..	..
June 1.....	..	..	..	..	..	..	..	..	..	50	..
June 17.....	55	..	..	..	..	..	..	..	..	..	..
June 24.....	60	..	..	..	..	..	..	..	..	..	..
June 27.....	..	..	..	..	..	..	(95) ^d (70) ^e	..	..	..	..
July 1.....	65	..	..	..	..	..	..	..	..	60	..
July 7.....	..	..	95	95	..	95	..	..	..	..	..
July 9.....	75	..	..	..	..	..	..	..	..	..	..
July 15.....	..	70	..	..	95	..	..	..	..	..	..

* For sources see text, p. 77.

^a Northern and Central Italy excluding Latium.

^b Including Latium.

^c This special quota could be used from August 16 by employing wheat imported on export certificates; this privilege was limited to members of the Consortium of German

wheat mills from November 1; from May 1, members of the Consortium could use 30 per cent of foreign wheat without the use of export certificates.

^d Sardinia only.

^e Sicily only.