WHEAT STUDIES

OF THE

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SURVEY OF THE WHEAT SITUATION

AUGUST TO NOVEMBER, 1931

BURDENSOME wheat supplies and low wheat prices continued to characterize the world wheat situation in August–November 1931. Though the world wheat crop of 1931, excluding Russia and China, appears to fall over 100 million bushels below that of 1930, total supplies available to the world ex-Russia appear almost as large as in 1930–31.

Prices sagged from June to early October under selling pressure from exporting countries and critical financial developments in Europe. A reversal of market sentiment led to a major price advance beginning October 5; but in November prices declined on realization that the wheat and general business situations were little changed, and that European wheat purchases were decreasing. In terms of gold, December prices, outside the United States, have been little higher than those of early October.

International trade in wheat was relatively heavy during August–November. Russia, and the Danubian and Southern Hemisphere countries all shipped large quantities. Only the United States and Canada, whose prices have been mainly out of line with international prices, exported notably small amounts.

It now appears that international trade in 1931–32 may approximate 840 million bushels, and that stocks in the world excluding Russia and China may be reduced by 100 to 150 million bushels. Consumption of wheat may be even heavier than in 1930–31. In the coming months, renewed and persistent sagging of prices seems less probable than a tendency to firmness. On the other hand, a substantial and sustained advance in world prices appears unlikely, at least before the end of March.

STANFORD UNIVERSITY, CALIFORNIA

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The central feature of the series is a periodic analysis of the world wheat situation, with special reference to the outlook for supplies, requirements, trade, and prices. Each volume includes a comprehensive review of the preceding crop year, and three surveys of current developments at intervals of about four months. These issues contain a careful selection of relevant statistical material, presented in detail in appendix tables for reference purposes, and in summary form in text tables and charts.

Each volume also includes six special studies bearing on the interpretation of the wheat situation and outlook or upon important problems of national policy. Subjects of issues published in recent volumes are listed inside the back cover.

The series is designed to serve the needs of all serious students of the wheat market, in business, government, and academic circles, by summarizing and interpreting basic facts and presenting current developments in due perspective. The special studies are written not merely for students of the wheat market, but as well for various groups of readers who are especially concerned with the fields discussed.

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SURVEY OF THE WHEAT SITUATION

AUGUST TO NOVEMBER, 1931

Low wheat prices and burdensome wheat supplies continued to characterize the world wheat situation in August–November 1931. The movement of wheat in commercial channels continued to be strongly affected by governmental regulations and operations of various kinds in many countries, though in the United States price-pegging operations were discontinued in June.

The world wheat crop of 1931 outside of Russia and China, though larger than seemed likely in August, now appears to fall over 100 million bushels below that of 1930, and far below the bumper crop of 1928. Yet it is by no means a small crop. Wheat supplies available to the world ex-Russia, including Russian exports and an inward carryover of record size, are almost as large as they were in 1930–31. The rye crop of 1931, however, is a distinctly small one. Feed grains, aside from the supply of corn available for export, are not abundant. Russia probably harvested a wheat crop substantially smaller than that of 1930, with a good crop of winter wheat and a poor crop of spring. China's crop is smaller than that of 1930.

Reduced acreages rather than low yields were responsible for a smaller world wheat crop ex-Russia in 1931 than in 1930. Very high yields per acre were secured in the winter-wheat belt of the United States and in European countries adjacent to Russia. Yields were low in the North American spring-wheat belt and in parts of Europe.

World wheat prices sagged from June until early October, under the influence of selling pressure from exporting countries (with Continental outlets restricted) and of critical financial developments in Europe. Prices advanced sharply for a month after October 5. A remarkable reversal of sentiment found some support in continued drought in the American Southwest and in declining Russian shipments and numerous other items of Russian news. The belief was encouraged that the severe selling pressure responsible for the earlier decline was at an end. The rise itself stimulated hopes of early business revival, which further helped wheat prices. Subsequent realization that anticipation of business revival was premature, and that the fundamental wheat supply situation was little changed, was important in the abrupt decline of wheat prices after early November.

Throughout the period under review, and increasingly in November–December, United States cash prices have displayed relative firmness, in spite of big stocks and the bumper crop of winter wheat. Stabilization supplies were sold sparingly, and domestic demand readily absorbed limited sales by farmers. Outside of the United States, December prices in terms of gold have been little above the low points preceding the advance.

Wheat of the 1931 crop was marketed slowly from farms in North America after mid-July, as very low prices induced farmers to hold. It was probably marketed rapidly in the Danube basin, through the stimulus of financial weakness and of governmental measures that affected prices. In many continental European importing countries, existing milling quota systems that cut down imports served to stimulate the marketing of domestic wheat crops; but in the British Isles, marketings were small. Collections in Russia were very heavy in July and August from what appears to be a good crop of winter wheat; they declined sharply in later months.

Consumption of wheat appears to be running rather heavy, though principally because of extensive feed use in the United States and perhaps in Canada.

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International trade in August–November was large. Russia, as in 1930, shipped heavily; but Russian shipments began to decline in September, whereas they increased until mid-November in 1930. The Danube basin, from a large carryover and a big crop, and under the stimulus of governmental measures, shipped more than in any other post-war year. Shipments from the Southern Hemisphere were relatively large from sizable stocks, but had been much larger in 1929. North American exports were relatively light, because in the United States, and in lesser degree in Canada, prices were relatively so firm that commercial exporters could not freely meet competition abroad.

An unusually large fraction of the wheat moving to Europe was used to build up British stocks; meanwhile supplies of European domestic wheat were presumably drawn upon more heavily than usual. Visible supplies of United States wheat reached a peak early in September, much in advance of the usual date; thereafter they declined rather sharply. The level, however, was the highest on record. In Canada, as a result of the short crop, the level was lower than in the two preceding years. After September 1, world visible supplies rose much less than they had done in the four preceding years; and as of the first of October, November, and December these visibles were not so high as on corresponding dates in some recent years.

Various unusual factors complicate the outlook as of mid-December. Consumption of wheat in the world ex-Russia may be somewhat larger in 1931–32 than in 1930–31, partly because of Europe's short rye crop. Feed use, particularly in the United States, and shipments to ex-Europe, particularly the Orient, will again be heavy. International trade, as measured by net exports, may approximate 840 million bushels. If so, stocks in the world excluding Russia and China may be reduced by 100 to 150 million bushels in the course of the year. Stocks in July will probably be high in the United States and India, and moderately high in the Danube basin, but not elsewhere. World visible supplies, which consist chiefly of North American grain, may be expected to decline more than usual in the coming months.

Although exportable surpluses substantially exceed import requirements, and although heavy stocks of import wheat have been built up in the United Kingdom, the extreme ease in the international statistical position appears to be passing. The end of the world-wide depression is by no means in sight, and near developments in the general business situation seem unlikely to impart strengthening influence to wheat prices. Yet it seems improbable that the general level of commodity prices will decline as greatly in the next few months as it did in the corresponding periods of 1930 and 1931.

Wheat prices in leading world markets seem unlikely, in the next few months, to fall much, if at all, below the low points already registered. Fluctuations on a low level may be sharper and wider than in January–April 1924 and 1931. Renewed and persistent sagging, such as occurred in June–September 1931, seems less probable than a tendency to firmness. Substantial and sustained advances in world wheat markets may conceivably occur by the end of July, under the influence of certain combinations of bullish factors. Information now available, however, yields little basis for expecting this, at least before the end of March. New-crop developments, in conjunction with the stocks position and other factors, may well exert decisive influence in April–July, in a manner now wholly unpredictable. United States prices seem likely to continue out of line with Liverpool prices, unless winter-wheat prospects should show marked improvement; but the degree of relative firmness will depend on factors that we cannot now appraise.

I. THE WORLD WHEAT SUPPLY POSITION

Inward Carryovers

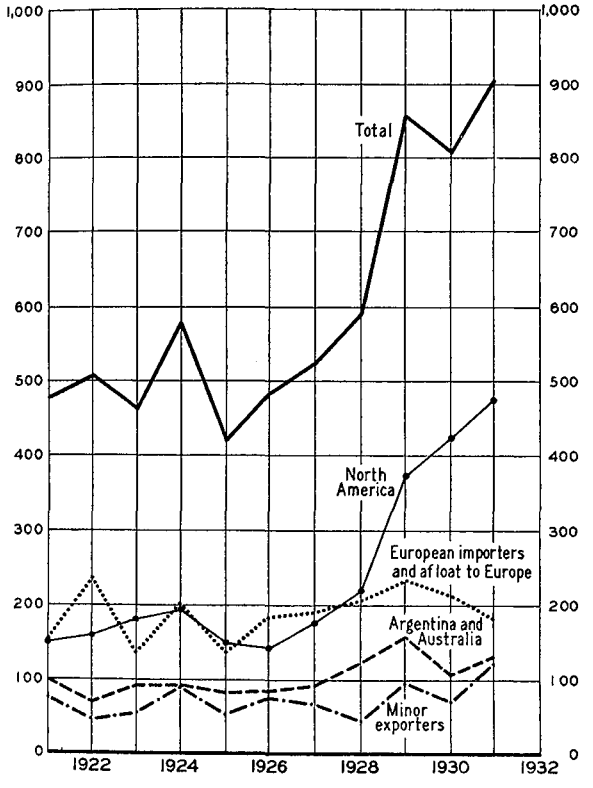
Stocks of old-crop wheat at the opening of the crop year 1931–32 stood at a record high level. Available statistics of reported stocks, together with our estimates of supplies in important but unreported positions, exclusive of Russia and China, are summarized in Chart 1.

Three successive crop years have now

opened with initial stocks far above what may be considered a normal level. Most of the increase occurred in the course of 1928–29, a result of the huge size and the geographical distribution of the crop of 1928.

CHART 1.—WHEAT STOCKS (PARTIALLY ESTIMATED) IN VARIOUS REGIONS, ABOUT AUGUST 1, 1921–31*

(*Million bushels*)



* See WHEAT STUDIES, December 1931, Appendix Table XXXII.

But stocks in the positions accounted for were approximately 50 million bushels larger in July 1931 than in July 1929, and approximately 100 million larger than in July 1930. The level of July 1931 may reasonably be described as 300–400 million bushels above normal in the world ex-Russia and China. Moreover, stocks were probably relatively large in Russia, following the huge crop of 1930; and also (of import wheat) in and afloat to China and Japan. The excess of stocks over normal represents not far from half of the average annual volume of international trade in recent years.

The initial stocks of 1931–32 were heavily concentrated in the exporting countries. Supplies in and afloat to European importing countries were approximately of average size or even below, notably smaller than in the preceding three years. The exporting countries (excluding Russia) held stocks around 100 million bushels larger than ever before. The United States, Canada, and India were the exporters holding stocks of record size. Stocks had been larger in the Danube basin in 1929, in Argentina in 1928 and 1929, and in Australia in 1921; and stocks in northern Africa were probably not large, but small.

Principally as a result of stabilization operations in the United States during 1930–31, a larger fraction of total stocks in the world ex-Russia was in the visible supply in July 1931 than in any preceding year.

The sheer magnitude of the stocks of old-crop wheat available as the year opened augured a year characterized by an easy international statistical position. Obviously, only a strikingly short 1931 world wheat crop could have brought distinct tightness, and afforded a major stimulus to prices.

AGGREGATE WHEAT SUPPLIES FOR 1931–32

The world wheat crop of 1931, however, is not strikingly short. On the contrary, as will be shown below, it is a good one, materially exceeded only in 1928 and 1930, whether one excludes or includes Russia. Moreover, because of huge inward carry-overs and already liberal Russian exports, total wheat supplies available to the world ex-Russia appear nearly equal to the record total of last year. This is shown by our summary figures below, in million bushels:

Year	Stocks ex-Russia	Crops ex-Russia	Russian exports	Total
1921–22	476	3,104	0	3,580
1922–23	507	3,156	0	3,663
1923–24	461	3,481	21	3,963
1924–25	578	3,081	0	3,659
1925–26	419	3,312	27	3,758
1926–27	482	3,369	49	3,900
1927–28	521	3,591	7	4,119
1928–29	590	3,911	0	4,501
1929–30	858	3,415	10	4,283
1930–31	809	3,689	111	4,609
1931–32	904	3,586	90[a]	4,580

[a] Our tentative forecast. See Appendix Table V.

Stocks were built up substantially in 1928–29 and 1930–31, and there can be no doubt that these were years when available supplies were much in excess of requirements for consumption in all its categories. This year clearly ranks as another year of great abundance. Last year world consumption of wheat was extraordinarily heavy, but nearly 100 million bushels were added to stocks ex-Russia. It will require even larger consumption this year to prevent further accumulation, for available supplies seem to exceed actual disappearance in 1930–31.

The main avenues for increases in consumption between immediately successive years are human consumption in the Orient, feed consumption in North America, and consumption for food and feed in some countries of Europe. The prospects for heavier consumption in 1931–32 than in 1930–31 are discussed elsewhere.[1] Here it suffices to say that expansion seems more probable than contraction, and that reduction of stocks seems more probable than further accumulation.

Significance attaches to the geographical distribution of total wheat supplies available to the world ex-Russia in 1931–32, especially by contrast with the three preceding years. The following tabulation shows, in million bushels, our figures for inward carryover combined with estimated production in the principal areas, and also Russian exports of past years and (roughly) in prospect:

Year	European importers	Four major exporters	Danube basin	Russian exports	India
1926–27	1,064	1,854	324	49	360
1927–28	1,145	2,022	308	7	354
1928–29	1,203	2,332	383	..	310
1929–30	1,338	1,933	369	10	336
1930–31	1,188	2,253	388	111	406
1931–32	1,213	2,182	410	90	409

Trends of consumption considered (approximately), the supplies available in European importing countries appear to suggest liberal aggregate net imports. Much, however, will depend upon the influence of governmental restrictions, upon feed use of wheat as conditioned by wheat quality and by supplies of feed grains, and upon the rye situation, all of which are discussed below.

The four major exporting countries have available substantially less wheat than in 1928–29 or 1930–31. The bargaining position of sellers in these countries is weakened by the large supplies existing in the Danube basin and the supplies shipped and likely to be shipped from Russia. The sum of these three categories of supplies for 1931–32, as it now appears, falls some 70 million bushels short of the corresponding figure for last year. Heavy supplies in India are favorable to maintenance of domestic consumption at a high level, rather than to export competition at low prices.

World Wheat Crops Summarized

The world wheat crop of 1931 (excluding Russia, China, and Asia Minor) now appears to rank as the fourth largest in the past decade. Close comparisons are not yet feasible, for official estimates of production are not yet available for all countries, and revisions of standing estimates are to be anticipated. The figures below, in million bushels, represent our summation of official crop estimates of wheat production in the world excluding Russia, China, several countries of Asia Minor, and a few smaller producers. The United States Department of Agriculture's estimates, which include production in Palestine, Syria and Lebanon, Turkey, and some smaller producers which we do not include, are given for purposes of comparison. Our figure for 1930 is put 20 million bushels higher than a precise summation of official estimates, to allow

Year	U.S.D.A. estimates[a]	F.R.I. summations[b]
1921	3,169	3,104
1922	3,225	3,156
1923	3,551	3,481
1924	3,150	3,081
1925	3,441	3,312
1926	3,448	3,369
1927	3,680	3,591
1928	3,999	3,911
1929	3,555	3,419
1930	3,812	3,689
1931	....	3,586

[1] See below, pp. 233–34, 236, 245, 248.

[a] See *Yearbook of Agriculture, 1931*, p. 589, and *World Wheat Prospects*, December 19, 1931, p. 5.

[b] See Appendix Table III.

roughly for a probable upward revision of the Canadian crop estimate. Our figure for 1931 includes rough approximations to the crops of Chile, Uruguay, Peru, and New Zealand;[1] official forecasts or estimates are not yet available from these countries.

As suggested by our summations, the world crop of 1931 ex-Russia now appears slightly under that of 1927, and hence ranks as the fourth largest of the past decade. The huge crop of 1928 was much larger, and that of 1930 was perhaps 100 to 125 million bushels larger. At the moment, the opinions of observers suggest that standing official estimates of 1931 crops, particularly in European countries, may prove somewhat too high.

No crop estimate for Russia has yet appeared. All evidence, however, suggests a Russian crop of 1931 considerably smaller than the bumper crop of 1930. The 1931 crop in China is also said to be smaller than that of 1930, perhaps by 5–10 per cent.[2] The world crop including Russia and China is doubtless much smaller than the corresponding total for 1930, and probably smaller than that for 1928.

The world wheat crop of 1931 (ex-Russia, China, and Asia Minor) was harvested from an acreage smaller than that of 1930, but larger than the average for the five years 1926–30. Preliminary data suggest that the 1931 areas were smaller than the 1926–30 averages in only a few countries—Argentina, Chile, Japan and Chosen, Algeria, the British Isles, and France. Between 1930 and 1931, changes in acreage were in both directions. Increases of 100,000 acres or more occurred in Germany, Roumania, India, Mexico, Italy, and Egypt, apart from Russia.[3] Decreases of more than 100,000 acres occurred in the United States, Australia, Argentina, Chile, Morocco, Algeria, France, and Spain. The decreases much more than offset the increases; by what amount is not yet clear, though probably not over 12 million acres. Reductions in Australia and Argentina alone account for more than a third of this. The aggregate net decrease in acreage probably accounted for most of the decrease in outturn between 1930 and 1931. An increase of some 8.6 million acres in Russian wheat acreage probably amounted to about three-fourths of the net decrease elsewhere in the world excluding China and Asia Minor.

The average yield per acre in 1931 now appears a trifle over 15 bushels in the world excluding Russia, China, and Asia Minor so far as we can judge from available statistics. This is very close to that of 1930—a fair yield as compared with the average for the present century. As often occurs, distinctly high yields per acre were secured in some areas, distinctly low yields in others. As judged by the relationships of yields in 1931 to the 1920–30 averages, yields per acre were notably low in the North American spring-wheat belt; in Hungary, Czecho-Slovakia, and Austria; in Spain and Algeria; and in the British Isles, Netherlands, and Sweden. Yields were exceptionally high in the United States winter-wheat belt and in Mexico; in a group of countries along the Russian frontier, Jugo-Slavia, Bulgaria, Roumania, Poland, Estonia, Lithuania, Latvia, and Finland; in Italy, Morocco, Tunis, and Egypt; and in Japan. In other countries the yields per acre fell not more than 5 per cent above or below the 11-year average.

The main features of the geographical distribution of the wheat crop of 1931 are shown, with comparisons, in Chart 2 (p. 204).

In only one major producing area—the winter-wheat belt of the United States—was the 1931 crop larger than any of its eleven predecessors. This crop, some 787 million bushels, was indeed the largest since records are available. The area sown had been larger in 6 or 7 of the 21 preceding years; and, even with exceptionally light abandonment, the acreage harvested in 1931 had been exceeded in 4 of the preceding 21 years. The crop entered the winter in good condition, suffered but slightly from winterkilling, and after something of a setback in May enjoyed exceptionally favorable weather into the summer. As a result, the yield per acre, 19.2 bushels, was the

[1] The figures we have used are as follows, in order as the countries are named: 25, 10, 4, and 7 million bushels.

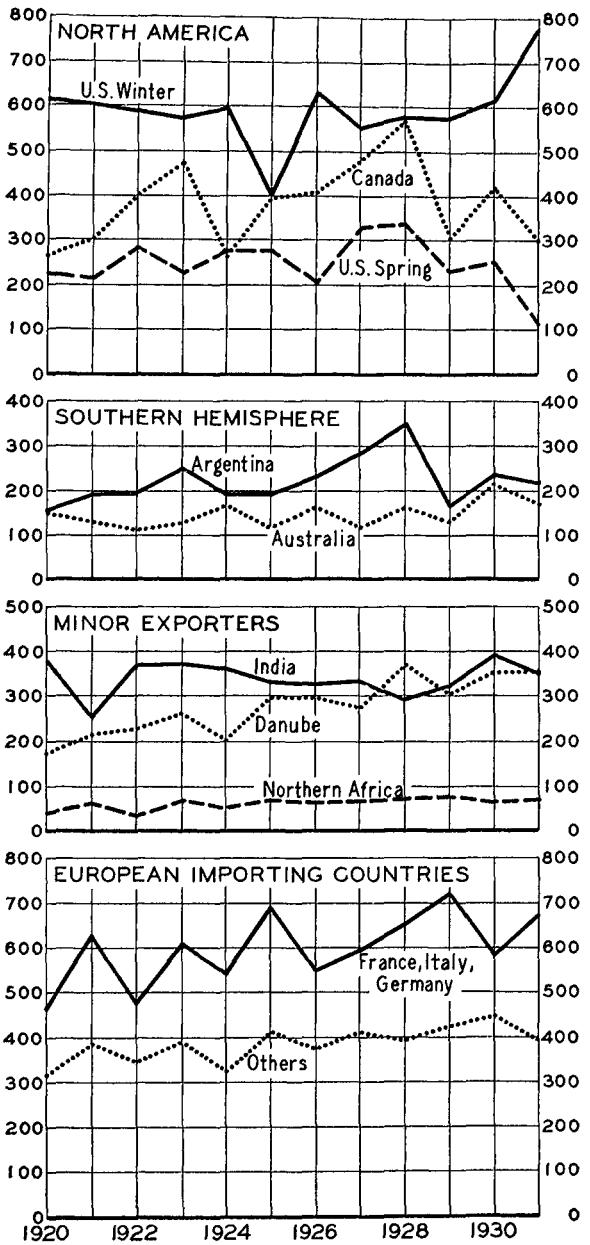
[2] *China Monthly Trade Report*, November 1, 1931, p. 6. Apparently this statement applies to China excluding Manchuria. The Manchurian crop of 1931 is said to exceed that of 1930 by about 15 per cent.

[3] Standing estimates show an increase in Canada; but this may be due solely to the use of a new census enumeration in 1931.

highest on record, though barely exceeding that of 1914.

CHART 2.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1920–31*

(*Million bushels*)



* See Appendix Tables III and VI.

In sharp contrast, the only area where production in 1931 was strikingly small was in the North American spring-wheat belt. The crop of spring wheat in the United States, 105 million bushels, was far smaller than in any of the 21 preceding years. Acreage and yield per acre, both unprecedentedly low (at least in 21 years), contributed jointly to this outcome. Deficient subsoil moisture followed by drought during the growing season were the main factors influencing the yield per acre. These same factors were influential in causing the small outturn of Canada. Here the acreage was large, particularly in contrast with the years preceding 1921; but the yield per acre, some 11.4 bushels, was the third lowest in 30 years.

Other areas or countries of the world ex-Russia and China harvested crops less strikingly large or small than those of North America. In India a large sown area and a yield per acre somewhat below average resulted in a 1931 crop smaller than in 5 of the preceding 11 years, and larger than in 6. The crop of the Danube basin was larger than all but 1 or 2 of the preceding 11 years; the aggregate acreage was relatively large, the yield per acre above average (except in Hungary). The three exporting countries of northern Africa had harvested crops larger than those of 1931 only in 2 of the preceding 11 years. The same was true of the combined crop of the three principal continental European importers, France, Italy, and Germany. Chiefly on account of low yields per acre in Spain and Czecho-Slovakia particularly, other European importing countries as a group harvested a crop that had been exceeded in 4 of the preceding 11 years.

Australia, from an acreage much reduced from that of 1930 yet large as compared with areas in 1920–27, harvested what appears to be the third largest crop in her history; the yield per acre was close to the post-war average. Argentina's crop of 1931, as provisionally estimated, had been exceeded in 5 of the preceding 11 years. A reduction in sowings brought the acreage to the lowest point in 8 years. The yield per harvested acre in 1931 now appears to have been close to, or perhaps a little above, the post-war average, if abandonment (not yet reported) was about average.

Chart 2 shows, by groups of countries, where the declines in outturn occurred, and indicates the relative significance of changes

of production in different areas. Substantial increases occurred only in the winter-wheat crop of the United States and in the crop of France, Italy, and Germany. The largest declines were in the spring-wheat crop of the United States, and in Canada. These declines alone practically offset the major increases. The occurrence of reductions elsewhere, less striking individually but substantial in the aggregate, gave rise to a reduction in the world wheat crop ex-Russia of apparently 100 to 125 million bushels.

Changes in the Crop Outlook

Wheat crop outturns in the Northern Hemisphere appear now (mid-December) to have moderately exceeded expectations early in the season. Official estimates now standing are about 70 or 80 million bushels above forecasts and estimates current at the end of July and in August. The following tabulation, in million bushels, brings into relief the significant changes in Northern Hemisphere crop prospects:

Area	U.S.D.A. July 23	U.S.D.A. Aug. 22	Broomhall Aug. 12, 19	F.R.I. Aug. 20	Official Dec. 19
U.S. winter..	712.6	775.2	...	...	787.5
U.S. spring..	156.4	118.4	...	...	104.8
Total U.S. .	869.0	893.6	890	894	892.3
Canada	235.0	235.0	224	240	298.0
India	344.4	347.3	...	347	347.3
Danube basin	320.1	322.5	...	320	357.0
Germany ...	167.9	165.0	...)		[155.5
France	272.0	257.0	... }	660	{269.6
Italy	239.0	239.0	...]		[247.9
Other Europe	421.8	423.7	...	410	392.8
All Europe[a]	1,420.8	1,407.2	1,424	1,390	1,422.9
Northern Africa[b] ...	76.0	71.1	...	79	70.3
Other[c]	96.5	96.0	...	97	101.7
Total ...	3,041.7	3,050.3	...	3,047	3,132.5

[a] Excluding Russia.
[b] Algeria, Morocco, Tunis.
[c] Japan and Chosen, Mexico, Egypt.

The outstanding increases in estimates were in Canada and the Danube basin (chiefly Roumania and Jugo-Slavia). Elsewhere decreases in estimates more than exceeded increases. Unduly wet weather late in the growing season and at harvest appears to have diminished prospective outturns in Germany and the British Isles, and rather generally in northwestern Europe. Drought seems to have been chiefly responsible for reduced crops in Czecho-Slovakia, Austria, and Spain, and also in the spring-wheat belt of the United States.

It is striking that the first official Canadian crop estimate, 271 million bushels as of August 31, was substantially above private estimates;[1] and that the second estimate (298 million bushels as of October 31) was higher still. Between August 1 and October 1, official estimates of the adjacent United States spring-wheat crop had been successively reduced. The increase in the Canadian estimate is stated by the Dominion Bureau of Statistics[2] to have resulted chiefly from the use of newly available census enumerations of acreage. For all Canada, the census yielded a figure 2.0 million acres (some 8.3 per cent) larger than the sown area determined by survey in June, and 3.1 million (some 11.4 per cent) larger than the area calculated from reports of intentions to sow as determined in May. The estimated average yield per acre as of October 31 was put only a trifle higher than on August 31. Rains in August were somewhat favorable, though late. In parts of September and early October, at harvest, further rains affected quality unfavorably.

Outturns higher than anticipated in the Danube basin may, as in Canada, have been due in considerable part to an increase in the official estimate of acreage in Roumania. We have as yet no adequate explanation of a recent increase in the Jugo-Slavian official crop estimate from 84.7 to 98.8 million bushels. In France, a good deal of wet weather in July, August, and September was widely regarded as unfavorable for the crop outturn, but the first official estimate was somewhat higher than seems to have been anticipated. The first official estimate of the Italian crop was perhaps a little above anticipations, though

[1] See Appendix Table IX.
[2] Press release, November 12, 1931.

it is difficult to say what was expected other than a crop larger than that of 1930 and smaller than that of 1929. The first official estimate of the Egyptian crop exceeded anticipations, in large part probably because a striking increase in area had not been foreseen.

The appearance of new and unexpectedly large estimates of acreage in Canada and Roumania seems largely to explain a larger crop in the Northern Hemisphere than was anticipated in August. To the extent that expectations were based upon crop conditions, which unofficial observers can evaluate more readily than areas, the early expectations were close to the mark, though in part because unfavorable crop developments in some countries were offset by favorable developments in others. Trade opinion (largely as reflected in reports of the Foreign Agricultural Service of the United States Department of Agriculture), seems to regard standing official estimates as a little high in the aggregate—in particular the estimates for Roumania, Bulgaria, Jugo-Slavia, France, Germany, Sweden, and Spain.

Expectations of the outcome in 1931 of the important crops in Argentina and Australia were naturally less definitively formulated in August than were expectations of Northern Hemisphere crops. Trade estimates generally seem to have ranged not below 200 million and not above 240 million for Argentina, and roughly from 145 to 190 million for Australia.[1] In November the range of Australian estimates seems to have narrowed, falling mostly in the range of 160–180 million bushels.

The first official estimates were 219 million bushels for Argentina (early December), and 170 million for Australia (late November). These preliminary official estimates appear a little above early tentative expectations, especially as regards Australia. There the early-season prospects were not regarded as favorable on account of the sowing of wheat on a good deal of land not fallowed and on exceptionally wet soil, and also the reduced use of fertilizer. But later rainfall was satisfactory, and the crop suffered no reverses. The weather was persistently favorable in Argentina until the advent of very heavy rains followed by frost on November 8 and 9. This year there have been few references to rust, which undoubtedly affected the crop of 1929 severely, and that of 1930 in a lesser degree. Late reports mention heavy rains both in Australia and Argentina early in December, delaying the harvest in both countries.

Information is far too scanty to warrant discussion of the progress of the Russian wheat crop of 1931. Broadly speaking, later indications, like earlier ones, are that the winter-wheat crop is fairly good and the spring-wheat crop poor. No estimates of the outturn, however, appear to have been published. It has been stated officially[2] that the total grain crop of 1931 was as large as the big one of 1930 (though the estimates for 1930 have not yet been published in full); that in many regions of the southeast, where spring grain predominates, drought severely affected yields, causing losses of "several hundred million poods"; and that the yields of winter grains (almost entirely rye and wheat) were larger in 1931 than in 1930.

Since about two-thirds of the wheat acreage is spring wheat, a very large fraction of the spring grain acreage is in spring wheat, and spring grains in general were damaged by drought, it seems probable that Russia's total wheat crop of 1931 falls substantially below that of 1930. Accepting statements that in North Caucasus the yield per acre of all wheat may have been about 10.4 bushels, and that yields here were as usual above the average for all Russia,[3] one may reasonably infer that the total Russian wheat crop of 1931 could not have exceeded 963 million bushels as compared with 1,084 million in 1930, and may well have been a good deal smaller than this.[4]

[1] See *Corn Trade News*, August 19, 1931; *London Grain, Seed and Oil Reporter*, September 18, 1931; and *International Review of Agriculture*, October 1931.

[2] See weekly review of the wheat market, Goldschmidt & Co., Paris, November 12, 1931.

[3] *World Wheat Prospects*, October 17, 1931, p. 30.

[4] The figure of 963 million bushels represents the total sown acreage (92.55 million acres) multiplied by the indicated average yield per acre in North Caucasus. If abandonment of winter-wheat acreage approximated 15 per cent (*ibid.*, p. 30), the crop could not have exceeded 922 million bushels. If in addition the yield per acre in North Caucasus was as much as 5 per cent below the average for all Russia, the crop could not have exceeded 878 million bushels.

It would still be possible that the total cereal crop of 1931 should have equaled that of 1930, by reason of better crops of rye, oats, and barley. Rye is winter-sown and not much grown in the southeast. Oats, though spring-sown, is grown north of the spring-wheat belt. Barley, though mostly spring-sown and largely in the southeast, is somewhat more resistant to drought and matures earlier than spring wheat. At the moment it seems reasonable to accept this general view of the Russian situation, though reports and rumors of actual shortage of foodstuffs—how well founded we do not know—have appeared in the press as usual. Such a distribution of Russian crops of 1931, in conjunction with the existence of a sizable inward carryover of wheat, would be consistent with the heavy and early shipments of Russian wheat.

Quality of 1931 Wheat Crops

To judge from rather meager information now available, the world wheat crop of 1931 does not contain large quantities of wheat exceptionally poor or exceptionally good in quality. A few points, however, deserve remark.

In the United States, the huge winter-wheat crop contained a relatively large proportion of "grades of high medium quality," the small spring-wheat crop a relatively small proportion.[1] Preliminary indications point to somewhat the lowest protein content of the past 7 years in the winter-wheat crop; but the spring-wheat crop ranks high (lower only than 1930) in this respect.[2] The provisional figure for average weight per measured bushel, 59.1 pounds for the total crop, is distinctly high. Since these averages were first obtained in 1909, only the crop of 1926 has been as good in this respect.[3]

That flour yield will be high is already indicated by the relatively small number of pounds of wheat required to produce a barrel of flour in September and October 1931. In this important aspect of quality, the 1931 crop appears much like the good crops of 1924, 1926, and 1928; it may not be as satisfactory as several earlier crops with respect to protein content.

The short Canadian crop apparently ranks with the good-quality crops of 1922, 1923, 1929, and 1930, though it probably contains a larger fraction of tough and damp wheat than some of these. During September–November, only about 4.0 per cent of the inspections of hard red spring wheat graded numbers 4–6 and feed, a relatively low percentage, contrasting with the gradings in 1928, when nearly 55 per cent of the inspections fell within this category. The percentage (13.7 per cent) grading tough and damp is moderately high, but not nearly so high as in 1926 and 1927. In weight per measured bushel the crop now seems heavier than it was on the average in 1926–30. The protein content "of all grades is not only greater in quantity but is superior in quality to that of any year of which we have any record"; the flour yield is high; the baking quality of flour distinctly good.[4] The Dominion Bureau of Statistics states that since a good deal of the moist wheat was grown in districts with relatively large numbers of hogs and poultry, farmers are likely to use considerable of this cheap wheat for feed.[5]

Evidence regarding the quality of European crops is, as usual, less definite than for North America. In the Danube basin, the quality on the whole was probably good, as is suggested by trade comments and some official statements, as well as by the prevalence of dry weather at harvest. The Jugo-Slavian crop was officially stated to have been of particularly good quality,[6] and the Roumanian above that of 1930;[7] but the Hungarian crop was lighter in weight per measured bushel than any of the preceding four crops except 1930.[8] The situation in other countries of Europe ex-Russia, as of early September, was de-

[1] *Crops and Markets*, November 1931, p. 458. See Appendix Table X.

[2] *World Wheat Prospects*, October 17, 1931, p. 16.

[3] *Agriculture Yearbook, 1931*, p. 592.

[4] The basis for these statements is the Dominion Grain Research Laboratory's Report on the *Milling and Baking Characteristics of the 1931–32 Crop*, Winnipeg, October 15, 1931.

[5] Press release, November 12, 1931.

[6] Goldschmidt & Co.'s weekly review, November 18, 1931.

[7] *International Review of Agriculture* (Agricultural Statistics), August 1931, p. 446.

[8] *Ibid.*, September 1931, p. 523.

scribed by the United States Department of Agriculture as follows:[1]

> Except for Italy and the southern part of France, and possibly Spain, the quality of the wheat this year is not satisfactory. The rainy weather during harvest time in western, northern, and central Europe has done much damage. In the northern part of France, in a large part of Germany, in Poland, and in parts of Czecho-Slovakia much grain, while cut, is still in the fields and has sprouted. Test weights in these areas are quite low, especially in France. In northern Europe, where the harvest is still under way (Sweden, Norway), the quality has been severely damaged by the rains.

Since the weather continued rainy into September, quality could not have improved. Probably, therefore, the crops of European importing countries north and west of Italy, Spain, and southern France contain a good deal of wheat light in weight, damp, soft, and sprouted—a situation quite unlike 1929, when European crops were huge and also of exceptionally good quality. In France as a whole and in Germany the quality, while not good, is perhaps better than in 1930, though very little better in Germany.

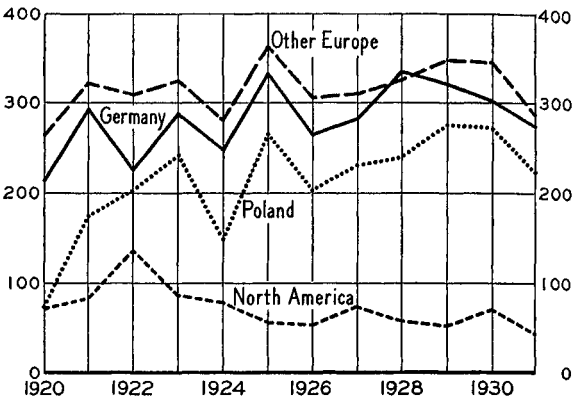
Early indications for Argentina and Australia point to crops of fair quality or better. Reports of early threshings were favorable. With rust less prevalent in Argentina this year than last, better quality is to be expected there. In 1930, extremely heavy rains seriously reduced the quality of the Australian crop. Rains were reported in both countries early in December 1931, and tended somewhat to lower quality from earlier favorable expectations, but reports to date indicate much higher quality than in 1930, particularly in Australia.

The Rye Situation

This year, more than usual, the rye situation affects the world wheat position. The world rye crop of 1931 (excluding Russia), unlike the wheat crop, ranks as one of the smallest in post-war years. Since 1920, only the crops of 1920 and 1924 were smaller. The 1931 crop in Europe ex-Russia and in North America (and this covers most of the crop of the world ex-Russia) now appears to fall below the big crop of 1930 by 165 million bushels—a larger absolute reduction than occurred in wheat, and one very much larger in percentage terms because the rye crop averages less than a third as large as the wheat crop.

Chart 3.—Rye Production in Important Producing Areas, 1920–31*

(*Million bushels*)



* See Appendix Table VII and Wheat Studies, December 1931, Appendix Table VII.

As appears from Chart 3, outturns much smaller than those of 1930 were general, occurring not only in Germany and Poland (the largest producers in Europe ex-Russia), but also in most other European countries and in the United States and Canada. The relation between export surpluses and import requirements is quite different this year from what it was in 1930–31. Last year Germany and Poland were in a position to export substantial quantities; this year Germany certainly needs to import, and Poland probably does. Other European importing countries have shorter crops than in 1930; neither the United States nor Canada has large supplies for export; and the crops of the Danubian countries are not large. The international position appears to be distinctly tight unless Russia can export larger quantities of rye than seems probable, judged by Russian shipments to mid-December.

Rye is used in Europe both for food and for feed. Rye prices this year may reasonably be expected to rule at a smaller discount under wheat and at a higher premium over coarse grains than in either of the past two years. The reduction of about

[1] *World Wheat Prospects*, September 22, 1931, p. 32.

130 million bushels in the rye crop of European wheat-importing countries between 1930 and 1931 does not imply, however, an increase of equal magnitude in European wheat import requirements. There will be some reduction in rye consumption, probably both as food and as feed. Stocks of rye can probably be drawn upon somewhat, though in Germany at least the forcing of rye into consumption both as food and as feed in 1930–31 left stocks at the end of the year at a level much lower than in the two preceding years. Europe may possibly increase her rye imports, though it is difficult to see how such an increase could be substantial unless Russia exports much more freely than in December–July 1930–31.

We are disposed to believe that the necessary reduction of the use of rye will prove to be larger in feed use than in food use; that is, the decline in the European rye crop, so far as it is not offset by drafts upon stocks and larger net imports, may result in additional use of feed grains to a greater extent than in additional use of wheat. Barriers to increased use of wheat exist in so many countries that substitution of wheat for rye is hardly probable to the extent that would otherwise occur. Nevertheless the rye position seems to be such that it tends to make European wheat import requirements for 1931–32 larger than they would be if rye were more abundant.

Coarse Grains and Potatoes

The international barley position also appears to be relatively tight as compared with the two preceding years. Both in the Danube basin and in other European countries ex-Russia, the barley crop is the smallest in four years. In North America the barley crop is strikingly small, and in northern Africa it is only a little larger than the rather poor crop of 1930. The European potato crop appears to be smaller than those of 1929 and 1930, though larger than that of 1928. With respect to oats, the European crop ex-Russia only slightly exceeds that of 1930, and is smaller than those of 1928 and 1929. The North American crop is the smallest in four years; the new Argentine crop, however, is of fair size.

The corn crop in the United States much exceeds the short one of 1930; yet it is now accounted the third smallest crop in the past decade. Argentina, however, harvested so large a crop in March–April 1931, and Roumania in October–November, that international supplies of corn have thus far been relatively abundant.

The feedstuffs position as a whole seems to be less tight than the rye position, but less easy than the wheat position. Trade in corn has thus far been heavy. The situation seems to be one likely to grow progressively tighter in the next few months as the large Argentine corn supplies are consumed, though a good deal depends upon the volume of barley shipments from Russia and upon the livestock population in Europe. The outcome of the Argentine corn crop to be harvested next March–April will perhaps prove to be of major significance; the prospects are now very favorable. In 1930–31, the advent of a big Argentine corn crop reversed a trend toward tightness in the feed-grain position that was in evidence in February–April.

The Durum Situation

A special feature of the world wheat situation is the short crop of durum. According to estimates of the United States Department of Agriculture, the 1931 crop in six leading producing countries, excluding Russia, is the smallest to be harvested in 7 years.[1] These estimates are summarized below, in million bushels:

Year	United States	Canada	Italy	Three countries	Northern Africa	Six countries
1926....	47.5	16.0	52.2	115.7	51.7	167.4
1927....	83.2	18.0	45.9	147.1	51.6	198.7
1928....	102.3	29.3	49.9	181.5	55.9	237.4
1929....	57.4	15.2	68.7	141.3	59.9	201.2
1930....	57.1	14.5[a]	48.4	120.6	47.5	168.1
1931....	18.4	10.5	54.8	83.7	51.4	135.1

[a] Inspections data, the Department notes, suggest that the Canadian production in 1930 may have been larger, not smaller, than in 1929.

The relative shortage is most striking in the United States, where the durum crop

[1] *World Wheat Prospects*, November 20, 1931, p. 11. The figures for 1930 and 1931 given in the tabulation above include December revisions of United States crop estimates.

of 1931 was less than a third as large as the moderate crop of 1930. Low acreage and low yield, as for all spring wheat, were jointly responsible for the small outturn. Both acreage and yield per acre of durum wheat, however, were more drastically reduced between 1930 and 1931 than were acreage and yield of spring-sown bread wheats. The durum acreage in the four principal producing states this year was 60.4 per cent of the acreage in 1930, and the yield per acre was 52.4 per cent of that of 1930. The corresponding percentages for spring-sown bread wheat were 65.6 and 66.1. Canada also had a short crop, and the northern African countries not a large one. The Italian crop alone was of fairly large size, though much smaller than that of 1929.

In the United States, the inward carryover was not large enough to offset the short crop. The Department of Agriculture calculates that, after allowance for seed and milling requirements in 1931–32, only about 10 million bushels[1] remain available for other domestic uses, for export, and for carryover. Domestic use other than for seed and milling is presumably largely for feed (red durum particularly). Neither feed use of durum nor durum wheat exports can be large in 1931–32 in comparison with earlier years.

II. WHEAT PRICE LEVELS AND PRICE MOVEMENTS

Outstanding features of the early months of the current crop year are (1) the extremely low level of world wheat prices, (2) the sagging tendency in evidence from July through September, (3) the sharp advance and abrupt decline of October–November, and (4) extreme differences, in course and level, among prices of different wheats and in different countries.

The Low Level and Its Causes

In the summer and autumn of 1931, wheat prices in leading world markets fluctuated on lower levels than any since 1894–95, and in many instances below the long-standing low records established in that year. Considerable evidence on this point has been presented in the preceding issue of Wheat Studies,[2] and need not be repeated here. Suffice it to say that, in August–November 1931, monthly average British import prices, expressed in terms of United States currency, have been lower than the record low level of 64.1 cents established in October 1894;[3] and that during this period, if not throughout it, prices in the United States, Canada, Argentina, and Australia have fallen lower than in 1894–95. Moreover, since the general level of commodity prices in the summer of 1894 was around 30 per cent lower than this year, the value of wheat in terms of commodities in general is strikingly lower than it was 37 years ago.

Prices in the United States did not fall nearly as low as British prices, cost of transportation considered. The Liverpool-Chicago price spread, as reflected in futures prices, was unusually narrow during the summer (as in 1923–24 and in the summer of 1925). Yet United States prices too have been at low levels. The average farm price during the summer months was 35 to 36 cents a bushel, for the entire country, considerably lower in the several important wheat surplus states, and lower still for low-protein winter wheats. Chicago futures, as shown by Charts 4 and 5, have fallen below 50 cents a bushel, as they had not done even in 1894–95. Around the end of September, the September and later the December future broke below 45 cents.

It is needless to multiply examples of new low records of prices in various countries, or to attempt to account for all the many divergences in levels and movements from country to country. It is more important to ask: why have wheat prices gone so low? and why have they gone no lower?

The reasons for the extremely low prices of wheat prevailing this year are easily summarized. (1) World wheat supplies continue superabundant. (2) Supplies ac-

[1] Using the December crop estimate, only about 7–8 million.

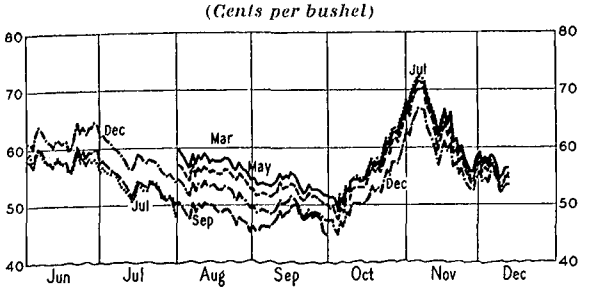
[2] December 1931, VIII, especially pp. 95–98.

[3] The October average, converted at the October average rate for sterling exchange, is 48.8 cents; converted at the September average exchange rate, 56.9 cents; converted at par, 61.1 cents. The middle figure is perhaps the most appropriate one to use.

tually or potentially available for export continue greatly in excess of import requirements for the year, chiefly because reductions in new crops are largely offset by increased stocks of old wheat. (3) Import requirements, though larger because of reduced rye crops in Europe and elsewhere and heavy absorption in China at low prices, are held down by tariffs and other governmental restrictions in most importing countries. (4) Import purchases of Continental European countries were especially curtailed during the summer and autumn by milling restrictions enforced with the aim of supporting domestic wheat prices. (5) Export pressure from Russia and the Danube basin has been unusually severe, while Southern Hemisphere exports have also been rather heavy for this season of the year. (6) Financial strain in various European countries, including Great Britain, has reached acute stages; the resulting crises have intensified the world-wide depression, disappointed hopes of an early return to prosperity, and put new obstacles in the path of economic recovery. (7) Although prospects point to material reductions in wheat stocks during the current crop year, there is not yet a reliable basis for confidence that the serious maladjustment between wheat supply and demand will soon be definitely corrected; government policies in Russia and many importing countries are tending to stimulate wheat production and restrict wheat consumption, and thus to retard the solution of the world wheat problem.

CHART 4.—DAILY CLOSING PRICES OF CHICAGO FUTURES, JUNE–DECEMBER 1931*

(Cents per bushel)



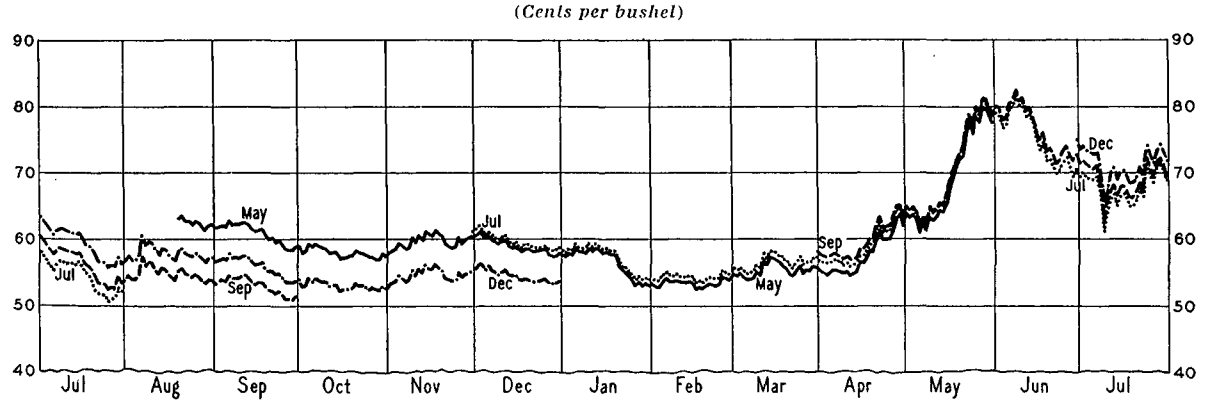
* Data from *Daily Trade Bulletin*, Chicago.

One might elaborate these and mention other factors. In the aggregate, they were powerful enough, up to early October, to outweigh the strengthening influence of very short crops of spring wheat in North America and probably reduced yields in Russia; a small rye crop in Europe; actual and prospective diminution in Russian wheat exports; heavy feeding of wheat in North America; reduced wheat acreage in Australia and Argentina for the current harvest; prospective sharp curtailment of acreage and prolonged drought in hard-winter-wheat areas of the United States; and able and serious efforts to mobilize national forces, in this country and abroad, to deal constructively with urgent demands of the economic situation.

The question remains: Why have wheat prices not fallen still lower in recent months?

CHART 5.—DAILY CLOSING PRICES OF CHICAGO FUTURES, JULY 1894 TO JULY 1895*

(Cents per bushel)



* Data from *Daily Trade Bulletin*, Chicago.

Unquestionably the slackening of Russian shipments after mid-September was an important factor. Had Russian exports risen from their early high level to a peak in November, as they did in 1930, world wheat prices would almost certainly have dropped further, and the October rise would probably not have occurred. Another factor has been the comparatively tight holding of huge stabilization stocks in the United States. Had these been forced upon the market in large doses, in this country or abroad, as some had feared, lower prices would almost certainly have been seen.

A third important factor has been that farmers, particularly in the United States but also in Canada and probably elsewhere, have so restricted their sales, as prices reached very low levels, that the marketed supplies have been held down. Below some wheat price levels, wheat will not come forward. Part of the wheat may not be harvested; part will be lost in farm storage; part will be fed to livestock; part will be held by farmers or their creditors, in hopes of better prices. Such drying up of supplies at their source eventually interposes solid resistance to price-depressing forces.

In the United States a further strengthening factor was introduced by the need for mills and wheat dealers to build up stocks to more nearly normal levels, after having sharply reduced stocks to minimize losses incident on the transition from the relatively high stabilized prices of the previous season. This building up of stocks in the hands of mills and of dealers operated chiefly to sustain cash premiums, but was probably also a strengthening influence on futures prices here.

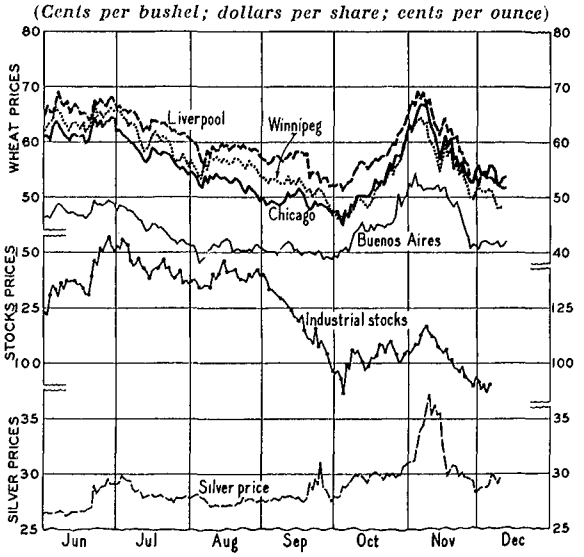
Finally, it must be added that at such low levels as have prevailed, the range of potential decline in prices is limited and the range of potential advance is widened. The risks of bearish operations are increased; the risks of bullish operations, though still large, are relatively less; speculators for a rise therefore seem to have the dice loaded in their favor. Many who are in a position to put their faith to the test of action believe in the theory of a "rock-bottom" investment level in commodity prices. Experience in the past two years has put a severe strain upon this faith and the resources of its adherents. Yet there is ample indication that, especially in the United States, there is a substantial class of those who, even with caution sharpened by experience, are ready to own some wheat or wheat futures, and are alert to seek speculative profits in wheat. This factor has doubtless contributed to the comparative firmness of wheat prices in the United States in recent months.

Sagging Prices, July–September

The persistent decline of world wheat prices in July–September 1931 is clearly indicated by four series of December futures shown in Chart 6. The general tend-

Chart 6.—Prices of December Futures in Leading Markets, June–December 1931, and Prices of Industrial Stocks and Silver*

(Cents per bushel; dollars per share; cents per ounce)



* Daily closing prices from *Daily Trade Bulletin*, Chicago. For Buenos Aires, August, October, and December futures are used. Dow-Jones index of closing prices of 30 industrial stocks, from *Bradstreet's* and *Chicago Journal of Commerce*. Prices of bar silver in New York from Federal Reserve Board releases.

ency toward decline is more significant than the irregularities that interrupted its course, or the variations between markets. Disregarding extreme peaks and bottoms, it may be said that prices declined by 15 cents a bushel or more from late in June to early in October. Buenos Aires futures

alone declined by less than this, though if a December future there could have been used throughout for the chart, the continuance of the decline would have been clearly evident, as it is not with successive futures. Argentine futures were already conspicuously low in January–June 1931; and it would seem that fresh forces of resistance came into play as a level around 40 cents was reached.

The reasons for the sagging of wheat prices during the summer were mainly two: export pressure, with the Continental outlets much restricted; critical financial developments in Europe, finally overstraining British financial resources and precipitating a breakdown in London. The most severe pressure came from Russian exports which moved in large volume earlier in the season than in 1930. Pressure of Danubian wheats was also important. The accumulation of stocks in British ports[1] gives indirect testimony to this pressure.

It will be observed that from late June through August, prices of wheat futures and industrial stocks moved in general harmony. In September, however, stocks declined more than wheat.

Interruptions of the downward drift of wheat prices which occurred about mid-July and in early August appear to have been largely speculative in character. Each was preceded by a few days of unusually sharp decline and each accompanied a somewhat similar movement in prices of industrial stocks. In early September there began an upturn of more substantial character, strongest in Chicago and well followed by Liverpool; it was scarcely observable in Winnipeg prices, which were apparently weakening at the time under the influence of slack export demand while the new crop was beginning to move. The rise in Chicago started partly in sympathy with rye, which increased rather sharply in price. It was, however, more closely related to increasing strength in cash wheat premiums and to tightness in the September future in the United States.

For these developments three factors were mainly responsible. Grain dealers and millers desired to replenish their stocks of wheat, which had been reduced to very low levels in June. With old-crop wheat largely in the hands of the Grain Stabilization Corporation, which was selling only in limited amounts, dealers and millers had to look mainly to new wheat. Finally, marketings became increasingly light—of winter wheat because farmers would not sell freely at low prices, of spring wheat mainly because the crop was so short.

Britain's departure from the gold basis on September 21 was undoubtedly a heavy blow to wheat prices. British prices, in terms of sterling, naturally rose sharply; but in terms of gold, wheat prices in Great Britain and in North America declined sharply on September 21 and more gradually into early October. Although the fluctuation in exchange rates after September 21 caused erratic fluctuations in the spread between Chicago prices and the apparent dollar equivalent of British prices, and increased the hazards and uncertainties of international trade in wheat between Great Britain and other countries, it caused little change in price relationships between markets, expressed in terms of gold, as is shown in Chart 6. In early October, prices of Liverpool futures, expressed in American currency, were only about two cents lower, relative to Chicago futures, than they had been before the collapse of the pound; and were about one cent higher relative to Winnipeg prices, than before the collapse.

The chief significance of the depreciation of the pound, as regards wheat prices, probably lay in the evidence it provided of the seriousness of the general international financial situation. Following its collapse, industrial stocks prices in New York declined over 20 points in two weeks, and wheat prices in British and North American markets declined, on the gold basis, by the equivalent of 6–8 cents per bushel. Moreover, general uncertainty about the exchange situation temporarily restricted export purchases of wheat in North America, and thereby contributed to the price decline. Perhaps the decline in prices was somewhat accentuated by fears, frequently expressed, that the depreciation of the pound would result in stimulation of British exports and restriction of imports, and

[1] See Appendix Table XVII, and Chart 18, p. 244.

that British purchases of foreign wheat would decline in consequence. This reasoning is seriously in error, however, so far as concerns the effect on wheat imports, since the general tendency for depreciation of currency to stimulate exportation and restrict importation applies chiefly to manufactured commodities; as regards raw materials used in manufacturing, the tendency is frequently in the opposite direction. Such depreciation probably has little significance for international trade in most food products.

Sharp Advance and Reaction in October–November

The sharp rise in wheat prices from October 5 to 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. The objective developments of most significance were continuance of dry weather in a large section of the American hard-winter-wheat belt and a series of reports indicating that Russia would export little additional wheat during the remainder of the season.

Neither of these developments was inherently of outstanding importance. The dry weather in part of the southwestern winter-wheat region threatened, at the worst, only a moderate increase in the acreage reduction already anticipated, and delayed germination which would increase the likelihood of winterkilling. Coming eight months before the uncertain final result would be apparent in the harvest, no great price influence was, on general grounds, to have been expected. The Russian news and rumors did not greatly alter the expectations of informed observers. Russian shipments had been falling off sharply from early September instead of increasing as in the previous year, and for some time previously the view had been gaining ground that Russia would not export as much in 1931–32 as in 1930–31.

The conjuncture of circumstances, however, was such as to lend great significance to these developments. There had grown up in the United States a rather widespread feeling that a price of 50 cents a bushel for the Chicago May wheat future would represent about the bottom of the general downward drift of prices, and that reduction of stocks and curtailment of wheat acreage were laying the foundation for a substantial price increase before the end of the summer of 1932. Traders rather generally were taking the attitude, however, that buying for the anticipated price rise might better be delayed until danger of further decline, threatened by immediate uncertainties, was removed.

The drought in the American Southwest served to emphasize the likelihood of better wheat prices in the 1932–33 crop year, and the Russian news of October removed a major fear that had stood in the way of immediate purchases for the anticipated eventual price advance. More particularly, the falling off of Russian shipments encouraged the belief that Europe would at last have to come to North America for the major part of her supplies, during the next two or three months at least, and meet North American price ideas. Americans were supported in this belief by the fact that during October Europe purchased a good deal of wheat in North America, despite rapidly advancing prices.

Wheat prices carried with them in their rise the other grains, and shortly the rise in wheat was heralded as the first substantial evidence of a turn in the general economic situation. Industrial stocks prices and silver prices moved up substantially. The enthusiasm of the wheat market was transmitted to other markets and from them reflected back to stimulate the wheat market further. (See Charts 4 and 6.)

Approximately the first half of the price increase was accompanied by only moderate speculative activity. In Chicago, the total daily volume of trading in wheat futures did not exceed 30 million bushels until October 19; near the peak of the price movement, daily trading several times exceeded 60 million bushels, and on November 5 reached 77.3 million bushels. In the two weeks, October 5 to October 17, total open interest in Chicago wheat futures increased only 6 million bushels. In the next two weeks, however, it rose over 21 million bushels to 121.1 million bushels on October 31, and reached a peak of 133.9

million on November 9. This great increase in speculative activity rested partly on a sharp increase in general public interest in the wheat market, stimulated by the wide publicity given the wheat price rise in consequence largely of its interpretation as an omen of business recovery.

Like the previous rise, the decline in wheat prices from their peak on November 6 which soon canceled most of the advance finds inadequate explanation in contemporaneous market news. In early November, an increase of 33 million bushels in the official estimate of the Canadian wheat crop furnished an unpleasant surprise, though this may not have had much lasting price effect. Concurrently there appeared reports of severe frost in Argentina that held possibilities of real price significance. The chief explanation of the decline is probably to be found in heavy profit taking and probably short selling by futures traders who realized that the fundamental supply outlook had not materially changed since early October. On more sober consideration the sudden hopes of early business revival faded or turned to even deeper pessimism, and with them disappeared the support which hopes of early business revival had lent to wheat prices. A marked decrease in European import demand was a contributing factor.

In comparison with other broadly similar wheat price movements, the price cycle of October–November 1931 is remarkable chiefly for the sharpness of the decline following the peak. In a recent issue of WHEAT STUDIES (November 1931) it was shown that wheat price increases of 14 cents or more (in terms of dollars of 1913 purchasing power) between the average for one week and the average for the fifth or some earlier week thereafter, have almost always been followed by approximately equal declines. The recent price increase amounted to 17.7 cents in four weeks (on the basis of weekly averages) and the movement as a whole appears to belong to the class described, on the basis of their most common origin, as "crop-scare cycles." Like two of the three other such cycles (since 1885) that started in the autumn, this latest rise was only slightly influenced by crop news.[1] In the sharpness of the decline after the peak was reached, however, this latest crop-scare cycle more nearly resembles other crop-scare cycles which culminated in April or May. In other autumn crop-scare cycles the high level reached on the peak was held longer and the subsequent decline more stubbornly resisted. As suggested above, the sharpness of the decline in this latest cycle is probably to be attributed to the slenderness of the basis for any substantial reappraisal of the fundamental wheat price situation and to the considerable influence in the rise of hopes for early business revival, which soon were seen to be ill-founded.

The spread between Liverpool and Chicago December futures was unusually small throughout the summer and early autumn. It narrowed further during the October price advance, and since late in November the Chicago December future has sold almost continually above the Liverpool December. In recent years the spreads were similarly narrow in 1923–24, a year of abundant supplies in which the United States happened to have a carryover and new crop of very moderate size; and in the summer of 1925, when the United States winter-wheat crop was very short.

UNITED STATES CASH PRICES

The course of cash prices of several representative wheats in leading United States markets is shown in Chart 7 (p. 216). The lower section of the chart brings out (1) the abrupt and extreme downward adjustment in prices of hard and soft red winters in three weeks following the middle of June; (2) the very low level of these prices for three months ending early in October; and (3) the sharp advance and decline in subsequent weeks.

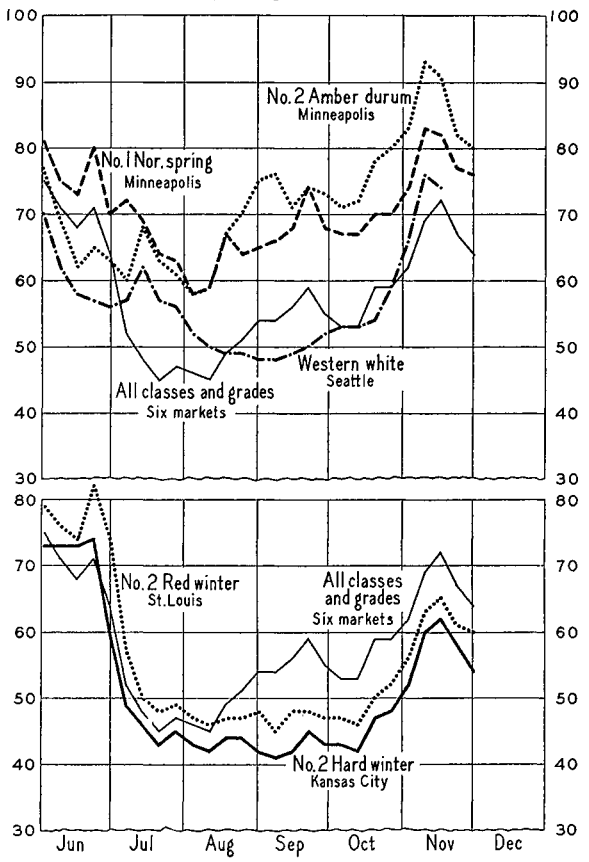
The upper section of the chart indicates that prices of hard red spring, durum, and Pacific wheats followed a different course, and were relatively much higher: (1) they declined more gradually and much less; (2) spring wheats reached their low points late in July, and Pacific wheats around the end of August; (3) they advanced before the upturn occurred in hard and soft red

[1] The other autumn crop-scare cycles occurred in 1888, 1896, and 1925.

winter; (4) the total advance from low to high was considerably greater; and (5) the decline from high to subsequent low was only moderately greater.

CHART 7.—CASH WHEAT PRICES IN THE UNITED STATES, JUNE–DECEMBER 1931*

(*Cents per bushel*)



* Weekly averages (weighted except for No. 1 Western White) as computed by the U.S. Department of Agriculture, from *Crops and Markets* and *Foreign Crops and Markets*. Latest figures plotted are for week ending November 27.

Moreover, cash prices in the United States showed a noticeable firmness as compared with futures prices. Especially in view of the bumper crop of winter wheat and the large terminal stocks, the relative strength of cash prices has been surprising to the trade.

Cash prices were appreciably firmer in the United States than abroad. Comparative data given in Appendix Table XXIII suggest a few points worthy of remark. In contrast with the relative stability of hard and soft winters in United States markets during most of the summer, prices in foreign markets continued to work downward during this period; and during the great advance British parcels, Canadian, Australian, and Argentine wheats did not rise as much as United States wheats.

The sharp advance and decline in cash prices broadly paralleled the movement of futures prices and call for no further comment here. The extreme decline in cash prices of winter wheats from the supported to an unsupported level also requires no special comment.[1] The important questions are: Why was the decline checked where it was? why were prices comparatively stable during the summer? and why were cash prices relatively firm throughout?

The major factors operating jointly were unquestionably, first, a marked slowing up of marketings by farmers as prices declined and remained low; second, the very limited supplies made available from stabilization stocks; and, third, a fairly liberal mill demand.[2] The ability and willingness of farmers to hold rather than to sell at extremely low prices was of great importance. When the big advance occurred, farmers sold more but did not flood the market; and when prices receded so did receipts at primary markets.

The more gradual decline in prices of spring wheats was due mainly to four factors: spring wheat is harvested later; the Grain Stabilization Corporation, though it sold in the Northwest, did not make its stocks freely available to millers; mill stocks were unusually low; and spring-wheat prospects deteriorated as the season advanced. The cessation of the decline at levels relatively high, and the advance during the season when spring wheat generally moves to market in large volume, were unquestionably due to increasing evidence of a very short crop. The special shortness of the durum crop, not only in this country but in Canada and in the world ex-Russia,[3] is plainly responsible for the unusual firmness in durum prices.[4]

[1] See WHEAT STUDIES, December 1931, VIII, 85, 86, 101.

[2] See below, pp. 224, 232–33, 234.

[3] See above, pp. 209–10.

[4] In Canada, as is most unusual, the highest grades of durum wheat are commanding substantial premiums over No. 1 Manitoba.

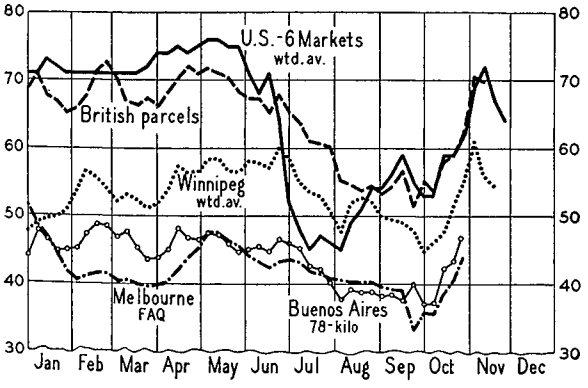
The special strength in the Pacific Northwest was due in part to the small crops in that territory (including western Montana and northern Idaho), and also in California. An important additional source of strength, which affected the timing of the rise there, was the reservation for sale to China of 15 million bushels of stabilization stocks in that area. This so greatly reduced the apparent surplus that mills found it necessary to bid higher for their supplies for independent business. There is also ground for believing that the buying policy of the Farmers National contributed appreciable additional support. It is pertinent to add that, presumably because of the crop shortage in western Montana, hard wheats have generally sold at no discount in the Pacific Northwest this year. Moreover, Big Bend Bluestem, a preferred variety, has commonly commanded a 15-cent premium over No. 1 Western White.

Other Price Comparisons

With the discussion of cash prices in United States markets for a background, it is easier to understand the peculiar course of the United States curve on Chart 8.

Chart 8.—Wheat Price Movements in 1931 as Shown by Representative Weekly Series*

(Cents per bushel)



* See Appendix Table XXIII. The Buenos Aires figure for the week ending September 26 should be plotted as 36.7 cents.

Through May, it stood relatively high because it was held up, while other prices shown here were not. It fell much more sharply at the turn of the crop year, because new-crop wheat was not directly supported. It ceased to fall while other prices continued to decline, because farmers cut down their sales of wheat as average market prices fell under 50 cents a bushel. Unlike Chicago futures, it rose in August–September, because spring wheats commanded substantial and increasing premiums over winters, and substantially affected the weighted average at six markets. In September–November, mainly for reasons already suggested, this average ran close to that of British parcels in England.

The other feature of Chart 8 is the continued comparative stability of Argentine and Australian prices, and the moderateness of their decline during the summer, as compared with British and Winnipeg prices. Seasonal factors, which accentuated weakness in cash prices in Winnipeg, afforded resistance to sagging tendencies in Australia and Argentina. In all three markets, as in Great Britain, new low points (in terms of United States currency) were registered late in September. In the week following Great Britain's suspension of the gold standard, Melbourne prices averaged only 33 cents a bushel.

Prices of domestic wheats in European exporting countries of the Danube basin were divergently affected by the various governmental measures for support of prices, and the available data are not easy to interpret from this distance. Recent discussions of these may be found in *World Wheat Prospects*,[1] prepared in the Bureau of Agricultural Economics.

In the chief continental European importing countries, the divergence characteristic of recent years continues.[2] Thus far this year France appears to have been the most successful in supporting wheat prices at something like their average level in recent years. Unquestionably the moderately small size of the 1931 French crop, together with a small carryover, was an essential factor. Germany and Italy, each of which harvested a good wheat crop, have had prices ruling lower than in any recent year. British domestic wheat prices are strikingly below last year's.

[1] See especially the issue of October 17, 1931, pp. 19–23.

[2] See Wheat Studies, December 1931, VIII, 103–07, and Appendix Table XXIV in this issue.

III. GOVERNMENTAL MEASURES AFFECTING WHEAT

During the past two or three years there has been a momentous increase in the extent to which governments have adopted measures that have affected the wheat situation, not only in the country itself but in the world at large. Production, marketing and visible supplies, the volume and course of international trade, and consumption and stocks, have been more or less profoundly influenced by these measures. Such measures have been unusually numerous and significant in the past few months.[1]

In addition to specific and ad valorem duties indirect methods of protection ("administrative protection") have been increasingly in vogue in recent years, and are now widely used. Exporting countries have attempted by various means to overcome import barriers and to gain advantages over competing exporters by subsidies for producers and exporters, government monopolies, and covering losses on exports by charging higher prices to domestic consumers.

Commercial treaties are being made whereby individual exporting countries seek to trade particular concessions for similar concessions on their own export goods. Importing countries have shown willingness to conclude such deals, and to meet the objections of countries with which they have most-favored-nation treaties.

Trade in wheat has also been affected, though to what extent one cannot say, by government regulations which do not deal specifically with wheat or flour. Widespread currency difficulties, following the German financial crisis and Great Britain's abandonment of the gold standard, have led to the adoption in many countries of regulations governing foreign exchange transactions. Many of these are of a precautionary nature, designed to protect domestic currency and credit from strains arising through unessential payments abroad. Such regulations have been adopted in Germany, Great Britain, the Scandinavian countries, Finland, Latvia, Austria, Czecho-Slovakia, all of the Danube countries, Italy, and Greece, and had already been in effect for some time in Spain and Portugal.

European Importing Countries

Germany.—The outstanding features of the program for the new crop year in Germany are the very high milling quota and the import certificate system.[2] Import duties remain at almost prohibitive levels, but the tariff barrier has been modified by government purchases abroad and by reduced duties granted on wheat imported on evidence of the export of equal quantities of domestic wheat.

A heavy marketing movement of domestic wheat was anticipated because of the large crop of 1931 and also because of the strained credit situation which rendered holding difficult. The government arranged for the extension of credit by a number of banks and other organizations, and sought to minimize pressure on the market by promoting immediate demand for domestic wheat. The milling quota was raised from 50 to 60 per cent on August 1, and to 97 per cent on August 15. Arrangements were made to facilitate the export of German wheat early in the season by granting, on all exports made up to December 31, 1931, import bonds which would permit foreign wheat in equal amounts to be imported at a reduced rate of duty (13 cents per bushel) at any time before July 31, 1932; wheat imported on such bonds may be used in milling beyond the usual quota of 3 per cent, up to a total of 30 per cent.

A syndicate of German Wheat Flour Mills was formed in Berlin on October 19, under government auspices. A decree of October 22 provided that only mills belonging to this syndicate could take advantage of the 30 per cent privilege; membership, however, is open to all German wheat flour mills. Members are obliged to take one-half of their foreign wheat requirements, directly or indirectly, from the official trading company in the form of American hard winter wheat, bought by the German government from the American Stabilization Corporation.

[1] The data used in this section have been obtained chiefly from publications of the United States Departments of Agriculture and Commerce and of the Canadian Department of Trade and Commerce.

[2] For discussion of Germany's trade agreements, see pp. 221, 222, and 223.

Measures for handling the rye crop and avoiding early marketing pressure have also been adopted, although the crop is not considered large, and indeed there has been talk of a rye shortage which might lead to reduction of the duty. Some concessions have been made in the importation of feeding barley. Since bakers were taking very little advantage of the regulation permitting the use of 10 per cent potato flour in their bread, the government has made the use of 5 per cent compulsory, desiring to promote the potato flour industry and to use up the domestic potato crop.

France.—The French government had lowered the milling quota as domestic supplies became exhausted toward the end of the crop year 1930–31, but immediately new supplies were available the quota was raised, by 5 per cent increases, until it again reached 90 per cent, and recent advices state that it has been further increased to 97 per cent. The government has also taken steps to enforce more strict observance by mills of the quota regulations. Complaints of the abuse of the privilege of importing wheat under the "temporary admission" rule have been a feature of French trade news; it is charged that some millers divert such wheat to milling for domestic consumption. Similar complaints were heard concerning the misuse, in milling, of wheat imported ostensibly for stock-feeding. There are reports, moreover, of wheat being smuggled over the Belgian frontier and sold as native wheat in France. According to one French journal, the permitted 10 per cent has been actually extended to at least 20 per cent by these means.[1] In response to agitation on the part of domestic producers for more strict control, wheat imports were made subject to license and to a strict system of registry from November 11, but wheat imported in temporary admission (to be exported later in the form of flour) is excepted from this requirement.[2] The same law required that wheat imported for feed use be discolored before being cleared from the customs.

[1] *La Côte Bodenheimer*, October 28, 1931.

[2] Two decrees had been issued on July 10 and one on July 11, prescribing more strict regulation of the temporary admission system.

[3] See below, pp. 221, 222, and 223.

[4] All conversions at par of exchange.

There has been some agitation for an increase of the already high import duties, but such action is improbable, for the government is able to maintain domestic prices by control of milling ratios and by the recently adopted import license system.

Complaints are common in France as to the poor quality of bread and the poor quality of much of the wheat delivered from the new crop. Relaxation of the milling quota has been desired by millers and frequently predicted, but the recent change was in the opposite direction.

France, it appears, has encouraged European exporting countries to seek special agreements for the disposition of their surpluses, and is prepared to extend reduced tariff rates on contingents of wheat from Danubian countries in return for concessions granted to French manufactured products.[3]

Italy.—On August 19, the Italian duty on wheat was raised from 87 cents to $1.07 per bushel; the duty on wheat flour was raised from $4.34 to $5.25 per barrel; the duty on semolina was raised from $5.68 to $6.84 per 100 pounds, thus maintaining a higher level for semolina than for wheat flour.[4]

On November 1 the milling quota for domestic hard wheats used in macaroni manufacture was reduced to 75 per cent, while the quota for other wheat remained at 95 per cent as established on July 2.

The government has initiated experiments to determine the suitability of domestic wheat for domestic uses under improved methods of milling and baking. Measures for the improvement of production and marketing continue to be forwarded by the Italian government.

Czecho-Slovakia.—The Czecho-Slovakian system of adjusting tariff rates monthly by changing supplementary duties, within a given range, while maintaining constant basic duties, has resulted in four changes in the duty on flour during the period under review. The rate was lowered in August and September, and raised in October and November, the net change during the period being an increase of 37 cents (from $2.92 to $3.29) per barrel.[3]

For the new crop year the milling quota was discontinued and a system of import

licensing adopted instead. The interministerial committee established to control imports of foodstuffs has found it difficult to agree upon the amount of wheat which should be granted admission during the current year; farmers' representatives demanded reduction, whereas millers desired an increase of imports. It was finally decided to admit 50,000 metric tons in October and to defer action on further imports. Rye is admitted practically without restriction. American millers have protested to the State Department regarding delays in issuing flour import licenses.

Czecho-Slovakia, like France, has been disposed to encourage exporting countries in efforts to negotiate special commercial agreements, and is prepared to accept special import quotas from neighboring countries.[1] In both Czecho-Slovakia and France, the import license system will lend itself to the administration of quota regulations.

United Kingdom. — For at least a year measures involving state aid for British wheat growers have been widely discussed in government and trade circles. The recent election made it appear inevitable that some definite steps will be taken in this direction. The measure most likely to be adopted is a minimum quota for the use of domestic wheat, 15 per cent being the preliminary figure anticipated, with the possibility of future increases if production should increase. Closely allied to this plan are proposals for a system of import quotas for British Empire countries, minimum prices for domestic wheat, and a protective tariff with Empire preferential rates. Although tariffs are being placed on other commodities, the government seems reluctant to impose a duty on wheat if the desired protection for farmers can be accomplished otherwise.

Netherlands.—The Dutch quota law was put into effect on July 4, with a milling quota for domestic wheat of 20 per cent. This was raised, on September 7, to 22.5 per cent. Imported flour may be stocked and used only according to a strictly regulated procedure; its use is limited chiefly to the manufacture of rusks, biscuits, self-rising flour, and articles for export. Purchases of domestic wheat have to be made from a central wheat organization, representing regional associations of producers. Millers also have their official organization, which buys wheat for its members. A Central Flour Committee, representing the government and various buying and selling interests, supervises the trade in foreign flour; this body is expected to restrict flour imports to between 40 and 50 thousand metric tons annually, as compared with the former average import of between 120 and 150 thousand tons. Prices for domestic wheat are fixed by the government.

One apparent weakness in the Dutch plan is the failure to put commensurate protective duties on imported bread. The prices of flour and bread in the Netherlands have been increased by the new regulations, and, as a result, there has been an influx of Belgian bread across the frontier which has placed Dutch bakers in difficulties. The flour trade of the Netherlands has been reported very dull since the new restrictions were imposed.

Other European Importing Countries.—Austria was able to increase import duties on wheat and flour to 55 cents per bushel and $4.23 per barrel respectively on July 1, having abrogated commercial treaties formerly in effect with Hungary and Jugo-Slavia. New treaties have been concluded with both countries extending aid to the marketing of Hungarian and Jugo-Slavian wheat in Austria in return for commercial favors for Austrian goods.[2] A treaty recently concluded with Czecho-Slovakia shows a disposition toward co-operation on the part of these two grain-importing countries.

The Belgian milling quota was raised from 5 per cent to 15 per cent in August. Imports of wheat from Russia and of flour from all sources remain subject to special license, and certificates of origin are required for wheat imports.

The Swedish milling quota, which had stood at 85 per cent for several months, was reduced to 80 per cent on August 1, to 70 per cent on September 1, and to 60 per cent on October 1, indicating a shorter domestic supply. Similar quotas are maintained for rye. Imported flour is subject to mixing

[1] See below, p. 222.

[2] See pp. 221 and 222, below.

quotas equal to current milling quotas. On June 1, 1931, the Swedish government established a state monopoly similar to the Norwegian grain monopoly which has been in operation for a number of years.

Latvia maintains milling quotas of 50 per cent domestic wheat and 85 per cent domestic rye. Government purchases at prices proportionate to costs of production were maintained during 1930–31, but the disposition of stocks accumulated in this way proved difficult. The Latvian government is reported to have been negotiating with a Swiss bank for a loan with which to finance purchases from the new crop. Plans for a government monopoly were discarded.

In Estonia, although the government held a stock of unsold old-crop rye amounting to over a million bushels on September 1, it is expected to buy up all the new crop of approximately 6 million bushels. From September 2 permits for the importation of foreign rye were temporarily suspended.

European Exporting Countries

Hungary.—The efforts of the Hungarian government to promote exports in the early months of the crop year 1931–32 have been directed along three main lines: (1) the maintenance of the ticket system of bounties established in 1930, but with premiums raised to higher levels; (2) the reduction of freight rates on wheat for export; and (3) the negotiation of special treaties with European importing countries whereby preferential treatment is to be granted Hungarian wheat.

Briefly stated, the Hungarian grain ticket or "boletta" system is as follows. Persons intending to purchase domestic wheat or rye from producers must first buy grain tickets in corresponding amount from the government agencies, at a cost of approximately 48 cents per bushel;[1] each ticket has an attached coupon which is turned over to the producer when the purchase of grain is made, whereas the main part of the ticket accompanies the grain until it reaches the mill or is exported from the country. The farmer may use his coupons in part for the payment of taxes and receive the value of the remainder in cash, the total value being approximately 29 cents per bushel (6 pengos per quintal). When grain reaches domestic mills, the tickets are retired; the miller, of course, pays the cost of the ticket in addition to the market price of the grain, whether he buys directly from the producer or through intermediaries, but this additional cost is passed on to the consumer in higher prices for flour and bread. When grain passes to export, on the other hand, the government redeems the tickets at their full value, thus aiding the exporter to meet competition in foreign markets. In addition, an export premium of approximately 17 cents per bushel, with the producer as beneficiary, was paid during the early months of the season, but this premium appears to have been discontinued on October 28. The ticket system also is to be discontinued on July 1, 1932. A syndicate of exporters has been formed to prevent excessive competition and consequent undue depression of export prices.

High shipping costs are reported to have hampered exports from the parts of Hungary served by private railroads, and as a result these roads were taken over by the government in September and freight rates reduced to a level that would permit exports to be made on a profitable basis.[2]

A new commercial treaty with Austria became effective on July 19, 1931. This treaty did not grant special concessions in tariff rates, but provided for a system of freight and credit privileges to facilitate trade between the two countries. It was unofficially reported that one arrangement in connection with the treaty provided for the use of export bounties upon specified quantities of certain kinds of merchandise shipped from one of the contracting countries to the other.

It is hoped by the governments concerned that this method of facilitating exports will not be held to contravene the most-favored-nation agreements with other countries. Agreements of another type, which will require the acquiescence of countries which are on a most-favored-nation basis with either signatory, have been concluded with Germany and France. From available re-

[1] During 1930–31 the cost of the ticket was 38 cents per bushel.

[2] *Foreign Crops and Markets*, November 16, 1931.

ports it appears that Germany has granted a reduction of 25 per cent of the regular customs duty on a certain annual contingent of Hungarian wheat, and that France will make a refund of a portion of the duty, not to exceed 30 per cent, the exact proportion to be fixed from year to year. In return for these concessions Hungary has granted preferential treatment to certain French and German products.

Negotiations with Czecho-Slovakia with a view to ending the tariff war between the two countries are still in progress.

Jugo-Slavia.—The Jugo-Slavian government, which had endeavored during the past year to support domestic grain prices and promote exports through an official trading organization, found it expedient on the approach of the new crop year to establish a practical monopoly of the grain trade, involving fixed prices for grain and flour. The building of storage elevators and the reduction of transportation costs are subsidiary parts of the general program of reorganization of the industry. Concurrent efforts to develop export markets by negotiating special treaties have met with a measure of success.

In May 1930 the Privileged Export Company was established, with authority to buy up all domestic wheat offered, at prices above the world level, the losses on export sales being assumed by the government. During 1930–31 this plan apparently succeeded to some extent in sustaining the domestic price level, but the cost to the government was considerable. The recent steps transforming government trading into a full monopoly appear to have been taken in order to shift the financial burden onto the domestic consumers. This is achieved by means of the spread between the prices paid to producers and the prices charged to millers, who are obliged by law to buy only from the official organization. Both sets of prices are fixed on a scale which increases monthly, in order to encourage orderly marketing throughout the year. Initial prices to producers were fixed at 74 to 87 cents per bushel, according to type and quality; initial prices to millers were fixed at $1.05 to $1.15 per bushel. It remains to be seen whether consumers will stand this added burden or will resort more to corn.

Financial difficulties in the execution of the plan are indicated by the fact that the government has begun paying half the purchase price of wheat in bonds instead of in cash. Marketings from the new crop were so large that the funds for grain purchases were exhausted, and credits for financing the export movement were very difficult to secure. Drastic price declines in world markets during August and September increased the losses which the government was obliged to take on its export sales.

Jugo-Slavia has negotiated commercial agreements with Austria, Czecho-Slovakia, and France, and is reported to be negotiating one with Germany. The Austrian treaty provides for a preferential duty (3.20 gold crowns lower than the duty in force at the time) on an annual contingent of 500,000 quintals (1,837,000 bushels) of Jugo-Slavian wheat, and the Czecho-Slovakian treaty provides for a reduced duty upon a contingent of 1,000,000 quintals (3,674,000 bushels). News reports of the French treaty state that France has agreed to take 10 per cent of her wheat imports from Jugo-Slavia. It is not clear whether this will be effected by reduced duties, by French government purchases, or through the control of import licenses. The treaties providing for special tariff concessions are subject to approval by "most-favored nations."

Roumania.—During the past year the agricultural crisis is reported to have been very severe in Roumania, because of sharp price declines, unfavorable credit conditions, the large proportion of the population that is engaged in agriculture, and the transfer from large to small holdings. Many peasants had bought land on credit at a time when the prices of cereals were relatively high, and the subsequent declines have not only reduced land values but have made it difficult or impossible to meet the maturing payments. An export bounty of approximately 16 cents per bushel, in effect since the beginning of the new crop year,[1] stimulated the movement of wheat into western European markets, where it was "dumped" at extremely low prices, until by mid-October the funds appropriated for

[1] Roumanian wheat was subject to a small export duty until May 1931.

payment of bounties were seriously diminished[1] and for a time a shortage of wheat for domestic consumption was feared.

Details of Roumania's commercial agreements have not been received, but it appears that treaties dealing with exports have been concluded with Greece and with Germany, and that negotiations have been initiated with France and Italy in an endeavor to secure concessions in those countries. Roumania has taken a leading part in discussions of an "Agricultural Union" of European countries; several of the conferences on this question during 1930–31 were held in Bucharest.[2] Meanwhile an extensive program is in preparation for reorganizing agricultural credit and improving the conditions of cultivation and marketing.

Bulgaria.—Government purchases have been used in Bulgaria as means of price control. A "Board for the Purchase of Breadstuff Cereals and Feed Grains for the Requirements of the State Administration and for Exports" began operations on January 15, 1931. The Board was not a government monopoly, but was authorized to buy grain at prices above those ruling in world markets. A part of the purchase price, however, was paid in a currency which could be used by the farmers only in payment of taxes. Like similar organizations in other Danubian countries, the Board has encountered extreme difficulties in the new crop year, particularly since the Bulgarian crop was a very large one. Losses of from 25 to 37 cents per bushel, in addition to shipping costs, are reported on the export of wheat which was purchased at fixed prices early in the season. As a result exports were discontinued for a time in September, but have since been renewed, with plans under way for the establishment of a government monopoly by means of which the losses on sales for export may be recouped by domestic sales at monopoly prices. Since November 1 sales of wheat on Bulgarian grain exchanges have been made only by the government.

[1] Revenues for this purpose have been derived from a tax on bread, but since this source has proved inadequate (Roumanian peasants are consumers of corn by habit and preference) a supplementary loan of $300,000 has been arranged.

[2] See WHEAT STUDIES, August 1931, VII, No. 9.

Although Bulgaria, like her neighbors, is ambitious to secure special concessions, no agreements of this nature have yet been reported.

Poland.—Formerly a wheat-importing country, Poland has been a net exporter since 1929–30, as in 1925–26. She pays an export premium on wheat of 18 cents per bushel. In 1930–31, the export premium on wheat flour without bran was raised from 90 cents to $1.20 per barrel, but this was reduced on May 6, 1931, to $1.00 per barrel. Premiums were paid also on exports of rye and rye flour. Poland and Germany have maintained for two years an agreement concerning exports of rye, applicable in particular to their exports to Scandinavian countries. At the beginning of the crop year 1931–32 the prime minister announced that the government would continue to support prices and that export premiums would be paid as in the past.

UNITED STATES

In the United States stabilization purchases of wheat ceased in June, in accordance with the Federal Farm Board announcement of March 23, 1931, that such purchases would not be made in the 1931 crop. The principal policies affecting the market were those connected with the holding and sale of stabilization stocks. Also of significance were the policies of the Farmers National Grain Corporation, which operates with liberal financial aid from the Federal Farm Board. No new developments in government policies appeared during July–October. The Farm Board continues to urge on growers contraction of wheat acreage for the 1932 crop. Growers have apparently shown the impulse to restrain the marketing of the 1931 crop.

The wheat held by the Grain Stabilization Corporation on June 30, 1931, as first disclosed before the Senate Agricultural Committee on November 24, amounted to 257,136,571 bushels. We infer that some 12 to 15 million bushels of this total was in store in Canada or en route there. If we accept as comprehensive the United States carryover figure of 319 million bushels, and take account of some 15 million bushels of United States wheat stored in Canada on

June 30, it would appear that the Grain Stabilization Corporation held on June 30 about 77 per cent of the total carryover of United States wheat.

It will be recalled that the Federal Farm Board's announcement of March 23, 1931, which gave notice that stabilization purchases would not be made in the crop of 1931, contained this statement:

> It is too early now to set forth in detail what the sales policy of the Grain Stabilization Corporation will be in the new crop year, except to say that stabilization supplies of wheat will be handled in such a way as to impose the minimum of burden upon domestic and world prices.

In May and June urgent demands were made, from many sources, for a more specific statement of policy regarding sales and in fact for the adoption of one or another type of policy. In a statement on June 30 the Board said in part:

> The Farm Board has been requested from numerous quarters to have the Stabilization Corporation announce specific prices below which the corporation would not sell its stabilization holdings.
>
> The proposal that prices be fixed at which the corporation would sell is not in the interest of the farmers. If a high price were fixed, then the stabilization holdings would never be disposed of, and would continue to overhang the future of American agriculture. If a reasonable price were fixed on today's outlook, such a declaration would tend to keep the price depressed to a point below such limits. It would distort the whole movement of wheat and congest storage by inducing excessive shipments whenever the price began to approach the figure set.
>
> The Grain Stabilization Corporation will limit its sales of wheat from July 1, 1931, to July 1, 1932, to a cumulative maximum of 5,000,000 bushels per month. This is approximately 7 per cent of the estimated bushelage of the 1931 crop. This limitation, however, shall not apply to sales of foreign governments or their agencies now being considered. Any sales for the purpose of clearing trade channels, or for other efficient merchandising purposes, will be promptly replaced by purchase of an equal quantity of wheat. Such transactions will not be considered as a part of the sales program.
>
> The sales program will be conducted in such a fashion as not to depress the movement in prices. It is not the purpose of the corporation to make any immediate sales even of those limited amounts at the present range of prices. It is the view of the board that taking into consideration the world situation, sales of such moderate amounts can be made without interference to the general market.

The policy was reaffirmed by Chairman Stone of the Federal Farm Board in a hearing before the Senate Committee on Agriculture and Forestry on November 25, in the following words:

> This wheat is being sold at not over 5 million bushels a month (except for possibly additional sales to foreign governments). . . . . The disposition of stabilization wheat may extend over several years into the future. . . . .

Between July 1 and October 31 were sold (net) 67,527,860 bushels, as shown by the following summary, in million bushels:

Sales contracts with foreign governments		
Brazil	25.0	
Germany	7.5	
China	15.0	
Total		47.5
Other export and domestic sales		
Under schedule, July–October	20.0	
Offset by 1931 wheat purchased	10.5	
Offset by purchase of futures	27.3	
Gross and net total	57.8	20.0
Total gross and net sales	105.3	67.5
Net balance owned on October 31		189.7

The purchases of cash wheat evidently represented chiefly 1931 wheat obtained in settlement of contracts with millers who had purchased stabilization wheat earlier in 1931 with agreement to replace it from the new crop. The purchases of futures represent chiefly offsets to sales of cash wheat in excess of the scheduled amount of 5 million bushels a month.

The net balance as of October 31, 1931, probably included some wheat of the crop of 1929, as well as some of the crop of 1931 and 27.3 million bushels in futures, but consisted mainly of 1930 wheat. Most of the wheat covered by sales contracts with foreign governments remained in the hands of the Corporation on November 1.

Information is limited concerning the distribution of the sales other than to foreign governments, as between domestic and foreign markets, and among domestic markets. There is considerable reason for believing that no sales were made in the Southwest in competition with 1931 wheat, and we think it safe to infer that most of

the cash purchases were made in that territory. Probably most of the domestic sales were made in the interior Northwest.

It is officially stated that the average price (on what basis is not disclosed) of all cash wheat sold, exclusive of the Brazilian contract and the unshipped portion of the Chinese contract, was 64.7 cents per bushel; that the October 31 balance represented an investment of $1.17 per bushel, including cost, carrying and operating charges, and loss on wheat sold; and that the paper loss, on the basis of the Chicago December future on October 31, was approximately 120 million dollars.

According to President Milnor's testimony before the Senate Agricultural Committee late in November,[1] the Grain Stabilization Corporation did not sell its monthly quota of 5 million bushels in November, and during the month bought slightly over 9 million bushels of futures.

The sales contracts which were made with Brazil, Germany, and China deserve separate discussion.

The arrangement with Brazil, announced on August 21, represents a barter of portions of burdensome crop surpluses. It provided for the exchange of 25 million bushels of wheat grain for 1.05 million bags of coffee. The wheat was to be delivered f.o.b. steamer, in monthly installments running over a period not disclosed. The coffee was to be delivered c.i.f. New York, and stored at the expense of Brazil guaranteed by an additional delivery of coffee, subject to the condition that the coffee shall be sold in cumulative monthly allotments of 62,500 bags a month beginning in the fall of 1932. The wheat was largely winter wheat. The net price will emerge later.

The United States is normally a large importer of Brazilian coffee. Normally, for obvious reasons of proximity, Brazil imports wheat grain almost wholly from Argentina, and only negligible amounts from the United States. For the time being, United States wheat will heavily displace Argentine wheat in Brazil, and leave more of Argentina's surplus for the European market. There is no prospect that the shift in trade will be permanent; American wheat shipped to Brazil on the basis of the Chicago future cannot hope to compete in Brazil with Argentine wheat shipped on the basis of the Liverpool futures.

On the other hand, United States flour has long been established in Brazil (mainly northern Brazil); in the past five years, United States flour exports to Brazil have averaged about 812,000 barrels, the equivalent of 3.8 million bushels of wheat. This trade is in danger of annihilation, for the time being, not only because the contract provided for shipment of the wheat as grain, but because the Brazilian government promptly embargoed flour imports for the period of 18 months. It is said that the Brazilian mills (which are reported to be largely controlled by Argentine capital) insisted on a temporary monopoly as a condition of co-operating in the government program. There is danger that the lost flour market may not be easily regained.

American millers were naturally indignant that their interests were not safeguarded in the negotiations, at least to the extent of providing for the shipment of 5 million bushels of wheat as flour. American shipping interests also protested, because no provision was made for American ships to carry at least a share of the cargoes. In effect, the wheat was sold f.o.b. and the coffee bought c.i.f. It has not been made clear why, with each country eager to get rid of a surplus, the "high cards" in the negotiations should have been held, as it appears, by the Brazilians. It is, however, a pertinent question how far the Federal Farm Board should be prepared, in such negotiations, to accept poorer terms for the sale of stabilization wheat, at the expense of the revolving fund, in order to protect the established trade of American mills or provide additional business for American shipping.

The details of the negotiations on both sides have not been made public, and there is no way of knowing on what grounds and through what arguments the Brazilians successfully insisted that the entire transaction should be in terms of wheat. It may be suspected that Brazilian mills, acquiring a sort of monopoly for the time being, would find this useful against the mills of Argentina.

[1] As reported in the *Southwestern Miller*, December 1, 1931, p. 28.

Finally, the Brazilian government presumably used our wheat as a weapon in a trade war with Argentina over tea. (It is rumored that Argentina protested the deal with the Farm Board.) In view of the insistence customarily laid in our governmental policy upon export in manufactured form rather than in the raw state, millers find it difficult to understand why the policy was not binding on the Farm Board, to the modest extent of one-fifth of the total transaction. This attitude remains, even when it is understood that the Brazilians were playing our wheats against the wheats of other surplus-suffering countries. It is of course to be kept in mind that our tariff law does not contain provisions for negotiation, whereas in most other countries commercial treaties are part of tariff and trade policy and afford wide scope for trade negotiations.

The wheat to be shipped to Brazil was not arranged to go entirely from Gulf ports. In particular, the Stabilization Corporation was desirous of disposing of the wheat stored in Canadian grain terminals at Georgian Bay ports. Tramps go anywhere for cargoes when cargoes are as scarce as at present. Therefore, even from Gulf ports competition was bound to be keen. From eastern Canadian ports foreign vessels possessed an obvious advantage. The costs of running American freighters are distinctly higher than those burdening the vessels of most other countries. To have paid American ships more than the charter costs of foreign ships would have meant transferring money from the revolving fund of the Farm Board to American ship owners, which it may be inferred raised a legal question.

On September 11, 7.5 million bushels of wheat were sold on credit, for delivery over a period of about 8 months, to an official grain board of Germany, the Deutsche Getreide Handelsgesellschaft, under governmental guarantee. This wheat is to be distributed to the German mills for the strengthening of domestic wheat. None of the sale is to go in the form of flour. In this deal also, an international competition entered, since both Canada and Russia were in position to provide hard wheat of similar qualities.

The German agreement established as basis price the figure for Chicago futures on the day the contract was signed, though the Germans wished no contract wheat. A million bushels were No. 2 Amber Durum at 13 cents over the option; a million and a half bushels were No. 1 Dark Hard Winter wheat at 1 cent over the option, with a protein content of over 12½ per cent; five million bushels were No. 1 Hard Winter wheat at ¼ cent under the basis price. Protein content was specified, with price adjustments within a range. The delivery is to extend over nine months, though more rapid delivery is permitted if called for. It is understood that the tonnage is to be divided between German and American bottoms. The arrangement for payment with 4½ per cent notes maturing December 31, 1934, in gold, saved the buyers the use of foreign exchange.

In September also was announced a sale of 15 million bushels of wheat to China, naturally on credit and presumably at a later loss. The export will occur entirely from the Pacific Coast and is to consist half of wheat and half in the state of flour. The wheat sold was 1930 wheat, presumably already in the possession of the Grain Stabilization Corporation. It is understood that deliveries will be made over a period of some six months. The cost of the wheat stands on the books of the Corporation and the price is not known to us. The flour is ground on toll, in effect. The North Pacific Millers' Association adopted a program of proration among exporting mills. Wheat is delivered to the mills by the Grain Stabilization Corporation, and a definite ratio of flour must be returned; the mill retains the offal and any wheat not needed to produce the flour denominated. The mills do not export the flour, but turn it over to the Corporation. China has charge of the ocean shipments, and receives the wheat and flour at American ports. It is understood that American bottoms are receiving a fair share of the carriage.

The influence of the China sale on prices in the Pacific Northwest appears to have been considerable.[1] Stocks had been especially heavy in that region in 1930–31, and

[1] See above, p. 217.

the carryover was largely in the hands of the Stabilization Corporation. The sale apparently insured the disposition of these stocks. Since the 1931 crop was relatively small and California's requirements were heavier than usual, and since growers tended to hold at the low prices prevailing, merchants had to bid prices up to fill current requirements. For such reasons, the advance in prices in the Pacific Northwest in September–October was greater than elsewhere in this country. At the same time, however, this rise in wheat prices reduced the ability of merchants and millers there to compete in the Oriental market.

The China contract called for the use of this wheat and flour solely for relief purposes. Even if this provision is strictly adhered to, the sale may have tended somewhat to reduce prices in China, for domestic and commercially imported wheat. It seems probable, however, that it will mean a net increase of China's imports of wheat and flour from all sources, though probably not to the full extent of 15 million bushels.

By no means all of these exports could have been worked on a private commercial basis. At the outside, flour might have been sold to Brazil equivalent to 5 million bushels of wheat. The wheat sold to Germany could not have been worked on the basis of American futures, since comparable wheats were available in Canada; but Canada could not extend the credit to Germany. The relief export to China is probably in large measure a net addition to the figure of exports, (1) because private exporters could not have extended such credit, and (2) because the stabilization wheat is supposed to go into relief channels, not into regular commercial channels.

In retrospect, it seems fairly safe to say that if the Board had responded to pressure to permit no sales of stabilization wheat in 1931–32, or at least until prices reached 80 cents (or more) per bushel, prices in this country and abroad would have followed a course not radically different from the one that actually prevailed. Possibly both would have been slightly higher, but the major factors determining both level and course of prices would have been much as they were under the policy actually announced and carried into effect. In the interior Northwest, prices might have gone somewhat higher for a time, and more hard winter wheat would probably have moved into the spring-wheat milling territory. In the Pacific Northwest, prices would probably not have gone as high, for the reservation of 15 million bushels for China, coupled with a sub-normal crop in that region, created a relative tightness that would not otherwise have occurred. Millers who ordinarily export flour to Brazil unquestionably suffered a loss of business in consequence of the Brazilian flour embargo following the Brazilian contract; and millers in the Pacific Northwest, though they may have a larger volume of business, may have less profitable export trade because of the sale to China.

Other Countries

Canada.—The Canadian provincial governments came to the aid of the wheat pools in February 1930, when price declines had placed them in a difficult financial position, by guaranteeing the advances already made to the pools by banks and additional advances to the extent of 15 per cent.

The carryover of 1929 and 1930 pool wheat remaining unsold in the hands of the Central Selling Agency of the three provincial pools on August 1 is being liquidated as a separate operation, presumably under the supervision of the Dominion government, in accordance with a working agreement between the governments of the three Prairie Provinces, the three provincial pools, a group of commercial banks, and the central government. The amount held has not been officially announced. It is the view of the trade that the holdings are partly cash wheat and partly wheat futures, probably more of the latter than of the former. The cash wheat has been hedged. It is not understood that the three provincial pools in charge of the 1931 crop are in position to dictate conditions of sale and rate of movement of the wheat being disposed of by the Central Selling Agency.

The three provincial pools are marketing their wheat separately for the 1931 crop and have no responsibilities for their shares of the carryover of old wheat into

the present crop year. Doubtless the three pools consult with each other, but it is not understood that they have an agreement on prices or rates of sale. Each pool operates with commercial bank loans which are guaranteed by the Dominion under specified conditions, one of which is the hedging of all receipts from members.

Efforts to obtain help for wheat producers from the Dominion government have resulted also in the establishment of a bounty of 5 cents per marketed bushel on the 1931 crop in Western Canada. This measure was passed on August 3, 1931, and will expire on July 31, 1932. Precautions have been taken by the government to insure the payment of the bonus to growers only.

Australia.—In Australia, the Wheat Advances Bill, passed by the Federal Parliament on December 18, 1930, guaranteed a price of 73 cents per bushel for domestic wheat f.o.b. at port of shipment for export. This proved impossible to finance and the plan was abandoned in January 1931, after having caused considerable confusion in the wheat trade. It now appears certain that a bounty on production of around 5 cents per bushel will be paid on the 1931 crop. Several of the Australian States have also adopted price-fixing measures in order to improve the position of wheat growers.

Argentina.—Argentina appears not to have experimented with export bounties as yet, but has authorized the Ministry of Agriculture to distribute seed wheat to farmers on credit. The government has been interested also in the construction of a number of storage elevators, a facility in which Argentina has been markedly deficient.

India.—During the past crop year India endeavored to aid export by reducing transportation rates on wheat going to Karachi for export. A protective tariff of 2 rupees per hundred-weight on wheat and flour (equivalent to 39 cents per bushel and $1.28 per barrel) was also adopted, in order to prevent underselling in domestic markets by Australian wheat.

Ex-European Importing Countries.—Several ex-European importing countries have increased protection for their wheat producers and millers during the past two years by higher tariffs, embargoes, and otherwise. Among these are Mexico, Brazil, Colombia, Turkey, Egypt, and the Union of South Africa. In China milling interests have been urging the adoption of a duty on imported flour.

Effects of These Measures

We are now in a position to summarize the major influences of these governmental measures discussed above.

High and flexible tariffs, changing import and milling regulations ("administrative protectionism"), and fixed prices for domestic wheats in importing countries, particularly in Continental Europe, have in combination tended (*a*) to maintain high or relatively high prices for domestic wheats; (*b*) to reduce or restrict expansion of wheat consumption; (*c*) to increase or prevent contraction of domestic production; (*d*) to delay importations until later in the season; (*e*) to keep to a minimum stocks of imported wheat; and (*f*) to reduce carryovers of both domestic and imported wheats. Altogether, these measures have unquestionably increased the world wheat physical surplus, and still more its market surplus and its concentration in exporting countries, held down the volume of international trade and modified its course, intensified the depression in world wheat prices, and made much more marked the divergence of price levels and movements in different countries.

Great Britain's departure from the gold standard on September 21, 1931, created disturbances in markets for all commodities entering into international trade. Impending measures to establish milling quotas for British domestic wheat are likely to raise its price, reduce the amount used for feed, and perhaps reverse the declining trend of production, and also to affect the British market for imported flour. If quotas for Canadian, Australian, and Indian wheat should be adopted, as proposed, these are likely to have a large influence on the world wheat situation, perhaps most of all on American wheat, but to what extent and in what ways will depend on the character that the measures finally take.

India's wheat import tariff (effective March 21, 1931) has probably had some effect in supporting domestic prices, in lim-

iting India's imports of Australian wheat, and possibly in restricting India's exports.

Negotiations of preferential arrangements of various sorts, probably including contingencies, between the Danube exporting countries and the European importing countries, and between Russia and Italy, are influencing the course of international trade. Government purchasing measures in Jugo-Slavia and Bulgaria, Jugo-Slavia's price-fixing scheme, Hungary's complicated price differential system, and Roumania's export bounty may be regarded as having some tendency to reduce domestic consumption, maintain domestic production, and release more wheat for export than would otherwise go out.

The Soviet policy of pressing wheat onto world markets for whatever it would bring, and probably this year, at least, at the expense of domestic consumption, has also been an important factor in the world wheat situation.

Australia's national propaganda for a great increase in wheat acreage in 1930, reinforced by the promise of an export bounty which eventually could not be financed, was successful, and contributed materially to increase export surpluses and their pressure on world markets in 1931.

Stabilization operations in the United States have supported prices in United States markets, but have led (*a*) to reduction in mill grindings for export and, in 1930–31, for domestic use; (*b*) to great increases in visible supplies and in some degree in the carryover; (*c*) to some increase in milling in bond and reductions in exports of both wheat and flour; (*d*) to inter-governmental contracts for sales of stabilization supplies, which have affected the direction of international wheat trade; (*e*) to disturbance, and at times in 1930–31 complete suspension, of hedging operations; and (*f*) to reduction, especially in 1930–31, in the volume of speculation in wheat. It is questionable whether these operations have materially affected actual domestic consumption of wheat, for food or feed, in the United States, or wheat acreage and production. It is impossible to determine how much influence to ascribe to official advice to increase the feed use of wheat in 1930–31, and to contract wheat acreage in this country.

Support of the Canadian Wheat Pool by Provincial Governments in 1930 doubtless delayed liquidation but could not prevent subsequent pressure of Canadian wheat on world markets. The small bounty on this year's marketed crop in Western Canada, and the proposed wheat bonus in Australia, are to be regarded simply as farm relief measures, of little significance to the wheat situation as such.[1]

On the whole, it is fair to conclude that, whatever benefits have been or are being derived from these national policies and measures in the countries adopting them, the net effect of this extensive interference with the operation of economic forces has been to intensify the world wheat crisis and to retard its correction. High yields of wheat in 1928 generally, big yields of European cereal crops in 1929, and high yields of wheat in Russia in 1930, were of great importance in creating the wheat surplus situation. But in a period of unprecedented wheat surplus, when increases in consumption, contraction of production, and wide distribution of liberal stocks would greatly mitigate and accelerate the process of adjustment, national policies have, for the world as a whole, worked in the opposite direction. Unquestionably national policies now in force are significantly delaying the solution of the world wheat problem. It is probably not too much to say that governmental policies and actions, taken as a whole, have accentuated the wheat price decline instead of limiting it, as was the benevolent intention.

IV. MARKETING, DISPOSITION, AND STOCKS

A Summary View

In the North American exporting countries, wheat flowed to market this year in somewhat smaller quantities than usual during July–November, mainly on account of the reluctance of farmers to sell at the

[1] They may, however, tend to reduce the amount of wheat held on farms at the end of the season.

prevailing low prices and of a notably short spring-wheat crop. A similar situation prevailed in Great Britain, where farmers held back an unusually large portion of their short wheat supplies in anticipation of governmental action to raise prices. On the Continent (ex-Russia), domestic marketings were probably moderately heavy as a result of financial necessity, and also of the enforcement of quota laws in many of the importing countries. Export bounties and governmental purchases of wheat were influential in a few of the exporting countries. Russian grain collections were strikingly successful in July–August, but fell considerably short of the monthly plans in September–November.

International trade in wheat and flour was relatively large in the early months of 1931–32. Broomhall's shipments for the first 17 weeks totaled 274 million bushels as compared with the record of 285 million bushels in 1928, and shipments of 270 million last year. Of the large volume of wheat shipped in August–November 1931, Russia, the Danubian countries, and Australia contributed unusually large fractions, and the exporting countries of North America an exceptionally small fraction. Argentine shipments were of only moderate size. Comparisons for past years are shown in the following tabulation, by sources of shipments, in terms of million bushels:

Aug.–Nov.	North America	Argentina	Australia	Russia	Balkans	India	North Africa[a]
1924....	201.6	24.4	12.4	0.4	4.0	12.4	....
1925....	145.6	18.4	10.4	11.2	9.2	1.6	11.2
1926....	183.2	7.2	5.6	16.0	15.2	2.4	3.2
1927....	195.2	20.8	13.6	4.0	12.0	3.2	3.2
1928....	213.6	35.2	16.0	....	14.0	...	6.0
1929....	106.8	71.6	14.4	....	20.4	...	6.0[b]
1930....	143.2	14.4	22.4	62.8	17.2	3.2	7.2
1931....	119.1	23.7	28.6	61.0	34.5	0.3	7.1

[a] Includes Chile. [b] Includes India.

The heavy Russian shipments, mainly of August–September, reflected the good-sized winter-wheat crop of that country. Exports from the Danube basin were encouraged by large supplies from inward carry-overs and new crops, and by governmental measures. Australian shipments were heavy because stocks remaining from the huge 1930 crop were relatively large at the beginning of the season. Only in North America and India was the export movement notably small in relation to the available supplies. Commercial exporters and export millers were unable to obtain wheat on terms that permitted them to compete effectively at the low prices prevailing in import markets.

Perhaps chiefly as a result of selling pressure from Russia, European countries as a group imported moderately large quantities of wheat during August–November. During the same period, ex-European takings were of record size mainly because the prevailing low prices of wheat appeared exceedingly attractive to China and some of the smaller importing countries. The following tabulation shows the major destinations of wheat shipped during August–November, 1924–31, in million bushels:

Aug.–Nov.	Total	Ex-Europe	Europe	Orders[a]	U.K.[a]	Continent[a]
1924.....	255	27	228	48	67	114
1925.....	208	41	167	22	50	94
1926.....	233	37	196	25	54	117
1927.....	252	31	221	31	60	130
1928.....	285	53	232	26	58	148
1929.....	219	47	172	49	52	71
1930.....	270	42	228	74	46	108
1931.....	274	59	215	77	44	94

[a] These figures, like the preceding ones, are from Broomhall's *Corn Trade News;* they are from a different table, however, and their summation for any given year may not equal the corresponding figure for European shipments.

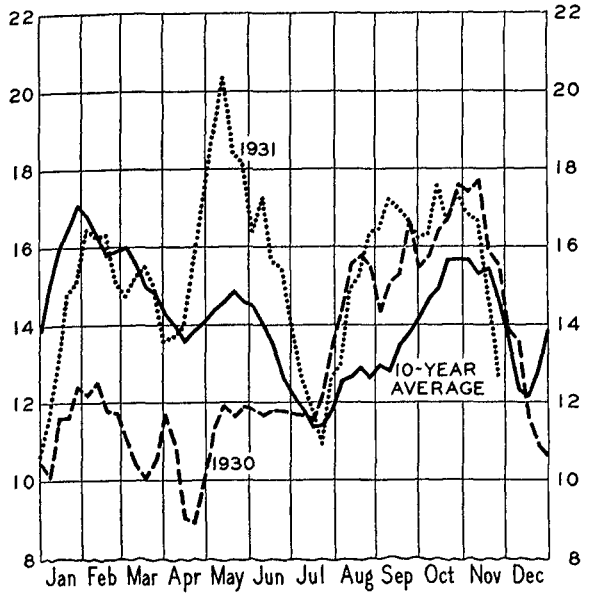
The huge Russian exports, shipped largely "to orders," were in the main diverted to British markets in the absence of a large Continental outlet. Imports into the United Kingdom were therefore of record post-war size in August–November 1931; and port stocks were built up to record high levels. In contrast to the United Kingdom, Germany and Italy admitted notably small quantities of foreign wheat during the early months of 1931–32, and France took only a moderate amount. The remaining European importing countries, as a group, probably had fair-sized, but not large, imports. In general, Continental takings, and particularly those of Germany and Italy, were restricted by quota laws and high tariffs.

As in 1930, the course of international

trade in August-November 1931 was determined largely by the movement of Russian wheat. Chart 9, showing the course of

CHART 9.—WORLD SHIPMENTS OF WHEAT AND FLOUR, WEEKLY, 1930, 1931, AND AVERAGE, 1921–30*

(Million bushels; 3-week moving average)



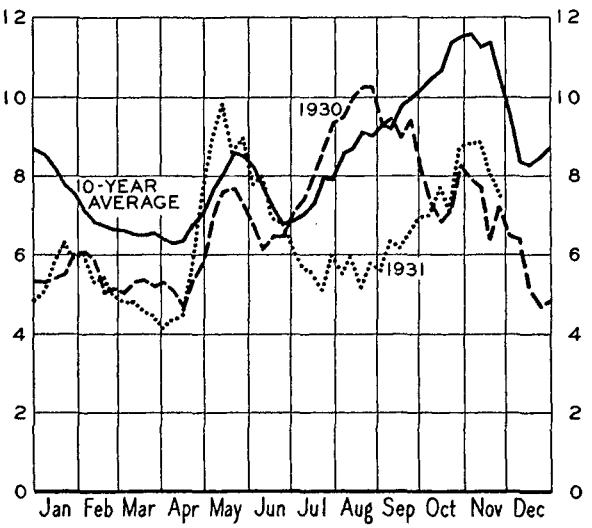
* Data from Broomhall's *Corn Trade News*.

world shipments, and Chart 10, the course of shipments from North America, may well be considered together. The course of North American shipments in August–November 1931 was practically the reverse of that recorded in 1930; and in both years North American shipments followed a course almost directly opposite to that of Russian shipments (see Chart 16, p. 239). In 1930, North American shipments declined as Russian shipments gradually rose during August–November; in 1931, shipments from North America were notably low in August–September when Russian shipments were high, but increased rapidly from mid-September to mid-November as Russian shipments declined. These diverse movements go far to explain the course of world shipments shown in Chart 9. In addition, however, it is to be noted that Australian shipments, mainly to ex-European countries, were also maintained at an unusually high level in August–November 1931. World shipments decreased markedly late in November as a result of reduced European purchases of wheat.

World stocks of wheat in visible positions (in the four major exporting countries, afloat, and in ports of the United Kingdom) were strikingly high during August–November 1931, as is apparent from Chart 11 (p. 232); but they increased less in the course of that period (notably less during September–October) than in the corresponding months of any other year of the decade. This unusually small increase reflected mainly restricted farm marketings and a short spring-wheat crop in North America. At the beginning of December world visibles were somewhat higher than in any preceding year, but only about 10 million bushels above the level of December 1929 and 25 million above that of December 1930. In the United States, vis-

CHART 10.—NORTH AMERICAN SHIPMENTS OF WHEAT AND FLOUR, WEEKLY, 1930, 1931, AND AVERAGE, 1921–30*

(Million bushels; 3-week moving average)



* Data from Broomhall's *Corn Trade News*.

ible supplies reached their peak early in September, several weeks earlier than usual. Canadian visibles rose slowly in September and October, and throughout the period were generally smaller than in 1929 and 1930.

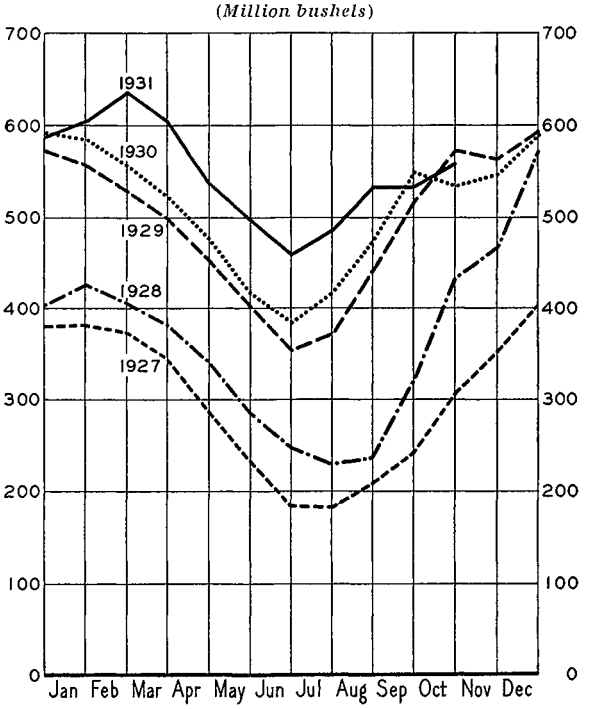
Farm stocks in the United States were presumably somewhat high in December, as a result of restricted farm offerings, and in spite of heavy feeding of wheat in the early months of the season. Canadian farm

stocks must have been unusually low on account of the short Canadian crop.

Supplies of Russian wheat remaining for export on December 1 were perhaps small in absolute quantity, though larger than in any preceding post-war year except 1930.

CHART 11.—WORLD VISIBLE WHEAT SUPPLIES, MONTHLY, 1927–31*

(*Million bushels*)



* Data from Broomhall's *Corn Trade News*, adjusted to include stocks of United States wheat in Canada as reported in *Canadian Grain Statistics*. The figure for December 1931 is 571.

Danubian stocks, on the other hand, were probably of good size at the beginning of December, despite heavy shipments from those countries in August–November.

In the major European importing countries, supplies of native wheat were probably of moderate size or lower on December 1. Stocks of imported wheat were generally low except in the United Kingdom, where port stocks were of record size, and perhaps in Belgium and Holland, where they may have been of moderate size or somewhat larger.

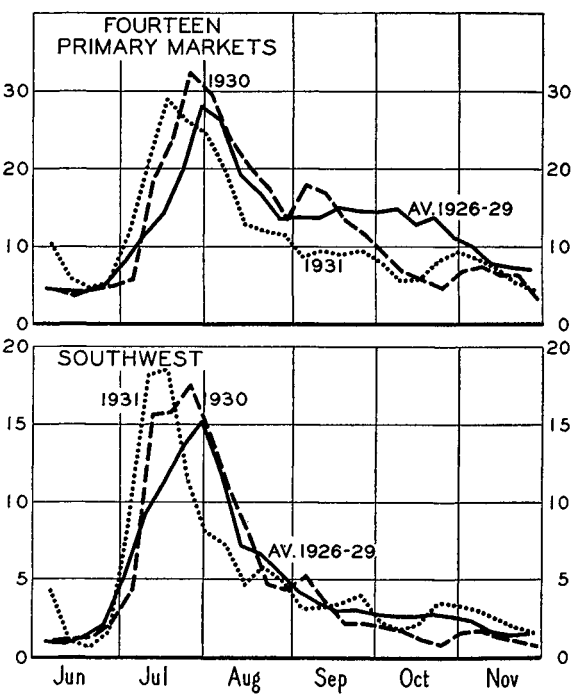
UNITED STATES

Marketing.—With the harvesting of a bumper winter-wheat crop in June–July, wheat marketings were notably increased.[1] As is apparent from Chart 12, receipts at primary markets, and particularly at markets in the Southwest, were considerably above average during part of June and the first three weeks of July. In fact, primary receipts were larger in the first three weeks of July than in the corresponding weeks of any of the preceding ten years.

The heavy marketing movement did not continue long. The peak came in the middle of July, about two weeks earlier than usual. As prices declined further in

CHART 12.—WHEAT RECEIPTS AT PRIMARY MARKETS AND IN THE SOUTHWEST, WEEKLY, JUNE–NOVEMBER, 1930, 1931, AND AVERAGE, 1926–29*

(*Million bushels*)



* See Appendix Table XIII.

July–August and remained low in September, farmers restricted sales of wheat. At the extremely low farm prices prevailing,[2] many preferred to keep their wheat for feed, or to hold it for higher prices even

[1] Heavy receipts early in June represented chiefly old-crop wheat, presumably transferred to the Grain Stabilization Corporation. How long this movement may have swelled receipts is not clear to us.

[2] See below, p. 233.

though their storage facilities were inadequate for maintaining the grain in good condition. Moreover, farmers in the Northwest harvested a notably short spring-wheat crop and hence were not in a position to market as much wheat as usual. Receipts at primary markets were accordingly low from mid-August to mid-October. August receipts had been appreciably lower during the preceding decade only in 1925, when the winter-wheat crop was about 385 million bushels smaller; September receipts were the lowest of any post-war year. With the advance in wheat prices during the latter half of October and early November, wheat marketings increased somewhat. But even then primary receipts remained low in absolute quantity, and relative to the size of the crop they were probably smaller in October–November than in any of the preceding ten years except 1930.

During July–November as a whole, receipts at primary markets were only moderately small on account of the large July marketings; but they represented a smaller percentage of the total crop than did the July–November receipts of any year of the preceding decade except 1922 and 1923.

An exceptionally large volume of winter wheat moved from the Southwest to Minneapolis and Duluth, as well as to Buffalo, as a result of the relative scarcity of available spring wheat of good quality and the abundance and relative cheapness of winter wheat. Probably in no other post-war year had the movement of winter wheat to the Northwest been so heavy.

Feeding.—The feeding of wheat on farms was probably heavier during July–November 1931 than in the corresponding period of any other recent year with the possible exception of 1930. Wheat was so abundant and cheap, and corn relatively so scarce and high in price during most of the period that farmers doubtless found wheat feeding unusually profitable. Comparative ratios between monthly average farm prices of corn and wheat are shown in the following tabulation:

Month	1928	1929	1930	1931
July	92.9	95.4	117.0	159.5
August	110.5	92.8	130.3	153.7
September ..	107.9	92.9	139.7	129.7
October	91.9	88.3	133.7	99.2
November ...	83.2	83.9	118.3	77.6

During July and August wheat was cheaper relative to corn than in any of the preceding three years; in September–October it was still relatively cheap, but not as much so as in 1930. As wheat prices advanced in October–November, corn prices likewise advanced, but by a smaller amount, in part because new-crop corn was becoming generally available. The result was a sharp decline in corn-wheat price ratios, the November ratio being lower than in any of the preceding three years. The subsequent declines in wheat prices may raise the December ratio somewhat. However, since the new corn crop is of fair size, in sharp contrast to the very short crop of 1930, corn-wheat price ratios may be expected to continue to run lower than in December–June of last year. How far the credit plans to aid farmers to hold corn may be effective in supporting its price is not yet clear.

An analysis of corn-wheat price ratios in the states where feeding on farms takes place on an extensive scale[1] suggests generally similar conclusions. However, in the soft winter-wheat belt, and in Minnesota, October ratios were relatively low, lower than in 1929 as well as in 1930.

The Department of Agriculture has published no estimate of farmers' intentions to feed wheat this year. The private estimates which have appeared suggest somewhat heavier feeding in the present than in the preceding crop year. The Kansas State Board of Agriculture published early in the season an estimate that 15 per cent of the Kansas crop, 33.5 million bushels, would be fed in 1931–32, as compared with 14 per cent, 23.3 million bushels, in 1930–31. Nat C. Murray published successive estimates of feed use in 1931–32 of 175 million bushels (September 3), 165 million bushels (November 3), and 150 million bushels (December 2), as compared with his final estimate of 120–125 million bushels fed in July–June 1930–31.

It is difficult to adjudge this evidence. Regional differences in practice are certain to appear; the corn-wheat ratio is not as suitable a criterion in some areas as in others. Relatively short crops of oats, barley, and hay have their bearing; so also have

[1] Ohio, Indiana, Illinois, Minnesota, Iowa, Missouri, South Dakota, Nebraska, and Kansas.

the lower absolute level of wheat prices in 1931–32, and the concentration of the wheat crop in the winter-wheat belt, which contributed to inadequate storage of unusually large quantities. All told, we are disposed to guess that feed and waste of wheat may be about as large an item as in 1930–31, and much larger than in the years preceding.

Milling.—During July–October 1931, the volume of flour produced in the United States was somewhat smaller than in any other recent year. This was mainly due to an unusually small export demand for flour in those months, a fact apparent from the following tabulation, in thousand barrels of flour:

July–Oct.	Estimated production[a]	Net exports[b]	Domestic retention
1926	45,458	3,297	40,761
1927	42,419	4,807	37,612
1928	43,777	4,186	39,591
1929	44,151	4,824	39,337
1930	43,670	5,103	38,567
1931	42,044	3,333	38,711

[a] Estimated from data presented in Appendix Table XIV.
[b] Including flour shipments to possessions.

The notably low flour exports of July–October 1931 mainly reflected the broad fact that wheat prices in the United States were being maintained above export parity.

Domestic retention of flour in July–October 1931 did not differ greatly from that of other years. Yet the figure for 1931 appears surprisingly small in view of the low level of flour stocks at the beginning of the period. With the transition from stabilized to open-market prices, completed in June 1931, it was more or less generally anticipated that bakers and flour wholesalers would greatly increase their purchases of flour with a view to rebuilding their flour stocks which had been reduced in preparation for the price transition. The data presented above, however, do not bear out this expectation. If flour stocks of wholesalers and bakers were exceptionally low in June 1931 (as they presumably were), they were presumably also relatively low on October 31. Mill stocks of flour were apparently increased between June 30 and September 30, but on both dates they appear to have been low in comparison with other recent years.[1] Wheat stocks in mills, on the other hand, not only increased markedly during the period, but on September 30 they stood fairly high as compared with other recent years.

Exports.—The flow of wheat to export from the United States was considerably restricted throughout the period under review.[2] In July, net exports were extremely large, mainly because of a heavy movement of wheat to Canada for storage. But in the following months, both total net exports and net exports overseas (i.e., net exports adjusted for changes in stocks of United States wheat in Canada) were unusually small; August and September exports were smaller in 1931 than in any of the preceding ten years, while October exports had been appreciably smaller only in 1925 (a year of notably short wheat supplies) and in 1930.

Total net exports during July–November aggregated 63.2 million bushels—the smallest figure within a decade with the exception of 1925. Since stocks of United States wheat in Canada were increased by about 14 million bushels during the period, overseas net exports probably did not exceed 48.9 million bushels, a figure only 4 million bushels above that for 1925, and otherwise the smallest within the decade. Even these small exports were not wholly the result of private commercial transactions; for, to judge by the announced plans, exports of stabilization wheat to Brazil, Germany, and China perhaps amounted to something like 8–10 million bushels;[3] and the Corporation may have made some additional overseas exports during the period.

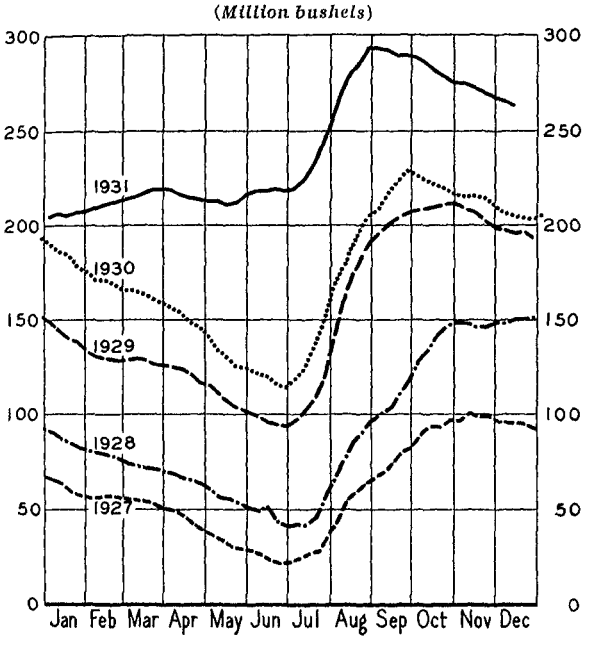
The small commercial exports of July–November are clearly to be attributed to the combination of factors, already discussed, which caused United States prices to be above export parity. Liverpool–Chicago price spreads were narrow throughout the period, and relatively narrower in October–November than in July–August (see pp. 215–16).

Visible supplies and other stocks.—The restriction of United States exports during

[1] See Appendix Table XVI.
[2] See Appendix Table XXII.
[3] The Farm Board press release of August 21, which announced the conditions of the Brazilian sale, stated that the 25 million bushels of wheat sold to Brazil would be shipped in monthly installments beginning September or October. We have tentatively assumed that around 4 million bushels of this wheat were shipped during September–November.

July–November was in no sense due to a shortage of wheat supplies, as was the case in 1925. As is apparent from Chart 13, commercial stocks of United States wheat continued at record high levels throughout the period. The large stocks reflected primarily the small exports of 1930–31 and of July–November 1931. Had farm marketings been

CHART 13.—UNITED STATES VISIBLE WHEAT SUPPLIES, WEEKLY, 1927–31*



* Stocks of United States wheat in Canada included. See Appendix Table XVII.

as heavy as usual during the early months of the present season, visible supplies would doubtless have risen to still higher levels. Mainly as a result of restricted farm marketings, and of a short spring-wheat crop, visibles declined after the first week of September instead of increasing during September–October as they usually do.

Not only commercial wheat stocks, but also farm stocks, were probably unusually large at the beginning of December 1931. With a wheat crop as large as 892 million bushels harvested in the United States in 1931, and marketings notably small during July–November, it seems reasonable to assume that farm stocks on December 1 must have been exceptionally big, even if the volume of wheat fed and wasted was as much as 60–70 million bushels larger during July–November than in most preceding years.

Mill stocks of wheat and flour on September 30 were apparently smaller than in the two preceding years, but larger than in 1926, 1927, and 1928.[1] The volume of wheat stored in mills was moderately large; but flour stocks were slightly smaller than in any other recent year. Since mill stocks were moderately large at the beginning of October, it seems probable that they may have been of moderate size or somewhat larger on December 1.

All told, United States stocks must have been of record size at the beginning of December 1931. The supplies potentially available for export were also extremely large; but under the conditions that prevailed, the supplies commercially obtainable for profitable export were unusually small.

CANADA

Marketing.—In Canada, as in the United States, farm marketings were relatively light during August–November. In contrast to the situation in the United States, however, the small Canadian marketings reflected mainly a small wheat crop; and as compared with Canadian marketings in 1930 and certain other years, a somewhat later harvest. There was doubtless some holding by farmers, but this factor was presumably less important in restricting marketings in Canada than it was in the United States. The following tabulation shows receipts at country elevators and platform loadings during August–November 1926–31, in million bushels and in percentage of available farm supplies (crop plus farm stocks on July 31):

Aug.–Nov.	Farm marketings	Percentage of supplies
1926	231	56.1
1927	230	47.5
1928	350	61.3
1929	196	63.2
1930	233	57.7
1931	176	55.6

The primary movement of wheat to Fort William, Port Arthur, Vancouver, and

[1] See Appendix Table XVI.

Prince Rupert was likewise unusually light during August–November, being influenced mainly by the same general factors that kept farm marketings low. Receipts at these ports in August–November 1931 totaled 101 million bushels, as compared with 133 million bushels in 1930, when the Canadian crop was considerably larger, and 95 million in 1929, when production was about equal to that of 1931.

Milling and feeding. — Canadian flour mills, like those in the United States, were less active than usual during the early months of the present season, mainly on account of an exceptionally light export demand. Comparative data of flour production as reported by Canadian mills, and of gross flour exports during August–October, 1926–31, appear in the following tabulation in thousand barrels:

Aug.–Oct.	Production	Exports	Retention
1925	4,951	2,368	2,583
1926	4,932	2,034	2,898
1927	4,825	2,090	2,735
1928	5,645	2,986	2,659
1929	4,417	1,689	2,728
1930	5,041	2,175	2,866
1931	4,543	1,637	2,906

Doubtless the major factor responsible for the small flour exports from Canada in 1931 was the relatively high level of Canadian wheat prices.[1] In addition, Canadian mills may have suffered some reduction in their Oriental business as a result of China's agreement to buy 15 million bushels of stabilization wheat (partly in the form of flour); and, like mills in the United States, they probably felt the effect of increased European restrictions upon flour imports.

Wheat was probably fed in substantial quantities in Canada during August–November, though comparisons with the same period of 1930 and earlier years are not available. For 1931–32 the Dominion Bureau has suggested that the volume of unmerchantable wheat and of wheat fed to livestock may be around 10 to 15 million bushels less than in the past season, when some 51 million bushels of wheat are estimated to have come within these two classes.[2] Nat C. Murray, on the other hand, has estimated that feeding in the Prairie Provinces will be somewhat heavier in the present season—perhaps 25 million bushels in Alberta and Saskatchewan combined, as compared with 14 million bushels fed in these provinces in 1930–31 and 6 million fed under normal conditions.[3] Each of these conflicting views of the feed situation in Canada may be partially supported by reference to production data. The wheat crop of 1931 is now estimated to be some 100 million bushels smaller than the crop of 1930, and the proportion of tough and damp grain is apparently slightly lower for the 1931 crop. These factors alone suggest somewhat lighter feeding of wheat in the present season. On the other hand, feed grain crops also turned out to be much smaller in 1931 than in the preceding year, as may be seen from the following tabulation of production in million bushels:

Year	Wheat	Barley	Oats
1930	398	135	450
1931	298	68	352
Percentage 1931 to 1930	75	50	78

Cereal price relationships in Canada during August–November 1930 and 1931 suggest that feeding of wheat was relatively more profitable in the present season. During the latter part of November and early December wheat prices at Winnipeg were about the same in 1931 as in 1930, but prices of oats, and of barley in greater degree, were considerably higher. The available evidence thus seems to suggest that feeding of wheat in 1931–32 may be at least as heavy as in 1930–31, though not necessarily as heavy as indicated by the official estimate for that year.[4]

Exports. — During August–November, Canadian exports of wheat and flour were notably small as compared with earlier post-war years. The tabulation near the top of page 237 shows comparisons for 1926–31, in million bushels.

Compared with other years, the export movement of the present season was particularly small in October–November. During August–September, exports (drawn mainly from the large supplies of old-crop

[1] See above, p. 217.

[2] *Monthly Review of the Wheat Situation*, August 1931, p. 13, and December 1931, pp. 13–14.

[3] Clement, Curtis & Co., *Monthly Grain and Cotton Report*, September 3, 1931.

[4] Feed use of wheat in 1930–31 may have been overestimated.

wheat) were of moderate size, though considerably smaller than in the preceding season. The restricted export movement of 1931, like that of 1929, is to be attributed partly to a small crop and partly to the reluctance of Canadians to sell their wheat on a competitive basis with other foreign wheats, abundantly offered in the European import markets. Throughout August–November the price-spreads (converted to American dollars) between futures at Winnipeg and Liverpool were unusually narrow, though not so narrow as in the corresponding period of 1929.

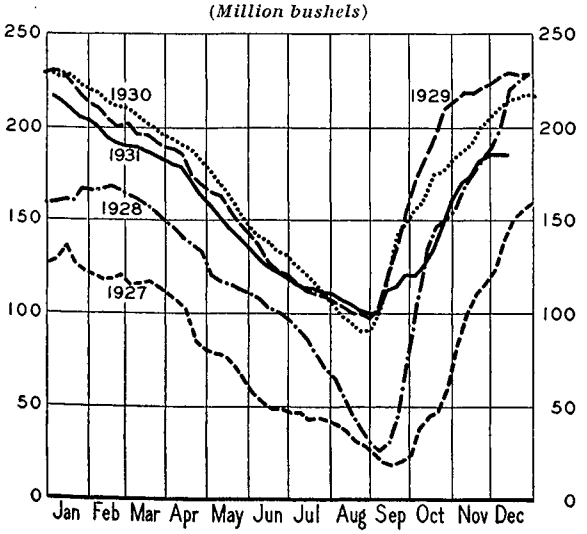
Aug.–Nov.	Net exports reported	Net exports adjusted[a]
1926	109	87
1927	113	87
1928	190	168
1929	70	58
1930	120	106
1931	82	71

[a] Adjusted to take into account changes in stocks of Canadian grain in the United States.

Visible supplies and other stocks.—During most of August–November, Canadian visible supplies were considerably smaller than in the corresponding weeks of the two preceding seasons, but larger than in other post-war years. Comparisons for the past five years are presented in Chart 14. In September, limited marketings and a moderate export movement tended to keep commercial wheat stocks from increasing as much as usual; but in October–November, when exports were small as compared with other years, the visible supplies showed relatively larger increases. At the end of November, total visibles were of approximately the same size as in 1928, and strikingly large in view of the small wheat crop of 1931. The distribution of these supplies according to position was quite different, however, from that of any other recent year. This is apparent from the data presented in Table 1. In 1931, unusually large quantities of wheat were stored at the head of the lakes, at Vancouver, and in country elevators; while unusually small quantities were stored in interior elevators, in public elevators in the East, and at United States lake and Atlantic ports.

CHART 14.—CANADIAN VISIBLE WHEAT SUPPLIES, WEEKLY, 1927–31*

(*Million bushels*)



* See Appendix Table XVII.

TABLE 1.—CANADIAN GRAIN IN STORE LATE IN NOVEMBER, 1926–31*

(*Million bushels*)

End of November	Total	Country elevators, Western division	Interior elevators	Fort William, Port Arthur	Vancouver elevators	Public elevators in the East	United States lake and Atlantic ports
1926....	116.1	35.4	7.5	24.6	7.1	15.3	26.2
1927....	123.8	46.2	6.5	13.7	6.5	19.6	31.3
1928....	184.1	68.9	16.3	24.8	9.4	29.5	35.2
1929....	222.8	76.0	17.5	47.0	12.5	34.7	35.1
1930....	207.2	84.7	16.8	29.6	12.7	33.0	30.4
1931....	186.0	82.2	8.6	44.8	14.9	18.8	16.7

* Compiled from *Canadian Grain Statistics* and adjusted to bring country elevators in Western Division and interior private and manufacturing elevators into the proper week. Stocks at Prince Rupert and Victoria included in Vancouver figures.

In spite of the unusually light marketing of wheat during August–November, farm stocks on December 1 were probably the smallest within seven years, with the possible exception of 1929. This was a natural result of the small wheat harvest of 1931, though heavy feeding of wheat during the early months of the present season may have been a contributing factor. Data on mill stocks as of November 30 are not yet available, but to judge by figures for October 31, they were probably comparatively large in relation to other recent years.

All told, Canadian wheat stocks were presumably lower on December 1, 1931, than in any of the preceding four years, 1929 perhaps excepted. If so, stocks remaining for export at the beginning of December must have stood in approximately the same relative position.

Argentina and Australia

Shipments.—One of the outstanding features of international trade in August–November 1931 was the continued large shipments of wheat and flour from the exporting countries of the Southern Hemisphere. Aggregate shipments from Argentina and Australia were larger in these months of 1931 than in the same period of any other post-war year except 1929, though they were approximately equaled in 1928. Broomhall's estimates of shipments from these countries during corresponding months of the past seven years are shown in million bushels in the following tabulation:

Aug.–Nov.	Argentina	Australia	Total
1925	18.4	10.4	28.8
1926	7.2	5.6	12.8
1927	20.8	13.6	34.4
1928	35.2	16.0	51.0
1929	71.6	14.4	86.0
1930	14.4	22.4	36.8
1931	23.5	28.5	52.0

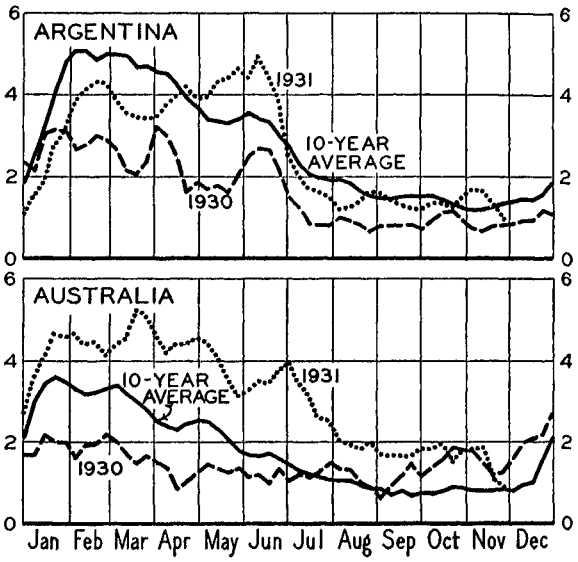
The high total for 1931 is to be ascribed mainly to large exports from Australia. Australian shipments were of record size, as they had been in the earlier months of 1931, on account of the bumper wheat crop harvested in the preceding November–January. Shipments from Argentina were of moderate rather than of large magnitude as compared with those of the preceding ten years; however, they had been substantially exceeded only in 1923, 1928, and 1929.

Chart 15 shows the weekly course of shipments from each of these countries during the past two calendar years as compared with the ten-year average. In general, these shipments tended closely to follow the average seasonal course in August–November 1931, though a slight bulge in Argentine shipments was apparent in late October and early November as wheat prices advanced on the international market.

Stocks.—Argentine shipments during August–November were apparently not large enough to reduce stocks of old-crop wheat to a low, or even to an average, level on December 1. On the other hand, the remaining supplies were probably no larger than (if as large as) they were in at least three other post-war years—1926, 1928, and 1929; and they probably consisted mainly of wheat of low quality.

Chart 15.—Argentine and Australian Shipments of Wheat and Flour, Weekly, 1930, 1931, and Average, 1921–30*

(Million bushels; 3-week moving average)



* Data from Broomhall's *Corn Trade News.*

Australian supplies of old-crop wheat may also have been moderately large on December 1, 1931; but if so, the stocks were located mainly on farms rather than in the visible supply. As of December 1, Australian visibles totaled almost 6 million bushels, of which about half are reported to have been new-crop wheat. In most years the amount of old-crop wheat in the Australian visible supply on December 1 appears to be a good index of total Australian stocks; but in 1931 this figure was considerably smaller than was to be expected on the basis of the calculated disposition of the 1930 crop.[1] If the crop of 1930 has not been officially overestimated, it seems fair

[1] See Appendix Table XXV.

to assume that farm stocks must have been moderately large on December 1, 1931, in spite of fairly heavy feeding and waste of wheat during the course of the year.

With the 1931 crops of Argentina and Australia now estimated at 219 and 170 million bushels, respectively, the aggregate exportable surplus of these two countries at present appears relatively large, though not as large as in December 1928 or 1930, and perhaps no larger than in December 1927.

Russia

Collections.—Official data on Russian grain collections do not designate the kind of grain collected; consequently, there is no adequate basis for judging the volume of wheat collected during July–November. Data on total grain collections[1] are presented in the following tabulation:

Month	Percentage of monthly plan	Percentage of 1930 collections[a]
July	114	200[b]
August	97	
September	69	106
October	52	

[a] These figures do not coincide with those of the U.S. Department of Agriculture. In *Foreign Crops and Markets*, November 23, 1931, it was stated that total grain collections to November 1, 1931, amounted to 103.4 per cent of collections to the same date last year.

[b] Approximate.

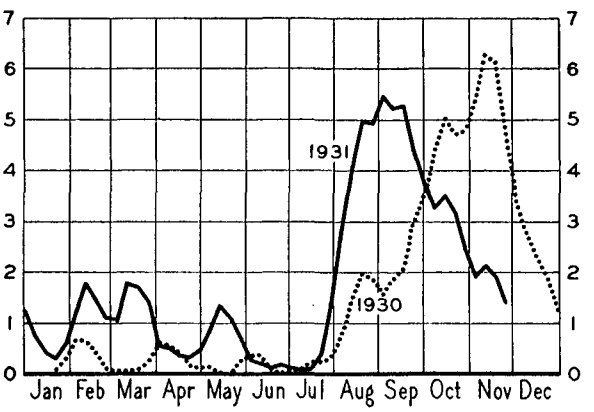
The success of the campaign in July–August suggests that collections of wheat and rye, which constitute the bulk of the winter grains, were notably large in those months. On the other hand, the relative decline in collections in the following months probably indicates (1) that spring grain crops were not as large as anticipated earlier in the season, and/or (2) that producers failed to deliver to Soviet agents as much grain as they were in a position to deliver. Probably both of these factors were important. Soviet journals have tended to stress the latter; but there can be little doubt, as regards wheat at least, that the spring crop of 1931 fell considerably below the huge spring output of 1930. Moreover, total wheat production in Russia was probably at least 125 million bushels smaller in the present season.[2] On the whole, we are inclined to believe that Russian wheat collections were smaller in July–November 1931 than in the preceding year, though probably somewhat larger in July–August.

Shipments.—During August–November, Russian shipments totaled some 61 million bushels as compared with the heavy shipments of 63 million in the same period (17 weeks) last year. While the volume of Russian shipments in August–November was approximately the same in 1930 and 1931, the course of trade in the two years was notably different, as may be seen from Chart 16. In 1930, Russian shipments increased gradually during July–August, became relatively heavy in September–October, and rose to a peak early in November. In 1931, the peak of Russian shipments came early in September, following a relatively heavy export movement in the latter part of July and in August; after mid-September, weekly shipments substantially declined. As compared with the average course of trade in pre-war years, the 1931 movement appears more strikingly unusual than that of 1930.

Two principal factors seem responsible for the earlier peak in shipments in 1931 than in 1930. Since supplies of old-crop wheat were practically exhausted in July 1930, the bulk of the early collections of

Chart 16.—Russian Shipments of Wheat and Flour, Weekly, 1930 and 1931*

(*Million bushels; 3-week moving average*)



* Data from Broomhall's *Corn Trade News*.

[1] Data from weekly grain letters of J. A. Goldschmidt and Co., October 21 and November 12, 1931.

[2] See above, p. 206.

new-crop wheat was presumably diverted into channels for domestic consumption. In 1931, on the other hand, the carryover of old-crop wheat was probably fairly large; and a smaller volume of the July–August collections was required for domestic use. A second important factor was the smaller spring-wheat crop of 1931; this probably kept exports from increasing during October–November as they did in 1930. Reports from Russia have persistently stressed the inadequacy of transportation facilities as accounting for the smaller shipments of October–November in the present season. What weight should be attached to these reports cannot yet be determined; but we infer that transportation difficulties played a much smaller part in restricting exports than did the shorter Russian crop.

Stocks.—Little can be said in regard to the size of stocks remaining in Russia at the beginning of December 1931. If exports were kept down by a lack of railroad facilities, wheat stocks at interior points may have been unusually large. However, since we have tentatively assumed that the Russian wheat crop could not have exceeded 963 million bushels, and since Russian shipments during August–November were almost as large as in the same period of 1930, we incline to the view that stocks on December 1 were smaller this year than last.

Danubian and Other Exporting Countries

Marketing.—Little information is available in regard to domestic marketing in any of the remaining exporting countries. However, a few outstanding features deserve comment. In the present season, perhaps more than in any other recent year, producers of agricultural commodities in a number of these countries have been forced by financial necessity to market their crops as soon as possible after the harvest.

In the Danube basin, where wheat is generally regarded as the major cash crop, and where numerous governmental measures have been put into effect to raise the domestic price, wheat may have moved to market more rapidly than usual during August–November, especially since the 1931 crop was unusually large. Trade advices indicate that the government grain agencies in Jugo-Slavia and Bulgaria were deluged with selling offers during August, but that marketings were more restricted during September and October as a result of the corn harvest and the low wheat prices. Apparently the course of marketing was somewhat similar in Hungary and Roumania. It is noteworthy that the official prices established for buying wheat in Jugo-Slavia are scaled upward in such a way as to encourage fairly orderly marketing throughout the year;[1] but we are not in a position to say whether or not they are producing the desired effect.

Exports. — During August–November, Danubian shipments were heavier than in the corresponding period of any other post-war year. The tabulation below shows comparisons for six years, in million bushels:

Aug.–Nov.	Broomhall's shipments
1926	15.2
1927	12.0
1928	14.0
1929	20.4
1930	17.2
1931	34.5

Such large shipments could not have been made if available supplies of wheat in the Danube basin had been small rather than exceptionally large; yet the shipments appear strikingly heavy even when considered in relation to the total supplies. This is probably largely due to the various governmental export schemes which were in operation during the period.[2] Net export figures for the individual countries are far from complete; but the available data[3] indicate that Roumanian exports were of record post-war size, that exports from Jugo-Slavia were relatively large, though smaller than in 1929, and that exports from Hungary and Bulgaria were of more moderate size. Roumanian exports were doubtless encouraged by the wheat export bounty (16 cents per bushel) which was paid throughout the period; and the government grain agency in Jugo-Slavia was probably forced by financial considerations, and also by lack of adequate storage facilities, to export large quantities of the wheat it

[1] See above, p. 222.

[2] See above, pp. 221–23.

[3] See Appendix Table XX, and *Foreign Crops and Markets*, December 14, 1931, p. 973.

had purchased at fixed official prices. These exports were made at considerable expense to the governments concerned. In the importing countries, on the other hand, there were many complaints of "dumping," especially of "Roumanian dumping." What effect the various trade agreements, negotiated by several of the Danubian countries, had upon the export movement is not yet clear to us.

Shipments from the remaining group of exporting countries were small, chiefly because Indian exports were negligible. North African countries, favored by the French milling and tariff laws, presumably sent large quantities of wheat to France, as they did last year. German exports, which have been reported as 6 million bushels during August–October, were unusually large, because of the large crop and the import certificate system reintroduced in August.[1]

Stocks.—The stocks position of most of these countries cannot be evaluated with any assurance of accuracy. Nevertheless, it seems probable that Danubian stocks were fairly large on December 1, despite heavy exports in the preceding months; and that Indian stocks continued to be maintained at a high figure.

European Importing Countries

Marketing.—Though information in regard to the domestic marketing movement of individual European countries is exceedingly scanty, and perhaps sometimes unreliable, one gathers from various unofficial reports that no heavy pressure from domestic wheat was felt in any of the important European markets during August–November. To some extent this was doubtless due to the enforcement of milling quotas which resulted in rapid absorption of the native wheat offered for sale, and perhaps to some extent to the reluctance of farmers to market their grain at the low prices prevailing during the period.

In a few countries, of which Great Britain is a notable example, farm marketings were unusually restricted due to low wheat prices, adverse weather conditions, and anticipated governmental action to raise wheat prices. In England and Wales (combined) very little domestic wheat was marketed during the past few months, as may be seen from the following tabulation of farmers' deliveries for the past six years.

Aug.–Nov.	Million bushels[a]
1926	10.1
1927	6.5
1928	7.9
1929	8.6
1930	4.0
1931	2.3

[a] Data from Broomhall's *Corn Trade News*.

Even under normal conditions, deliveries would not have been large in 1931 because England harvested a small crop of notably poor quality. In addition, farmers were inclined to hold back their wheat in anticipation of the establishment of governmental measures supporting wheat prices.

The situation in most of the Continental importing countries was decidedly different. These countries were already enforcing quota laws and maintaining relatively high tariffs on wheat. Consequently, wheat was probably marketed fairly rapidly in comparison with most post-war years, but not so rapidly as to cause the markets to feel the pressure of supplies. Data of farm holdings in Germany support this view. The following tabulation shows the percentages of the winter- and spring-wheat crops remaining on German farms October 15, 1927–31:

Oct. 15	Winter wheat	Spring wheat
1927	73	90
1928	74	90
1929	67	86
1930	62	81
1931	60	81

In both 1930 and 1931 the German crop was marketed at an unusually rapid rate during the early months of the crop year, a natural result of the stringent quota laws and high tariffs in force. Since similar restrictions were in operation in France and Italy, it seems reasonable to infer that domestic marketings have been relatively heavier than usual in these countries, as in Germany.

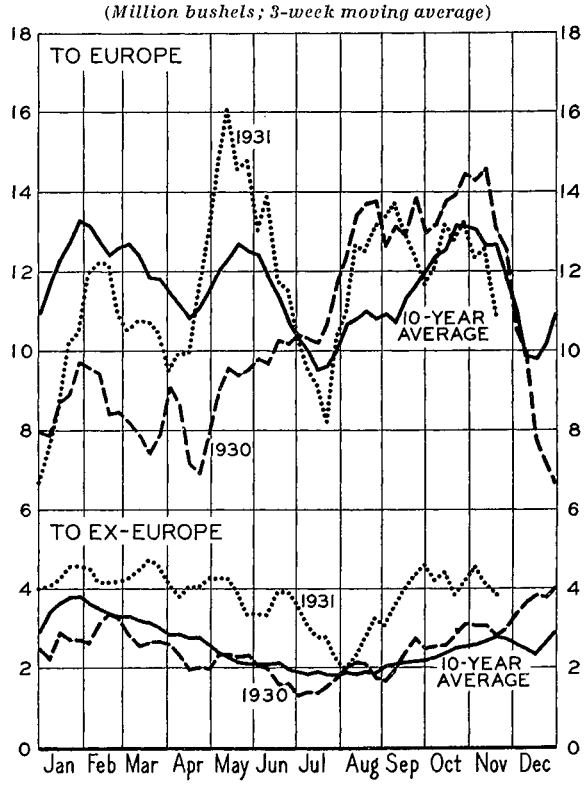
Imports.—The upper section of Chart 17 shows the general course of European shipments in 1931 as compared with 1930 and

[1] See above, p. 218.

the ten-year average. During August–September, shipments of wheat to European countries were exceptionaly large, though somewhat smaller than in the corresponding months of last year; in October they were of about average size, but in November they fell off earlier than usual. In the main, these differences are attributable to the volume and the timing of Russian shipments, and to relatively less active demand from the Continent in 1931.

CHART 17.—EUROPEAN AND EX-EUROPEAN SHIPMENTS OF WHEAT AND FLOUR, WEEKLY, 1930, 1931, AND AVERAGE, 1921–30*

(Million bushels; 3-week moving average)



* Data from Broomhall's *Corn Trade News*.

Shipments to Europe by destinations during August–November (17 weeks) for several years are shown, in million bushels, in the first tabulation in the next column.

Shipments to orders, representing mainly Russian wheat, were strikingly large in 1931. During the preceding five years orders shipments were of a similar magnitude only in 1930, the only year in which Russian shipments were as heavy as in 1931. The huge orders shipments, largely diverted to ports of the United Kingdom, were responsible, as in 1930, for the relatively small chartered shipments to those ports. Two other features of the distribution of European shipments in August–November appear outstanding—the moderately large shipments direct to Belgium, and the relatively small shipments direct to Germany (including Czecho-Slovakia and Poland), to Italy, and to Holland. Scandinavia, France, and Greece and Turkey combined, took slightly larger quantities than usual, but these increases were so small as to appear insignificant.

Destination	1926	1927	1928	1929	1930	1931
Orders	24.9	30.7	26.1	48.7	74.3	76.8
United Kingdom	54.2	60.1	57.8	52.1	45.7	43.7
France	18.6	12.0	14.6	7.2	16.0	17.0
Belgium	17.0	24.6	18.1	14.6	14.6	20.2
Holland	23.2	30.4	29.4	11.3	18.3	14.5
Germany[a]	21.3	24.6	27.2	13.7	15.2	11.5
Italy	18.2	20.3	27.8	5.1	25.2	6.4
Greece[b]	5.3	5.0	8.0	6.1	6.3	7.4
Scandinavia	6.9	7.2	7.8	6.1	6.0	9.1
Austria[c]	5.7	4.8	5.1	6.6	6.2	5.6
Spain[d]	1.0	1.1	10.1	0.6	0.5	0.4

[a] Includes Poland and Czecho-Slovakia.
[b] Includes Turkey.
[c] Includes Malta.
[d] Includes Spanish colonies and Portugal.

Because of large orders shipments and of the diversion from ports of call of directed shipments, data on arrivals at specified European ports perhaps furnish a somewhat more accurate picture of the distribution of European shipments than do the figures tabulated above. The data on arrivals (Broomhall's figures) are somewhat less complete than the shipments data and are available only since 1927–28. These are presented below for the first 17 weeks of each of the past four years, in million bushels:

Arrivals at ports	1928	1929	1930	1931
United Kingdom	65.4	89.4	83.8	111.3
France	10.2	7.3	17.2	15.6
Belgium	19.5	22.2	24.3	27.9
Holland	31.0	19.4	28.7	25.3
Germany	16.9	11.6	11.1	9.2
Italy	23.7	4.8	31.3	7.4
Greece	5.7	5.3	10.2	5.9
Scandinavia	6.0	4.6	5.7	5.0

Except as regards the United Kingdom these figures do not give a view much different from that suggested by the preceding tabulation. But they clearly indicate that British takings were large, not small, during the past four months, a fact definitely established by the available import data.[1] In view of the large orders shipments diverted to ports of the United Kingdom, especially during August–September (when Russian shipments were heaviest), it would appear surprising if other factors had been more normal that wheat prices did not decline more than they did during the interval. But the situation in England was far from normal. Importers showed an unusual willingness to build up and maintain large wheat stocks for three major reasons: (1) world wheat prices were exceedingly low, and (many thought) likely to go higher in the course of the year; (2) some question prevailed prior to September 21 as to whether England might not abandon the gold standard, with the result of raising prices of wheat within England even if gold prices remained constant; (3) there was continual agitation for the adoption of some measure to improve domestic wheat prices, and many of the measures proposed would likewise increase the price of imported wheat in England. A fourth factor may perhaps have been the short domestic wheat crop of 1931, which was apparently of poor quality. Faced with these considerations, importers and millers in the United Kingdom showed more willingness to buy the large supplies of wheat landed at their ports during August–November than would otherwise have been the case.

Of the three chief variable importers of Europe, Germany and Italy apparently imported net strikingly small quantities of wheat in August–November, and France perhaps a fairly moderate quantity.[2] German and Italian imports were no doubt kept down mainly by the stringent milling regulations and the high tariffs in force in those countries.[3] In addition, Germany's import certificate system[3] tended to stimulate exports, gross exports during August–October being reported at 5.9 million bushels. While the French quota system and tariff were presumably likewise effective in restricting imports of foreign wheat, the milling regulations of France are reputed to have been rather poorly enforced prior to November 11,[4] with the result that millers were using more than 10 per cent foreign wheat in their mill mixes. Moreover, wheat imported from the French dependencies of Northern Africa (included in both net import and shipment data) is not technically "foreign wheat" under the French law; consequently, one would not expect French net imports to be reduced as much as German and Italian imports.

In the remaining European importing countries imports are normally smaller and as a rule vary little from year to year. These characteristics make comparisons insecure in the absence of complete net import data for August–November. The available data seem to warrant the conclusion that the August–November net imports of Holland were somewhat small in 1931, presumably on account of the milling restrictions imposed there in July;[5] and that Belgium continued to import moderately large quantities of wheat at the prevailing low prices for home consumption, and perhaps also for resale (partly legal, partly illegal) in France and in Holland.[6] Of the remaining small importers of Europe, the Scandinavian group may have taken moderately large quantities of wheat in August–November; Greece and Czecho-Slovakia, moderate amounts; and Austria an unusually small amount. Austrian imports are reported to have been restricted by the legal control of foreign exchange, a factor which may likewise have been important in Germany and certain other countries.

Stocks.—Probable future developments in trade, consumption, and prices must be adjudged partly through evaluation of the wheat stocks position in European importing countries. Perhaps of most importance for the immediate future are port stocks in the United Kingdom and supplies afloat for, or likely to be diverted to, the United Kingdom. When these stocks rise to unusual heights British importers and millers are placed in an unusually strong bar-

[1] See Appendix Table XXI.

[2] See preceding tables, and Appendix Table XXI.

[3] See above, pp. 218–19.

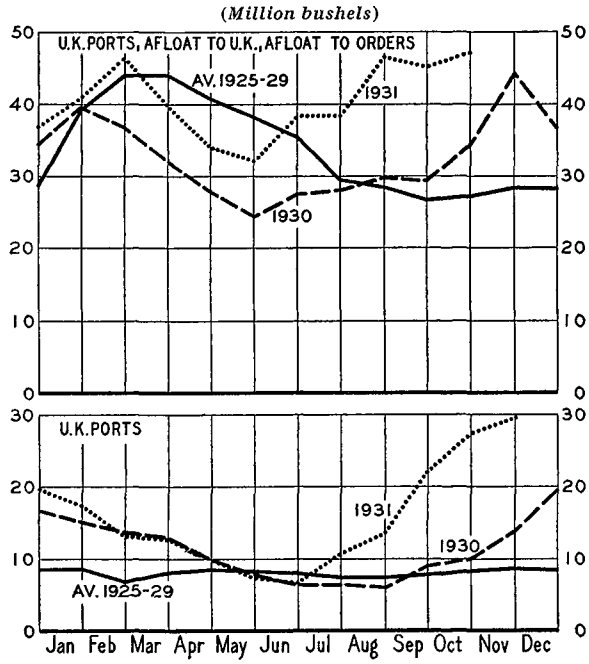
[4] See above, p. 218.

[5] See above, p. 219.

[6] See above, p. 220.

gaining position. If existing prices look high, they may choose temporarily to withdraw from the import market or to accept only occasional offers at bargain prices. Under such circumstances, their action is frequently important in bringing about a decline in international wheat prices.

CHART 18.—STOCKS IN UNITED KINGDOM PORTS AND AFLOAT TO UNITED KINGDOM AND TO ORDERS, MONTHLY, 1930, 1931, AND AVERAGE, 1925–29*



* Data from Broomhall's *Corn Trade News*.

Chart 18 shows the monthly course of port stocks and of supplies afloat to the United Kingdom and to orders during the past two years, with the 1925–29 average. The high level of these stocks in August–November was without precedent during post-war years; it is to be explained by the same factors that caused British imports to be notably large during the period. Supplies of domestic wheat in the United Kingdom were presumably only of fair size in December 1931 as compared with other years. British import demands during December–July will depend in no small measure upon the political developments affecting wheat. If a quota law is established, as seems probable at present, the demand for foreign wheat may contract somewhat during the remainder of the season as port stocks are reduced to a lower level. If, on the other hand, nothing definite is accomplished in the way of farm relief until late in the spring of 1932, importers may choose to maintain stocks at a high level, especially if they continue to anticipate that the relief measure may take the form of a tariff on wheat and wheat products. Moreover, stocks might be kept at a high level if the world wheat crop of 1932 looks like a short one in the spring.

In the major Continental importing countries, France, Germany, and Italy, stocks of import wheat were not built up during the period, and as of December 1 such stocks must have been low or moderately low. Domestic wheat supplies in each of these countries had presumably been consumed at a more rapid rate than usual in the first four months of 1931–32, on account of the stringent milling regulations in force; but since the 1931 crops of Germany and Italy were unusualy large, stocks of native wheat in the two countries were perhaps of moderate rather than small size at the beginning of December. The more moderate size of the French crop suggests that stocks of domestic wheat in France may have been moderately low. The import demands of these three countries may therefore be expected to average considerably higher in the remaining months of 1931–32 than in the first third of the season.

EX-EUROPEAN IMPORTING COUNTRIES

Shipments.—Shipments of wheat and flour to ex-European countries were notably large in August–November 1931, as may be seen from Chart 17 (p. 242). They bulked larger than in any preceding post-war year, even including 1928. The heavy takings of the present season represent mainly strikingly big imports into China, a result of low international wheat prices. Broomhall's distribution of ex-European shipments during the first seventeen weeks of the past six years is shown in the tabulation opposite, in million bushels.

Aside from the large takings of China and Japan the only outstanding features of ex-European trade during the past four months were shipments slightly larger than usual to Brazil and to "Central America." Almost half of the shipments to Brazil were reported as from North America; these pre-

sumably represented mainly Stabilization Corporation wheat.[1]

Destination	1926	1927	1928	1929	1930	1931
Central America[a]	12.4	11.2	20.6	19.9	13.5	20.0
China and Japan	11.9	6.6	11.3	11.9	16.0	23.0
Brazil	7.4	8.5	9.6	10.2	7.7	12.0
Egypt	2.9	2.9	4.9	2.2	2.9	2.4
North and South Africa	1.7	1.5	2.2	0.9	0.8	0.8
India	0.0	0.1	3.7	1.6	1.6	1.6
Others[b]	0.2	0.3	0.7	0.7	...	0.2
Total	36.5	31.1	53.0	47.4	42.5	58.0

[a] Includes Venezuela, West Indies, Dutch East Indies, etc.
[b] Includes Chile, Syria, Peru, Palestine, and New Zealand.

Stocks and future requirements.—It is practically impossible to evaluate the stocks position of any of the important ex-European importing countries. Nor would such evaluations throw much light upon future import demands, since wheat consumption probably fluctuates widely from year to year in many of these countries. In the main, ex-European imports, particularly those of China, appear to respond to changes in world wheat prices, rather than to changes in stocks of native wheat, or even of total grain. Consequently, the volume of ex-European trade during the remainder of 1931–32 may be expected to depend largely upon the course and level of wheat prices. We tentatively assume that it will be relatively large as compared with most earlier years, though perhaps not quite so large as in December–July 1928–29 or 1930–31.

V. THE OUTLOOK IN MID-DECEMBER

Any appraisal, in mid-December, of the outlook for the rest of the season is fraught with difficulties. As usual, crop estimates are subject to more or less revision. In particular, the figures for Argentine and Australian crops are preliminary, and no estimate of Russia's crop is yet at hand. Conceivably, low prices may lead to failure to harvest part of the grain produced; if so, the effective crops may turn out smaller than those actually grown. New-crop developments, as yet unpredictable, will exercise an influence upon the course of prices in the coming months this year perhaps in greater degree than commonly. The possibilities of major speculative movements, such as those recently witnessed, are especially great in view of the extremely low level of wheat prices. Price changes, in turn, are bound to influence the volume and course of international trade and the distribution, if not the amount, of world wheat carryovers.

For several reasons, the difficulties of prediction are peculiarly numerous this year. It is not easy to gauge the influence of changing governmental measures, which are being applied over a continually enlarging area, and of special arrangements between exporting and importing countries, which are being made in increasing number. British wheat policies, yet to be definitely determined, may have a special significance this year. We are not in a position to forecast what new action, if any, may be taken by the United States Congress.

The suspension of the gold standard in Great Britain and several continental European countries has introduced fresh disturbing factors. The problem of forecasting is complicated by uncertainties as to the manner and time in which European fiscal and financial maladjustments will be worked out. The pressure for currency and credit inflation may conceivably lead to artificial stimulants to commodity price advances in which wheat will share. The possibility of war arising out of the Sino-Japanese struggle in Manchuria is not yet to be entirely dismissed. Finally, the possibility must be taken into account that if, as, and when a marked upward shift in the wheat price level seems clearly to be at hand and/or European governments relax their wheat restrictions, increased readiness of importing countries to replenish low stocks of wheat may be expected; but the dates of such significant changes are beyond prediction.

Even under these circumstances it is possible to express some views with confidence

[1] See above, p. 225.

and to state some probabilities for which reasonable bases exist. On many points, however, one must be content to discuss possibilities rather than to make specific forecasts.

Volume of Trade

The volume of international trade for the year ending July 1932 will be large. On the basis of net exports as reported or as adjusted for changes in stocks in North America and afloat, we expect the volume to be larger than in 1930–31, perhaps about 840 million bushels. Even in case there should be substantial reason for expecting a significant tightening in the international wheat position in 1932–33, however, it seems unlikely that the demand for building up stocks will raise the volume of international trade to or above the record level of 1928–29, some 940 million bushels.

European importing countries seem to us likely to take more wheat in 1931–32 than in 1930–31, chiefly because of the marked reduction in the rye crop and despite the fact that domestic wheat crops were slightly larger in 1931 than in 1930. There can probably be little reduction in the aggregate stocks of importing countries of Continental Europe; on the other hand, it will require major changes in the situation to furnish effective incentives to building up stocks.

Ex-European countries, as a whole, seem likely to take about as much as, or probably a little more than the large volume of last year. China is likely to take more. China's wheat crop is apparently smaller, and the rice crop is also low; these, however, seem not to be major factors in determining the volume of China's imports. Much more important is the fact that world wheat prices are very low, even lower than last year. The Chinese government has contracted for 15 million bushels from the Grain Stabilization Corporation on credit for use in relief. The silver situation does not appear unfavorable for substantial commercial imports. Nor does the Manchurian struggle, though Japanese flour exports to China are restricted by a boycott. Shipments to ex-Europe have been running relatively high since the middle of August,[1] probably mainly on account of trade to China.

On the other hand, several other ex-European importers are likely to take less. Egypt probably will do so, chiefly because of a larger crop, a higher tariff on wheat and flour, and unfavorable prices for cotton that make for a shift to wheat production. India is hardly likely to be an appreciable net importer this year, in view of her high tariff on imports and her liberal domestic supplies. Brazil, in view of restrictions announced in connection with the arrangement for exchange of coffee for wheat,[2] may import less than in the past year. The purchasing power of ex-European countries generally is not such as to promise great expansion in their imports even at prevailing low prices. Moreover, several minor importers have greatly increased their import duties or other barriers to imports.[3]

Broomhall thus far expects the volume of international trade, as expressed in terms of his shipments figures, to be slightly smaller than last year, Europe taking about 40 million bushels less and ex-Europe some 30 million bushels more. The International Institute of Agriculture provisionally forecast in October that the total volume of net imports, figured on a different basis, would be 76 million bushels larger than in 1930–31, the increase being about equally divided between Europe and ex-Europe. These forecasts, with comparative data for previous years, are given below in million bushels:

Year Aug.–July	Broomhall			International Institute of Agriculture (October)		
	Total	Europe	Ex-Europe	Total[a]	Europe[b]	Ex-Europe[c]
1926–27..	814	682	132	819	654	165
1927–28..	793	662	131	801	650	151
1928–29..	928[d]	703[d]	225[d]	886	649	237
1929–30..	613	483	130	662	506	156
1930–31..	787	608	179	804	603	201
Forecast 1931–32..	776	568	208	880	640	240

[a] Net exports adjusted for changes in stocks afloat, and for changes in stocks of United States grain in Canada, and of Canadian grain in the United States. See *International Review of Agriculture (Agricultural Statistics)*, October 1931.
[b] Mainly as officially reported.
[c] Residual figure.
[d] Fifty-three weeks.

[1] See Appendix Table XIX, and above, p. 242.
[2] See above, p. 225.
[3] See above, p. 228.

We anticipate a smaller increase in ex-European takings than is set forth both in Broomhall's and in the International Institute's figures. Unlike Broomhall, we expect the total volume to be larger than in 1930–31, and European takings more so than ex-European takings. On the other hand, we do not anticipate that total trade will approach that of 1928–29 as closely as the International Institute has forecast. Our tentative figures, with comparisons, are set down below, in million bushels:

Year Aug.-July	Net exports		Changes in stocks afloat	Net imports		
	Reported	Adjusted[a]		Total	Europe[b]	Ex-Europe[c]
1926–27..	848	846	+ 8	838	681	157
1927–28..	825	815	— 1	816	656	160
1928–29..	943	934	— 7	941	666	275
1929–30..	628	633	+ 2	631	504	127
1930–31..	828	819	— 1	820	613	207
Forecast 1931–32..	840	850	+10	840	630	210

[a] For changes in stocks of United States grain in Canada and Canadian grain in the United States, about August 1.
[b] As officially reported for the several countries, partly through the International Institute of Agriculture.
[c] Residual figure.

Our expectation rests partly upon the fact that shipments (Broomhall's data) reported for the first 17 weeks of the year were 274 million bushels, the largest on record except for August–November 1928. Over the past decade, August–November shipments have ranged from 28.6 to 35.8 per cent of the year's shipments. In years when stocks of import wheat were built up to high levels in ports of the United Kingdom during August–December (1924, 1929, and 1930) these percentages ran relatively high (35.7, 35.8, and 34.4 respectively). Since stocks have been built up again this year, one may suppose that August–November shipments will prove to be a high percentage of the year's total. The present year differs from both 1929–30 and 1930–31 in that a severe decline in world wheat prices is not in prospect, if only because the price is already so extraordinarily low; hence importers have less incentive to restrict purchases. It differs from 1930–31 in that governmental regulations in continental Europe were stricter when the year opened, and are likely to be relaxed earlier this year. Consequently it may reasonably be anticipated that total shipments in August–November this year may prove to be a smaller percentage of the year's total than was the case in 1930–31, and probably in 1929–30. Assuming that 34 per cent of the year's total (a relatively high figure, as is indicated as appropriate by the facts that British port stocks have been built up greatly and that for the third successive year very large exportable supplies have been available in the first third of the year) had been shipped in August–November, total shipments for the year would be 807 million bushels. Net exports can be expected to exceed shipments by around 25 million bushels or more, so that total net exports on this basis of calculation may approximate 830–840 million bushels. Broomhall obviously expects that August–November has witnessed shipments that will prove to be a larger fraction of the year's total than in any of the preceding ten years.

It must be said that the evidence is conflicting on this point. The high port stocks of December 1 point toward Broomhall's conclusion; the prospects for relaxation of European restrictions point in the opposite direction. Something may depend upon developments in governmental controls of the exchange markets. The general situation points toward continued control or even strengthening of it; but it seems at least possible that imports of foodstuffs, especially wheat, would often be favored at the expense of other import commodities.

Among the exporting countries, the United States, Argentina, and the Danube countries, especially the last, are likely to provide more than last year; Russia, Australia, Canada, and the northern African countries, somewhat less. Various forecasts are given in Appendix Tables IV and V.

Even with reductions in the volume of supplies available in most other exporting countries, and with special sales on credit by the Grain Stabilization Corporation, it appears probable that net exports from the United States will be moderately small, probably larger than in 1925–26 or 1930–31, but not larger than, if as large as, in 1928–29 and 1929–30. Net exports in July–November, adjusted for changes in stocks of United States grain in Canada, were ex-

tremely light,[1] and international price relationships, among other factors, bid fair to be such as to restrict our commercial exports of wheat and flour in the coming months. Broomhall anticipates shipments from the United States of around 224 million bushels, as against our tentative forecast of net exports of about 135 million.

Some Aspects of Consumption

The foregoing analysis of prospects for international trade in 1931–32 rests to some extent upon calculations of probable consumption. The following figures, in million bushels, represent our tentative estimates of consumption (generally speaking, for food, feed, and seed) in various countries or regions outside of Russia and China:

Region	1930–31	1931–32
United States[a]	714	766
Canada[a]	138[b]	131
Argentina[a]	96	89
Australia[a]	56	50
Danube basin	290	295
India	349	355
European importing countries	1,661	1,690
Total	3,304	3,376

[a] See Appendix Table XXV.
[b] Taking the crop at 418 million bushels.

Some increase seems, on the whole, to be in prospect in the area covered by these estimates, though not a large one. To the extent that ex-European countries increase their takings, the increase in the world would be larger; if the Russian wheat crop of 1931 falls well below that of 1930, the increase in the world would be smaller.

The most substantial prospective increases in consumption appear to be in the European importing countries and in the United States. In forecasting European consumption, we have allowed for increase principally on account of the short crop of rye, partly on account of the poor quality of a substantial proportion of the domestic wheat crop. We have assumed that stocks will be neither built up nor reduced; actual developments will probably be heavily conditioned by the prospect (now unpredictable) for 1932 wheat crops toward the end of the crop year 1931–32.

[1] See above, p. 234.

[2] Meaning net mill grindings, seed use, and use of wheat for feed and waste.

The increase in United States consumption[2] seems probable because wheat ground for domestic retention is almost certain to be larger than the low figures of 1930–31, probably to the extent of around 40 million bushels. This could not serve, however, to build up flour stocks to the levels from which they were materially reduced in 1930–31. Moreover, wheat feeding in the United States will probably approach (and conceivably equal or slightly exceed) the high level reached in 1930–31. During July–September the relations between prices of wheat and of corn were more favorable to wheat feeding this year than last; moreover, in October–December when these price relationships were less favorable, low farm prices of wheat per se provided sufficient incentives to feeding wheat rather than shipping it. Wastage on account of improper storage in the country may prove to be a larger item than usual and larger than in 1930–31.

It is important to remember that wheat feeding represents, in the main, a temporary outlet rather than a permanent element of importance in the demand for wheat. Only if extremely low prices of wheat should persist is this element likely to become regularly of greater importance than it has been prior to the last two years.

Outward Carryovers

If our forecasts of international trade and consumption are well founded, it is possible also to evaluate the outlook for stocks at the end of the crop year. The following figures, in million bushels, represent approximations for stocks about on August 1, 1932, that are consistent (using standing crop estimates) with the foregoing estimates of trade and consumption:

Region	1931	1932
United States[a]	319	310
Canada	133	70
Argentina	85	65
Australia	45	25
Danube basin	53	38
India	62	59
European importers	143	143
Afloat to Europe	38	48
United States in Canada[a]	15	6
Canadian in the United States	6	5
Total	899	769

[a] As of July 1.

A substantial reduction of stocks in the regions indicated is suggested by these figures —perhaps close to 100 to 150 million bushels. If crop estimates are raised, if Russia exports more than 90 million bushels, if ex-European importing countries take less than we have estimated, and if we have overestimated probable consumption the reduction will be less; with reversed developments it could be more.

A reduction of 130 million bushels in the aggregate would not suffice to bring stocks at the end of the year to what may be described as a normal level—say 500–600 million bushels. It would suffice, however, to bring the level lower than it had been at the end of any of the three preceding crop years. Whether or not stocks of this size would continue to be burdensome would depend partly upon the outcome of the 1932 crop, and partly upon the willingness and/or ability of producers, merchants, and speculators to carry stocks. With regard to stocks, the general outlook now appears rather more favorable than in many months. Only in the United States and India do year-end carryovers now seem likely to be strikingly large.

The distribution of the United States carryover will be different from that of June 30, 1931. Stocks on farms will presumably be much heavier, and stocks in city mills and in country mills and elevators somewhat heavier than last year, while visible supplies are likely to be reduced. The Grain Stabilization Corporation stocks (less sales not yet delivered) will presumably be considerably reduced, perhaps by 75 to 100 million bushels or more, unless Congress should dictate a modification of the sales program.

Crops of 1932

Preliminary indications point to a sharp reduction in the winter wheat crop of the United States in 1932. The acreage planted is officially estimated at 10.4 per cent less than for the crop of 1931. In important sections the seed-bed was unfavorably dry, the ground was not thoroughly prepared, much of the sowing was late, and considerable damage by wire worms occurred. The December 1 condition is exceptionally low. The character of the winter will of course affect the amount of winterkilling, but it is fair to expect abandonment next spring to be considerably heavier than last year. Yield per harvested acre will probably be lower than the exceptional figure of last year, if not below average. It seems unlikely that the spring wheat crops will be as small as those of 1931, but it is fair to expect the crop of all wheat to be considerably less.

For other countries little can be said except that in Russia there is reason to expect continued pressure for increasing the wheat acreage, and that in Europe generally government policies are exerting influence in that direction. Financial pressure is tending to force acreage contraction in the major wheat-exporting countries, and somewhat better relative prices of feed grains in Europe may help to limit wheat expansion there. Up to November 20, the area sown to winter grain (mostly rye and wheat) in Russia was only 89 per cent of the area planned, and 95 per cent of the winter area sown in 1930. In Roumania, reduction of the area sown by 5–10 per cent, possibly more, is anticipated, with barley tending to supplant wheat. Increases of areas sown are anticipated in France and the British Isles. In Canada, the winter came before much rain had fallen, and the reserve of subsoil moisture over an important area is scanty for the third successive year.

The importance of yet unpredictable weather factors affecting yields per acre, and even acreage in lesser degree, is so great that there is no purpose in attempting to forecast the 1932 world wheat crop now. It is perhaps premature to count upon a smaller world wheat crop, or smaller crops in the more significant areas, than those of 1931. Broadly speaking, yields in 1931 have been generally only moderate and nowhere strikingly heavy except for United States winter wheat and for eastern Europe, and yields as low as those of 1931 in the spring-wheat belt of North America are exceptional. Probably not until next summer or autumn will the general magnitude of the world wheat crop of 1932, and its most significant portions, be appraisable. Yet in North America the outlook at the moment

at least does not point to a large crop, and North American production bulks large in the world total.

PRICES

We may now summarize our tentative appraisal of price prospects for the coming months, in the light of considerations discussed above. Needless to say, this appraisal as of mid-December is subject to change as events correct our views on supplies, consumption, importers' demands, commercial stocks, and other factors, and as crop developments emerge.

In brief, we consider that price-depressing influences have so largely spent their force that, in general, the lowest levels of wheat prices, for the present crop year at least, have been reached; but that a stronger combination of bullish factors than is yet clearly in evidence will be required to furnish the basis for major, sustained advances in wheat prices, of some such magnitude as 20 cents a bushel.

Wheat prices in terms of gold seem unlikely to fall, in January–May 1932, to or below the low points already registered in markets of Great Britain, Canada, and the United States. If in these markets, or in Argentina and Australia, prices should fall below these previous low points, they are unlikely to fall more than 5 cents below them. From levels current in mid-December, renewed and persistent sagging appears less probable than a tendency to moderate firmness. Fluctuations around current levels, however, seem more probable than important sustained advances or declines, apart from those of a seasonal character which are variously reflected in cash prices rather than in futures prices. Large but short-lived advances from current levels may occur, as in recent weeks, under the influence of bullish news and changes in sentiment. Certain combinations of circumstances may conceivably lead, before the end of July, to a substantial and sustained upward shift in the level of world wheat prices, such as occurred in May–December 1924. But the evidence now available seems to us to yield slender basis for expecting this to occur at least before the end of March 1932. In April–July, new-crop developments as well as other factors now quite beyond prediction will presumably exert a determining influence upon the course of prices.

It is appropriate to summarize the principal reasons which lead us to these views. Already there is evidence of important resistance to further depression in wheat prices through the unwillingness of farmers to sell, when costs of hauling and handling, and of shipment to ultimate markets, absorb most of the market price. The very fact that this decline-resisting force is already in operation, however, suggests that enlarged sales by farmers may operate to restrain advances from current levels.

If extensive feeding and waste of wheat and heavy shipments to the Orient materialize, as we are inclined to expect, substantial reductions in world wheat stocks may bring them, by the end of July, to lower levels than in the three preceding years. Yet they are not likely to be reduced to levels that can be regarded as normal or even only moderately heavy. Considerable reductions in world wheat visible supplies are in fair prospect, and monthly data will almost certainly show lower levels than in 1930–31 and probably as low as in the two preceding years, or lower. Yet visible supplies, like total stocks, seem unlikely to be reduced even to normal proportions. In the United States, both commercial stocks and the outward carryover seem certain to continue abnormally heavy.

The pressure of Russian exports is probably largely over for the present year, and the pressure of Danubian wheats is likely to be lighter in the coming months. Yet liberal supplies, considering the restricted world market, must be expected from Australia, Argentina, and even Canada. British imports are likely to be lower during the period in which the present heavy stocks are being consumed. Relaxation of European wheat import restrictions is in prospect as the season advances, but not to such an extent as to alter the situation radically.

Very poor prospects for United States winter wheat have already had an influence on the wheat market. The course of prices here and in world markets may be signally influenced by further developments in these prospects. If later events should fully bear out the early indications, greater firmness

of prices may be expected than we are yet prepared to assume. On the other hand, if the later development of the crop should be distinctly favorable, a price-weakening force will be brought into play, particularly effective in North American markets.

If export supplies available outside the United States should come to appear, after the bulk of Southern Hemisphere shipments are made, inadequate to meet import requirements, prices abroad may rise enough, relative to United States prices, to permit freer commercial exports from this country. Unless this occurs, or United States prices are readjusted to export parity, United States net exports will probably not reach the figure we have suggested, and the carryover will be correspondingly increased.

The level and course of wheat prices in the United States are peculiarly unsusceptible of prediction. Not only the announced policies of the Federal Farm Board, but the actual operations of the Grain Stabilization Corporation and the possibilities of action by Congress, have significant influence on the situation and on the domestic market. We think it reasonable to expect that prices here will continue to be higher in relation to world prices than would be possible if the Grain Stabilization Corporation did not hold such large quantities of wheat. But the spreads and changes in spreads are, within limits, determined not simply by the usual economic forces but in part by the judgments of those who are in a position to exercise a controlling influence.

This issue was written by M. K. Bennett, Joseph S. Davis, Helen C. Farnsworth, Alonzo E. Taylor, Holbrook Working, and Ada F. Wyman. Tables by Robert F. Lundy; charts by P. Stanley King.

APPENDIX

TABLE I.—APPROXIMATE SUPPLIES OF WHEAT, EX-RUSSIA, 1926–31*

(Million bushels)

Year	Four major exporters			World ex-Russia		
	Stocks	Crops	Total	Stocks	Crops	Total
1926.....	225	1,629	1,854	482	3,369	3,851
1927.....	264	1,758	2,022	521	3,591	4,112
1928.....	341	1,991	2,332	590	3,911	4,501
1929.....	529	1,407	1,936	858	3,419	4,277
1930.....	528	1,725	2,253	809	3,689	4,498
1931 (prelim.).	603	1,579	2,182	904	3,586	4,490

* Condensed from Appendix Tables IV and XXXII in WHEAT STUDIES, December 1931, with the addition of 1931 crop data condensed from Appendix Table III below.

TABLE II.—APPROXIMATE WHEAT STOCKS IN PRINCIPAL PRODUCING AREAS, EX-RUSSIA, 1926–31*

(Million bushels)

Year	Exporting countries ex-Russia					Other Europe and afloat	Total ex-Russia
	United States	Canada	North America	Other	Total		
1926	99	37	141	159	300	182	482
1927	118	48	172	159	331	190	521
1928	124	78	219	165	384	206	590
1929	242	104	372	254	626	232	858
1930	291	111	423	174	597	212	809
1931	319	133	473	250	723	181	904

* Data condensed from Appendix Table XXXII in WHEAT STUDIES, December 1931. Except for United States grain, data are approximately for August 1.

TABLE III.—WHEAT PRODUCTION IN THE PRINCIPAL PRODUCING AREAS, 1926–31*

(Million bushels)

Year	United States		Canada	Australia	Argentina	Four exporters	Soviet Russia	Lower Danube	Other Europe	Northern Africa[a]	India	Northern Hemisphere ex-Russia	World ex-Russia	World total
	Winter	Spring												
1926.....	627	204	407	161	230	1,629	914	294	921	99	325	2,926	3,369	4,283
1927.....	553	325	480	118	282	1,758	785	272	1,001	109	335	3,126	3,591	4,376
1928.....	579	336	567	160	349	1,991	795	367	1,042	108	291	3,341	3,911	4,706
1929.....	577	236	305	127	163	1,407	703	303	1,144	123	321	3,060	3,419	4,122
1930.....	602	256	398	213	236	1,725[b]	1,084	353	1,015	104	391	3,191[b]	3,689[b]	4,773[b]
1931.....	787	105	298	170	219	1,579	...	357	1,070	116	347	3,140	3,586	...

* Summarized from data in Appendix Table I, in WHEAT STUDIES, December 1931, and Appendix Table VI below.

[a] Morocco, Algeria, Tunis, and Egypt.

[b] Canadian crop taken as 418 million bushels.

TABLE IV.—BROOMHALL'S FORECASTS OF EXPORT SURPLUSES AND PROBABLE SHIPMENTS, 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	226
Nov. 18....	1,016	776[a]	568[a]	208[a]	240

Date of report	United States	Canada	Argentina	Australia	Russia	Danube	Others
Export surpluses							
Aug. 19....	256	200	192	144	120	40	16
Sept. 16....	248	232	192	144	120	40	16
Nov. 18....	248	256	192	144	120	40	16
Dec. 5....	248	264	192	152	96	52	12
Estimated shipments							
Aug. 19....	224	176	120	80	120	40	16
Dec. 5....	224	184	120	88	96	52	12

* Data from Broomhall's *Corn Trade News*.

[a] The International Institute of Agriculture, in the October issue of the *International Review of Agriculture (Agricultural Statistics)*, forecast net import requirements as follows: total, 880; Europe, 640; ex-Europe, 240.

TABLE V.—NET EXPORTS OF WHEAT AND FLOUR, 1926–27 TO 1930–31, WITH FORECASTS FOR 1931–32*

(Million bushels)

August-July	United States[a]	Canada	Argentina	Australia	Russia	Other countries[b]	Total
1926–27	202	292	143	103	49[c]	59	848
1927–28	187	332	178	71	7[c]	50	825
1928–29	153	406	224	109	..[c]	51	943
1929–30	146	185	150	63	10	74	628
1930–31	116	258	123	152	111[c]	68	828
Forecasts 1931–32							
Broomhall[d]	224	184	120	88	96	64	776
Dom. Bur.[e]	201	241	128	125	85	52	832
F.R.I.	135	235	150	140	90	90[f]	840

* Data from WHEAT STUDIES, December 1931, Appendix Table XXI; Broomhall's *Corn Trade News;* Dominion Bureau of Statistics, Canada, *Monthly Review of the Wheat Situation,* December 17, 1931.

[a] Includes shipments to possessions of about 3 million bushels a year.

[b] Includes Danube basin (Hungary, Jugo-Slavia, Roumania, Bulgaria), India, and Morocco, Algeria, Tunis, Chile, Spain, and Poland for years in which these countries were net exporters; exclusive of net imports by certain of these.

[c] July–June.

[d] Shipments, which run lower than net exports.

[e] Available for export after estimated reserves for carryover. Import requirements are estimated at 825 million bushels.

[f] Danube basin, 70; India, 0; other countries, 20.

TABLE VI.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1920–31*

(*Million bushels*)

Year	United States	Canada	India	Australia	Argentina	Chile	Uruguay	Hungary	Bulgaria	Jugo-Slavia	Roumania	Soviet Russia	Mexico
1926	831.4	407.1	324.7	160.8	230.1	23.3	10.2	74.9	36.5	71.4	110.9	913.8	10.3
1927	878.4	479.7	335.0	118.2	282.3	30.6	15.4	76.9	42.1	56.6	96.7	784.6	11.9
1928	914.9	566.7	290.9	159.7	349.1	29.7	12.3	99.2	49.2	103.3	115.5	795.2	11.0
1929	812.6	304.5	320.7	126.9	162.6	33.5	13.2	75.0	33.2	95.0	99.8	702.9	11.3
1930	858.2	397.9	390.8	212.6	236.0	21.2	7.2	84.3	57.3	80.3	130.8	1,084.0	11.4
1931	892.3	298.0	347.3	170.0	218.6	....	....	65.7	61.2	98.8	127.9	.....	15.8
Average 1926–30	859.5	431.2	332.4	155.6	252.0	27.7	11.7	82.1	43.7	81.3	110.7	856.1	11.2

Year	Morocco	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy	Belgium	Netherlands	Denmark	Norway	Sweden
1926	25.0	23.6	13.0	37.2	52.2	231.8	95.4	220.6	12.8	5.5	8.8	.59	12.2
1927	28.2	28.3	8.1	44.3	57.2	276.1	120.5	195.8	16.3	6.2	9.4	.60	15.3
1928	28.1	30.3	12.1	37.3	51.0	281.3	141.6	228.6	17.2	7.3	12.2	.80	18.3
1929	31.8	33.3	12.3	45.2	50.9	337.3	123.1	260.1	13.2	5.5	11.8	.75	19.0
1930	21.3	32.3	10.4	39.8	43.3	231.1	139.2	210.1	13.2	6.1	10.2	.72	21.5
1931	34.7	22.0	13.6	46.1	39.0[a]	269.6	155.5	247.9	15.3	6.3	9.2	.75	19.6
Average 1926–30	26.9	29.6	11.2	40.9	50.9	271.5	124.0	223.0	14.5	6.1	10.5	.69	17.3

Year	Spain	Portugal	Switzerland	Austria	Czecho-Slovakia	Poland	Finland	Latvia	Estonia, Lithuania	Greece	Japan, Chosen	South Africa	New Zealand
1926	146.6	8.6	4.2	9.4	39.9	52.5	.92	1.86	5.02	12.4	38.7	8.3	8.0
1927	144.8	11.4	4.3	12.0	47.2	61.1	1.06	2.64	6.33	13.0	38.3	6.0	9.5
1928	122.6	7.5	4.5	12.9	52.9	59.2	1.00	2.50	7.36	13.1	39.4	7.2	8.8
1929	154.2	10.8	4.4	11.6	52.9	65.9	1.10	2.34	10.59	8.5	38.8	11.1	7.2
1930	146.7	13.5	3.6	12.0	50.6	82.3	1.21	4.06	12.96	12.5	38.5	10.2	7.1
1931	134.4	12.1	4.4	9.4	38.3	80.8	1.14	3.50	10.12	12.2	39.8	12.2	...
Average 1926–30	143.0	10.4	4.2	11.6	48.7	64.2	1.06	2.68	8.45	11.9	38.7	8.6	8.1

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

[a] Estimating 1.27 for Northern Ireland and Irish Free State.

TABLE VII.—RYE, CORN, BARLEY, AND OATS PRODUCTION IN SOME IMPORTANT AREAS, 1926–31*

(*Million bushels*)

Year	Rye		Corn				Barley					Oats		
	Europe ex-Russia	Others[a]	Europe ex-Russia	United States	Argentina	Union of South Africa	Europe ex-Russia	Russia	United States	Canada	Argentina	Europe ex-Russia	Russia	United States
1926	762	58	653	2,692	321	65	674	246	185	100	18	1,843	1,071	1,247
1927	812	80	485	2,763	312	69	659	207	266	97	15	1,748	917	1,183
1928	902	67	384	2,819	240	67	743	252	357	136	17	1,879	1,135	1,439
1929	945	49	704	2,535	249	80	827	338	280	102	16	2,062	1,144	1,118
1930	923	72	608	2,060	371	57	763	...	305	135	14	1,731	.....	1,278
1931	775	48	637	2,557	...	..	708	...	199	68	19	1,753	.....	1,112
Average 1926–30	869	65	567	2,574	299	68	733	261[b]	277	114	16	1,853	1,067[b]	1,253

* Official data as reported by the United States Department of Agriculture.

[a] Canada, United States, Argentina.

[b] Average 1926–29.

TABLE VIII.—UNITED STATES WHEAT CROP FORECASTS AND ESTIMATES, 1931*

(*Million bushels*)

Date	Official	Unofficial					
		Average	Cromwell	Donovan	Miller	Murray	Snow
	WINTER WHEAT						
May 1	653	658	632	645	690	655	666
June 1	649	682	...	665	691	677	693
July 1	713	689	712	675	697	682	680
Aug. 1	775	743	743	735	737	740	759
Dec. 1	787	...	...	...	...	...	...
	SPRING WHEAT						
June 1	...	212	...	220	210	214	205
July 1	156	191	189	195	183	202	188
Aug. 1	118	131	129	140	132	130	122
Sept. 1	111	115	112	120	118	117	110
Oct. 1	109	112	112	115	117	114	104
Dec. 1	105	...	...	...	...	...	...
	TOTAL						
June 1	...	894	...	885	901	891	898
July 1	869	881	901	870	880	884	868
Aug. 1	894	873	872	875	869	870	881
Sept. 1	886	858	855	855	855	857	869
Oct. 1	884	855	855	850	854	854	863
Dec. 1	892	...	...	...	...	...	...

* Data from official *Crop Reports* and the *Daily Market Record*, Minneapolis.

TABLE IX.—CANADIAN WHEAT CROP FORECASTS AND ESTIMATES, 1931*

(*Million bushels*)

Approximate date	Three provinces				All Canada	
	Murray	Cromwell	Other private	Official	Murray	Official
July 1	227	...	...	...	...	...
Aug. 1	218	...	...	...	...	...
Sept. 1	221	236	254[a]	246	244	271
Oct. 1	229	230	...	...	255	...
Nov. 1	...	230	241[b]	279	...	298

* Data from Clement, Curtis & Co., *Monthly Grain and Cotton Report;* Lamson Bros. & Co., *Crop Reports and Statistics; Manitoba Free Press;* Northwest Grain Dealers' Association, *Crop Report;* Dominion Bureau of Statistics, *Crop Reports.*

[a] Manitoba Free Press estimate.

[b] Northwest Grain Dealers' Association estimate.

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[e]	12.27	11.89
1928...	58.5	4.64	88.7	90.9[e]	11.91	12.34
1929...	58.2	4.67	86.7	88.7[e]	12.27	13.59
1930...	58.9	4.68	93.4	86.5[e]	12.41	14.43
1931[f]..	59.1	4.66	92.1	82.7[e]	11.81	13.89

* Data compiled or computed from official sources.

[a] *Agriculture Yearbook, 1931,* p. 592, and *Crops and Markets,* November 1931.

[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.

[e] Spring wheat other than durum. The percentages for durum wheat for these years were as follows: 89.3, 89.6, 92.6, 87.7, and 83.8.

[f] Preliminary.

TABLE XI.—CANADIAN SPRING WHEAT GRADINGS, SEPTEMBER–NOVEMBER 1923–31*

(*Percentages of total*)

Year	No. 1[a]	No. 2	No. 3	Total Nos. 1–3	Nos. 4–6 and feed	No grade[b]	Other[c]
1923....	40.2	24.6	20.5	85.3	9.8	1.1	3.8
1924....	22.8	19.8	19.1	61.7	28.4	6.5	3.4
1925....	28.4	30.8	13.7	72.9	4.9	17.9	4.3
1926....	14.1	24.2	9.3	47.6	5.0	38.4	9.0
1927....	1.6	10.1	24.2	35.9	21.2	36.1	6.8
1928....	1.6	13.5	20.1	35.2	54.9	1.8	8.8
1929....	39.8	36.2	11.3	87.3	2.2	2.2	8.3
1930....	46.2	23.4	4.4	74.0	1.8	15.9[d]	8.3
1931....	30.5	35.6	10.8	76.9	4.0	13.7[d]	5.4

* Computed from data given in *Canadian Grain Statistics.*

[a] Includes No. 1 Hard and No. 1 Northern.

[b] Wheat of the 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.

[c] Largely durum.

[d] "Tough and damp" inspections. Owing to a change in the inspection laws, these classifications include wheats previously classified as "no grade."

TABLE XII.—WEEKLY WHEAT RECEIPTS AT PRIMARY MARKETS IN NORTH AMERICA, JUNE–NOVEMBER 1931*

(*Million bushels*)

Week ending	United States			Canada		
	14 primary markets[a]	Southwest[b]	Minneapolis and Duluth	Fort William and Port Arthur	Vancouver and Prince Rupert	Total
June 6	10.2	4.2	3.0	4.2	.99	5.2
13	5.8	1.1	2.5	4.5	.75	5.2
20	4.6	.7	1.8	5.4	.74	6.2
27	5.2	1.7	1.9	6.2	.70	6.9
July 4	11.5	8.5	2.0	3.6	.51	4.1
11	20.7	18.1	1.8	2.8	.87	3.7
18	29.1	18.6	1.6	2.5	1.09	3.6
25	26.2	11.5	2.3	2.1	.81	2.9
Aug. 1	24.4	8.1	2.6	2.7	.59	3.3
8	19.7	7.2	2.3	1.0	.54	1.5
15	12.9	4.7	1.9	.6	.49	1.0
22	11.9	5.8	2.1	.7	.31	1.1
29	11.5	4.9	3.5	1.3	.37	1.7
Sept. 5	8.6	3.2	3.4	2.4	.44	2.8
12	9.4	3.3	1.8	3.4	.68	4.1
19	8.9	3.5	3.5	6.5	.61	7.1
26	9.5	4.0	3.2	5.0	1.04	6.0
Oct. 3	8.0	2.2	2.7	3.1	.69	3.8
10	5.6	1.9	2.1	2.0	.98	3.0
17	5.9	2.1	1.9	6.3	1.54	7.8
24	8.0	3.6	2.3	7.5	2.05	9.6
31	9.2	3.5	3.1	10.1	2.19	12.2
Nov. 7	8.9	3.1	2.9	8.9	2.72	11.6
14	7.2	2.6	2.0	8.2	1.92	10.1
21	5.4	2.0	1.9	8.5	1.82	10.3
28	4.4	1.7	1.5	3.9	1.24	5.1

* United States data are unofficial figures compiled from the Chicago *Daily Trade Bulletin;* Fort William and Port Arthur data are official figures for net receipts furnished by Canadian Board of Grain Commissioners; Vancouver and Prince Rupert data are official figures for weeks ending Friday, compiled from *Canadian Grain Statistics.*

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

[b] Includes Kansas City, Omaha, Wichita, and Galveston.

TABLE XIII.—WHEAT RECEIPTS AT PRIMARY MARKETS IN NORTH AMERICA, MONTHLY, JUNE–NOVEMBER 1926–31*

(*Million bushels*)

Year	June	July	Aug.	Sept.	Oct.	Nov.	June–Nov.
	UNITED STATES (14 MARKETS)						
1926	21.1	77.0	71.6	48.7	37.1	29.8	285.3
1927	20.7	58.8	81.6	79.7	73.2	44.8	358.8
1928	15.5	72.6	84.2	73.3	84.4	43.5	373.5
1929	25.7	94.2	101.7	47.0	36.3	20.6	325.5
1930	18.7	99.0	85.5	62.6	28.9	24.6	319.3
1931	29.7	104.0	61.5	38.9	32.7	25.8	291.6
	CANADA (LEADING MARKETS)[a]						
1926	13.8	6.7	1.6	33.1	62.5	67.7	185.4
1927	8.0	10.8	2.5	8.9	57.6	81.7	169.5
1928	23.8	16.8	4.6	41.7	94.1	87.5	268.5
1929	17.7	17.9	3.1	32.6	36.2	23.2	130.7
1930	27.3	17.5	16.1	55.2	36.7	24.8	177.6
1931	25.4	15.3	6.0	21.8	34.5	38.4	141.4

* United States data unofficial, compiled from *Survey of Current Business;* Canadian data official, from *Reports on the Grain Trade of Canada* and *Canadian Grain Statistics.*

[a] Fort William, Port Arthur, Vancouver, and Prince Rupert after July 1926.

TABLE XIV.—UNITED STATES FLOUR PRODUCTION, ALL REPORTING MILLS, JULY–NOVEMBER, 1925–31*

(*Million barrels*)

Year	July	Aug.	Sept.	Oct.	Nov.	July–Nov.
1925	8.84	9.29	9.94	10.73	9.13	47.93
1926	9.57	10.45	10.84	10.68	9.62	51.16
1927	8.39	9.62	10.47	10.82	9.74	49.04
1928	8.52	10.37	10.51	11.59	9.91	50.90
1929	9.34	11.06	10.37	10.97	9.54	51.28
1930	9.47	10.31	10.67	10.82	9.18	50.45
1931	9.85	9.66	9.74	10.40	....	.....

* Data from U.S. Department of Commerce, *Wheat Ground and Wheat Milling Products.*

TABLE XV.—INDEXES OF UNITED STATES FLOUR PRODUCTION AND SALES, QUARTERLY FROM JULY 1926*

(*Percentages of capacity*)

Year	Production				Sales			
	July–Sept.	Oct.–Dec.	Jan.–Mar.	April–June	July–Sept.	Oct.–Dec.	Jan.–Mar.	April–June
1926–27	70.0	65.4	58.8	56.8	119.1	54.0	42.5	38.0
1927–28	65.8	66.6	62.9	57.6	108.3	54.8	46.1	38.0
1928–29	65.8	69.4	63.5	59.0	133.8	53.5	39.4	46.1
1929–30	68.4	68.2	60.9	62.3	101.9	63.1	44.8	57.5
1930–31	70.4	66.4	60.2	56.2	91.2	52.4	40.6	45.8
1931–32	67.8	....	....	....	101.6	....	....	....

* Compiled from special reports of Millers' National Federation.

TABLE XVI.—INDEXES OF MILL STOCKS AND UNFILLED ORDERS, QUARTERLY FROM JUNE 30, 1925*

(Expressed in number of days of capacity operation)

Year	Wheat and flour stocks					Unfilled flour orders				
	June 30	Sept. 30	Dec. 31	Mar. 31	June 30	June 30	Sept. 30	Dec. 31	Mar. 31	June 30
1925–26.....	19.7	....	49.0	....	23.2	14.3	....	32.3	....	22.8
1926–27.....	23.2	57.0	54.4	43.1	26.5	22.8	68.1	55.7	39.6	20.4
1927–28.....	26.5	51.0	54.6	40.1	25.5	20.4	63.1	50.5	35.0	16.2
1928–29.....	25.5	61.3	67.1	51.1	37.2	16.2	76.9	63.1	42.8	29.3
1929–30.....	37.2	76.0	74.2	44.3	31.8	29.3	62.7	58.4	40.3	36.1
1930–31.....	31.8	68.8	63.4	38.6	18.5	36.1	54.7	40.8	23.0	12.9
1931–32.....	18.5	63.5	....	....	....	12.9	41.0	....	....	....

* Computed from special reports of Millers' National Federation. See WHEAT STUDIES, July 1931, VII, 419. Since the capacity reporting varies more or less, the unit here used is preferable to actual quantities.

TABLE XVII.—WEEKLY VISIBLE SUPPLIES OF WHEAT, JUNE–NOVEMBER 1931*

(Million bushels)

Week ending	Commercial stocks in North America					Afloat for Europe	U.K. ports
	U.S. grain		Canadian grain		Total		
	United States	Canada	Canada	United States			
June 6....	211	8.0	125	6.1	349	63.8	7.4
13....	209	9.4	121	4.7	344	61.2	6.4
20....	206	13.1	117	5.2	342	59.1	7.2
27....	203	14.7	114	5.3	338	53.6	6.8
July 4....	204	15.3	111	6.0	336	49.8	8.0
11....	207	16.5	109	4.7	338	49.6	7.2
18....	214	16.9	109	5.0	345	45.5	8.8
25....	225	18.6	106	5.6	355	43.2	8.8
Aug. 1....	234	22.9	106	5.5	368	37.9	...
8....	245	26.5	103	5.4	379	43.3	10.2
15....	250	30.0	100	5.4	386	47.1	11.0
22....	255	32.3	97	4.9	389	47.9	11.8
29....	262	32.2	95	5.3	394	46.9	12.5
Sept. 5....	262	31.9	93	6.4	393	46.3	13.6
12....	260	32.3	95	6.9	405	44.9	17.6
19....	257	32.4	108	6.4	404	46.4	20.8
26....	257	32.3	114	6.4	410	42.6	23.7
Oct. 3....	256	32.5	113	7.3	409	37.8	22.1
10....	253	32.5	118	7.8	411	36.0	24.8
17....	249	32.4	126	9.1	416	36.4	25.9
24....	246	32.2	138	9.0	425	40.7	28.0
31....	244	31.6	151	10.3	437	38.5	29.0
Nov. 7....	244	31.3	159	11.3	446	38.0	29.6
14....	243	30.8	163	11.0	447	38.7	30.2
21....	240	30.4	168	14.7	453	38.2	30.4
28....	237	29.7	169	16.7	452	35.7	30.6

* Data from U.S. Department of Agriculture, *Commercial Stocks of Grain in Store in Principal U.S. Markets; Canadian Grain Statistics;* and Broomhall's *Corn Trade News.*

TABLE XVIII.—WORLD VISIBLE SUPPLIES, JULY–DECEMBER 1931, WITH COMPARISONS*

(Million bushels)

Month or year	Total	United States	Canada	Argentina	Australia	Afloat for Europe	U.K. ports
	MONTHLY, JULY 1 TO DECEMBER 1, 1931						
July	444	234	113	6.6	34.0	50	6.6
Aug.	463	275	112	7.0	20.0	38	10.6
Sept.	500	320	99	5.9	15.5	46	13.4
Oct.	501	306	118	6.2	10.3	38	22.1
Nov.	528	292	158	5.5	6.3	38	27.4
Dec.	542	284	182	4.8	5.8	36	29.5
	AUGUST 1, 1923–31						
1923.....	157	73	14	4.4	18.0	39	8.2
1924.....	192	72	32	6.8	30.0	42	9.9
1925.....	139	57	23	7.7	8.4	33	9.2
1926.....	146	64	28	4.1	6.2	39	4.3
1927.....	181	66	43	5.9	12.7	46	7.8
Average 1923–27.....	163	66	28	5.8	15.1	40	7.9
1928.....	228	88	69	5.9	9.5	45	10.1
1929.....	370	190	100	16.2	20.0	38	6.2
1930.....	412	222	104	7.0	33.5	39	6.5
1931.....	463	275	112	7.0	20.0	38	10.6
	DECEMBER 1, 1923–31						
1923.....	313	139	110	2.9	1.0	52	7.8
1924.....	326	169	77	4.4	2.0	59	14.3
1925.....	257	110	105	3.7	.7	35	3.8
1926.....	300	133	123	1.8	2.0	37	3.6
1927.....	347	155	121	3.6	.7	57	9.6
Average 1923–27.....	309	141	107	3.3	1.3	48	7.8
1928.....	459	208	169	4.4	8.0	63	5.7
1929.....	553	274	221	7.4	1.8	29	20.6
1930.....	541	278	195	4.0	5.0	46	13.9
1931.....	542	284	182	4.8	5.8	36	29.5

* A joint compilation by Broomhall, the *Daily Market Record,* Minneapolis, and the *Daily Trade Bulletin,* Chicago; here summarized from Broomhall's *Corn Trade News* and the *Daily Trade Bulletin.* Includes some flour stocks. These figures exclude U.S. wheat in store in bond in Canada.

TABLE XIX.—WEEKLY WHEAT AND FLOUR SHIPMENTS, JUNE–NOVEMBER 1931*

(*Million bushels*)

Week ending	Total	Shipments from						To Europe				To Ex-Europe		
		North America	Argentina, Uruguay	Australia	Russia, Danube[a]	India	Other countries[b]	Total	United Kingdom	Continent	Orders	Total	China and Japan	Others
June 6	19.14	9.73	4.51	3.87	.99	...	.03	16.12	3.50	7.70	4.92	3.02	1.38	1.64
13	15.24	6.68	4.67	3.11	.68	.01	.09	11.53	3.21	4.35	3.97	3.71	1.30	2.41
19	17.34	7.54	5.50	3.51	.48	.06	.26	14.01	3.22	4.34	6.45	3.33	1.59	1.74
26	14.39	6.56	3.13	3.79	.66	.02	.23	9.74	3.46	4.10	2.18	4.65	1.32	3.33
July 4	14.66	6.24	2.98	3.98	.54	.22	.69	10.90	4.44	3.22	3.25	3.76	1.58	2.18
11	12.81	5.64	1.49	4.05	.73	.01	.90	10.51	4.63	4.03	1.84	2.30	1.05	1.25
18	10.66	5.10	1.62	2.30	.78	.07	.80	7.33	2.53	3.42	1.39	3.33	1.46	1.87
25	12.32	5.74	2.04	3.07	.99	...	.48	9.60	3.08	3.78	2.74	2.72	.91	1.81
Aug. 1	9.93	4.34	1.22	2.38	1.47	.01	.52	7.68	2.18	2.77	2.74	2.25	.88	1.37
8	15.56	7.89	1.24	2.14	3.60	.23	.46	13.80	3.38	5.63	4.78	1.76	.46	1.30
15	13.34	4.30	1.14	1.58	5.71	...	.61	11.43	2.14	3.96	5.33	1.91	.18	1.73
22	15.89	5.65	1.35	2.10	6.06	...	.74	12.70	2.12	5.31	5.26	3.19	.39	2.80
29	16.61	5.52	1.63	1.78	7.10	.02	.56	13.48	1.47	5.21	6.80	3.13	1.16	1.97
Sept. 5	16.60	6.07	1.91	2.06	6.34	.02	.20	13.20	2.62	4.97	5.61	3.40	1.39	2.01
12	16.15	5.26	1.31	1.25	7.82	...	.51	13.45	2.29	4.14	7.02	2.70	1.46	1.24
19	18.98	7.65	1.17	1.62	8.24	...	.30	14.47	2.00	5.82	6.65	4.51	2.56	1.95
26	15.93	5.56	1.50	2.03	6.57	...	.26	11.20	2.00	3.55	5.65	4.73	1.38	3.35
Oct. 3	15.25	6.42	1.03	1.26	6.36	...	.18	11.58	1.89	6.74	2.95	3.67	1.34	2.33
10	17.46	8.72	1.85	2.19	4.52	...	.18	12.18	3.37	5.10	3.72	5.28	2.69	2.59
17	16.27	5.78	1.20	2.00	7.07	.02	.20	12.62	2.76	5.54	4.33	3.65	1.40	2.25
24	19.06	8.63	1.05	1.71	7.06	.01	.60	14.80	2.65	7.49	4.66	4.26	2.49	1.77
31	14.58	6.91	1.47	.94	4.77	...	.49	11.05	2.60	5.62	2.83	3.53	1.03	2.50
Nov. 7	18.56	10.62	1.91	2.66	2.99	...	.38	13.93	3.55	7.13	3.25	4.63	2.21	2.42
14	17.47	8.94	1.65	1.81	4.56	...	.52	12.10	3.00	6.02	3.10	5.37	2.06	3.31
21	14.02	7.02	1.36	1.11	3.94	...	.58	11.71	2.94	5.26	3.52	2.30	.81	1.49
28	12.56	8.16	.94	.33	2.78	.01	.34	8.78	2.94	4.50	1.34	3.78	1.78	2.00

* Here converted from data in Broomhall's *Corn Trade News*. Broomhall's weekly figures do not always check with his cumulative totals, which presumably include later revisions. Shipments from "other countries" apparently include a part of the shipments from the Danube and Russia in most weeks.

[a] Russia, Danube, and Black Sea.

[b] North Africa, Chile, Germany, Persia, etc.

TABLE XX.—NET EXPORTS OF WHEAT AND FLOUR, MONTHLY FROM JUNE 1931*

(*Million bushels*)

Month	Major exporters (ex-Russia)					Danubian exporters					Poland	Algeria	Tunis	India
	United States	Canada	Argentina	Australia	Total	Hungary	Jugo-Slavia	Roumania	Bulgaria	Total				
June	10.66	22.98	20.94	16.87	71.45	1.39	.00	...	.68	2.07[a]	.24	...	2.24	(.51)[b]
July	15.81	14.08	6.29	12.44	48.62	.20	.67	.43[c]	.89	2.19	.26	...	1.60	(.51)[b]
Aug.	10.56	14.24	5.43	8.03	38.26	1.32	4.35	...	.45	6.12[a]	.14	...	1.28	.02
Sept.	10.62	16.82	6.93	10.49	44.86	2.06	1.72	...	1.65	5.43[a]	.20	...	.52	.15
Oct.	13.69	21.41	5.56	7.55	48.21	3.42	1.55	5.83	...	10.80[d]	.17	...	.21	.26
Nov.	12.51	29.58	....	....	....	....	....	...	...	....	...	...	...	...

* Data from official sources and International Institute of Agriculture. Dots (...) indicate that data are not available.

[a] Total from Hungary, Jugo-Slavia, and Bulgaria.

[b] Net imports.

[c] Wheat only.

[d] Total from Hungary, Jugo-Slavia, and Roumania.

TABLE XXI.—NET IMPORTS OF WHEAT AND FLOUR MONTHLY FROM JUNE 1931*

(Million bushels)

Month	British Isles			Principal continental importers					Netherlands	Switzerland	Austria	Czecho-Slovakia	Greece	Spain
	United Kingdom	Irish Free State	Total	Italy	Germany	France[a]	Total	Belgium						
June	16.70	1.46	18.16	10.75	4.34	8.52	23.61	5.01	3.11	1.22	1.83	1.37	2.96	(.02)[b]
July	23.86	1.63	25.49	3.14	4.42	11.22	18.78	5.41	2.46	1.70	2.62	1.20	1.79	(.01)[b]
Aug.	23.07	1.82	24.89	.71	1.74	7.23	9.68	3.81	1.79	1.72	.66	1.67	1.78	(.01)[b]
Sept.	31.89	1.89	33.78	.56	(.56)[b]	5.14	5.70[c]	3.98	3.17	2.08	.82	2.47	2.24	...
Oct.	28.59	2.31	30.90	.61	(.38)[b]	7.00[d]	7.61[c]	5.05	1.83	2.62	...	2.50	....	...
Nov.	22.42	....	.....	....	....	....	....	....	....	....	...	....	....	...

Month	Scandinavia				Three Baltic States				Lithuania	Portugal	Egypt	Japan	New Zealand	Union of South Africa
	Denmark	Norway	Sweden	Total	Finland	Estonia	Latvia	Total						
June	1.72	.84	.19	2.75	.42	.06	.10	.58	.00	1.31	.62	2.68	.05	.16
July	.90	.66	.26	1.82	.41	.06	.08	.55	.00	.52	.71	1.40	.05	...
Aug.	.91	.60	.34	1.85	.41	.07	.07	.55	(.01)[b]	.51	.38	.67	.08	...
Sept.	2.12	.42	.64	3.18	.42	.04	.10	.56	.00	.21	...	.59	...	...
Oct.	....	...	...	4.38	...	...	...	.80	...	...	...	1.58	...	...
Nov.	....	...	...	....	...	...	...	...	...	...	...	...	...	...

* Data from official sources and International Institute of Agriculture. Dots (...) indicate that data are not available.

[a] Net imports in "Commerce général."

[b] Net exports.

[c] Sum of net imports into France and Italy.

[d] Net imports in "Commerce spécial."

TABLE XXII.—UNITED STATES WHEAT AND FLOUR TRADE IN JULY–NOVEMBER, 1925–31*

(Thousand bushels)

Year	U.S. EXPORTS OF WHEAT GRAIN						U.S. EXPORTS OF FLOUR AS WHEAT					
	July	Aug.	Sept.	Oct.	Nov.	July–Nov.	July	Aug.	Sept.	Oct.	Nov.	July–Nov.
1925	5,295	7,901	9,391	4,354	4,696	31,637	3,494	3,931	3,601	4,556	3,925	19,507
1926	16,091	29,075	23,700	17,589	14,340	100,795	3,569	6,132	7,018	6,232	6,047	28,998
1927	8,397	23,418	33,776	29,236	20,731	115,558	3,703	4,943	6,016	7,111	6,271	28,044
1928	4,153	10,374	17,978	22,058	10,562	65,125	3,040	4,380	4,793	6,509	5,633	24,355
1929	8,691	12,094	13,104	8,767	9,977	52,633	5,101	5,056	5,464	6,159	5,178	26,958
1930	11,934	18,646	12,716	6,311	3,266	52,873	4,442	5,767	6,635	6,250	5,436	28,530
1931	12,731	8,901	8,397	11,875	.....	.....	4,723	3,008	3,314	3,696[a]	4,033[a]	18,774
	U.S. IMPORTS OF WHEAT GRAIN						U.S. NET EXPORTS OF WHEAT AND FLOUR					
1925	722	700	1,370	3,049	2,892	8,733	8,067	11,161	11,621	5,876	5,783	42,508
1926	846	686	1,469	1,816	2,443	7,260	18,822	34,529	29,294	22,008	17,946	122,599
1927	476	839	738	1,625	2,131	5,809	11,623	27,524	39,053	34,720	24,870	137,790
1928	2,068	1,886	1,480	1,900	2,580	9,914	5,127	12,870	21,293	26,665	13,617	79,572
1929	1,226	346	398	367	788	3,125	12,577	16,806	18,178	14,569	14,375	76,505
1930	1,336	1,352	2,786	2,757	1,608	9,839	15,041	23,060	16,566	9,803	7,092	71,562
1931	1,644	1,348	1,093	1,871	.....	.....	15,810	10,560	10,617	13,694	12,509	63,190

* Official data from *Monthly Summaries of Foreign Commerce* and direct from the Bureau of Foreign and Domestic Commerce.

[a] Net exports of flour as wheat.

TABLE XXIII.—PRICES OF REPRESENTATIVE WHEATS IN BRITISH MARKETS AND EXPORTING COUNTRIES, WEEKLY FROM JUNE 1931*

(*U.S. cents per bushel*)

Week ending	U.K.	Liverpool (Tuesday prices)				United States						Canada		Argentina
	British parcels	No. 1 Manitoba	No. 3 Manitoba	Argentine Rosafé	Australian F.A.Q.	All classes and grades; 6 markets	No. 2 Hard Winter (Kansas City)	No. 2 Red Winter (St. Louis)	No. 1 Northern Spring (Minneapolis)	No. 2 Amber Durum (Minneapolis)	No. 1 Western White (Seattle)	Weighted average (Winnipeg)	No. 3 Manitoba (Winnipeg)	78-kilo (Buenos Aires)
June 6....	67	74	65	62	70	71	73	76	75	69	62	58	52	45
13....	67	75	68	63	69	68	73	74	73	62	58	58	52	46
20....	65	74	67	61	69	71	74	82	80	65	57	57	52	45
27....	68	77	69	62	70	64	60	74	70	63	56	60	54	46
July 4....	65	76	68	60	68	52	49	57	72	60	57	58	54	46
11....	64	73	66	58	68	48	46	50	69	68	62	55	51	45
18....	61	69	62	57	66	45	43	48	64	63	57	54	49	43
25....	61	71	63	58	63	47	45	49	63	61	56	53	48	42
Aug. 1....	60	68	60	56	60	46	43	47	58	58	52	51	46	40
8....	55	67	59	55	60	45	42	46	59	59	50	48	44	38
15....	55	70	62	56	59	49	44	47	67	67	49	52	47	39
22....	54	70	60	56	58[a]	51	44	47	64	70	49	53	47	39
29....	54	70	60	55	58	54	42	48	65	75	48	52	46	39
Sept. 5....	53	67	58	55	58	54	41	45	66	76	48	50	44	38
12....	54	66	58	54	62	56	42	48	68	71	49	50	44	38
19....	57	66	57	55	62	59	45	48	74	74	50	49	44	38
26....	52	65[a]	54	51	60	55	43	47	68	73	52	48	42	37
Oct. 3....	55	64[a]	56	50	61	53	43	47	67	71	53	45	40	37
10....	54	62	54	51	61	53	42	46	67	72	53	46	40	37
17....	58	68	58	54	62	59	47	50	70	78	54	48	43	42
24....	59	71	62	56	66	59	48	52	70	80	59	52	47	43
31....	62	72	63	57	67	62	52	56	74	83	66	55	51	47
Nov. 7....	70	83	76	68	n.q.	69	60	63	83	93	76	61	57	51
14....	70	82	74	66	73	72	62	65	82	91	74	56	53	50
21....	66	78	70	66	69	67	58	61	77	82	67	54	52	49
28....	61	71	65	60	66	64	54	60	76	80	65	49	47	44

* British parcels prices are averages of all sales of wheat parcels in British markets as reported in the *London Grain, Seed and Oil Reporter*, converted at par of sterling exchange through September 5, and thereafter at weekly average noon cable transfer rates of sterling exchange, New York on London. Liverpool prices are Tuesday prices of the same week as given in Broomhall's *Corn Trade News*, converted at Tuesday exchange rates, New York on London. United States prices are weekly weighted averages for weeks ending Friday as reported in *Crops and Markets* and *Foreign Crops and Markets*. Canadian weighted average prices are our computation as described in WHEAT STUDIES, March 1929, V, No. 5, except that after August 8, inspections for weeks ending Friday instead of Monday were used, and conversions to United States currency were made at weekly average exchange rates; Winnipeg prices of No. 3 Manitoba are weekly average prices as given in the *Canadian Grain Statistics*, converted to United States currency after August 8. Argentine, 78-kilo prices are weekly averages of daily prices as given in *Revista Semanal*, converted at weekly average exchange rates. No quotation is signified by "n.q."

[a] London prices.

TABLE XXIV*a*.—MONTHLY AVERAGE PRICES OF DOMESTIC WHEATS IN GERMANY AND FRANCE, JUNE–NOVEMBER, 1926–31*

(*U.S. cents per bushel*)

Year	Germany (Berlin)						France (Paris)					
	June	July	Aug.	Sept.	Oct.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
1926.....	n.q.	n.q.	175	171	172	178	...[a]	...[a]	170	180	191	195
1927.....	196[b]	n.q.	178[c]	168	162	157	194	185	180	168	160	158
1928.....	166	160	149	136	138	137	191	182	166	164	167	166
1929.....	139	162	159	147	150	151	167	170	158	152	153	150
1930.....	195	187	163	155	147	160	140	171	180	175	173	176
1931.....	176	155	134	136	136	145[d]	199	186	172	163	165	162

* Data for Germany are monthly average prices as given in *Wirtschaft und Statistik*, and for France, averages of daily prices of "Blés indigènes" in Paris (Marché libre) as given in the *Bulletin des Halles;* converted into United States currency at monthly average exchange rates.

[a] Not available to us.
[b] First half of June.
[c] Second half of August.
[d] Preliminary.

TABLE XXIV*b*.—MONTHLY AVERAGE PRICES OF DOMESTIC WHEATS IN ITALY AND GREAT BRITAIN, JUNE–NOVEMBER, 1926–31*

(*U.S. cents per bushel*)

Year	Italy (Milan)						Great Britain					
	June	July	Aug.	Sept.	Oct.	Nov.	June	July	Aug.	Sept.	Oct.	Nov.
1926.....	220	198	185	203	221	220	177	184	176	146	148	162
1927.....	199	180	175[a]	173	177	190	165	164	163	143	137	132
1928.....	210	177	172	181	188	187	143	141	133	119	124	128
1929.....	191[a]	177	174	175	184	185	125	135	152	129	124	122
1930.....	202	177	180	177	170	163	111	108	109	95	91	87
1931.....	143	131	126	133	...	...	78	82	83	58	59	67

* Data for Italy are averages of Friday prices (Saturday prices after August 23, 1930) of soft wheat as given in *International Crop Report and Agricultural Statistics*, and for Great Britain, averages of weekly average *Gazette* prices as given in the *Economist*, London; converted into United States currency at monthly average exchange rates.

[a] Three-week average.

TABLE XXV.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1926–27*

(*Million bushels*)

Crop year	Domestic supplies			Domestic disappearance				Carryover and net exports				
	Inward carry-over	New crop	Total	Milled (net)	Seed use	Other uses[a]	Total[b]	Total	Outward carry-over	Net exports		
										Total	To Nov. 30	From Dec. 1
	A. UNITED STATES (July–June)											
1926–27.....	99	831	930	501	84	18	603	327	118	209	125	84
1927–28.....	118	878	996	503	90	86	679	317	124	193	139	54
1928–29.....	124	915	1,039	511	84	57	652	387	242	145	81	64
1929–30.....	242	813	1,055	509	82	30	621	434	291	143	78	65
1930–31.....	291	858	1,149	487	77	150	714	435	319	116	73	43
1931–32[c].....	319	892	1,211	530	73	163	766	445	310	135	65	..
	B. CANADA (August–July)											
1926–27.....	36	407	443	43	39	21	103	340	48	292	109	183
1927–28.....	48	480	528	42	42	34	118	410	78	332	113	219
1928–29.....	78	567	645	44	44	47	135	510	104	406	190	216
1929–30.....	104	305	409	43	44	26	113	296	111	185	70	115
1930–31.....	111	398[d]	509	44	39	35	118[d]	391	133	258	120	138
1931–32[c].....	133	298	431	44	42	40	126	305	70	235	82	...
	C. ARGENTINA (August–July)											
1926–27.....	67	230	297	57	25	3	85	212	69	143	8	135
1927–28.....	69	282	351	60	27	—9	78	273	95	178	22	156
1928–29.....	95	349	444	61	25	4	90	354	130	224	40	184
1929–30.....	130	163	293	60	26	—8	78	215	65	150	72	78
1930–31.....	65	239	304	61	21	14	96	208	85	123	14	109
1931–32[c].....	85	219	304	62	21	6	89	215	65	150	...	...
	D. AUSTRALIA (August–July)											
1926–27.....	17	161	178	31	12	7	52	126	23	103	7	96
1927–28.....	23	118	141	32	15	—4	43	98	27	71	12	59
1928–29.....	27	160	187	29	15	7	51	136	27	109	18	91
1929–30.....	27	126	153	32	18	0	50	103	40	63	14	49
1930–31.....	40	213	253	32	13	11	56	197	45	152	24	128
1931–32[c].....	45	170	215	32	13	5	50	165	25	140	...	...

* Data from Appendix Tables XX, XXXI, and XLI–XLIV, WHEAT STUDIES, December 1931, and official sources, except for all but one of the last nine columns for 1931–32, which present our tentative forecasts.

[a] Derived from total domestic disappearance and the sum of the quantities milled for food and used for seed. It represents the algebraic sum of feed, waste, and errors in other estimates.

[b] Derived from total supplies and the sum of the outward carry-overs and net exports of wheat and flour.

[c] Tentative and preliminary approximations.

[d] Probably underestimated by 15 to 20 million bushels.

WHEAT STUDIES *of the* FOOD RESEARCH INSTITUTE

Special studies (exclusive of review and survey numbers) in Volumes V–VIII are listed below with prices.

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