# WHEAT STUDIES

OF THE

# FOOD RESEARCH INSTITUTE

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## SURVEY OF THE WHEAT SITUATION

### AUGUST TO NOVEMBER, 1930


STRIKINGLY low and sharply declining international wheat prices featured the period under review. A moderately large world wheat crop (ex-Russia) was added to a heavy inward carryover; to these abundant supplies were added shipments from Russia of record size for post-war years; the disposition to carry the large wheat supplies in the Western World continued weak in the downward phase of the world trade cycle. The statistical position for the crop year 1930–31 is decidedly easy, though little reason appears to suggest that wheat supplies available to the Western World are heavier than they were in 1928–29. Import requirements for 1930–31 seem to be moderately large, export surpluses decidedly large.

The data now available suggest that the volume of international trade in wheat and flour in 1930–31 may approximate 825 million bushels. If so, year-end stocks will be heavy in Canada, Argentina, Australia, and the Danube basin; the outcome in the United States depends chiefly upon the extent to which wheat will be fed to animals, but present indications do not suggest a reduction of stocks greater than 50 million bushels. Since it is difficult to see how selling pressure on the international wheat market can be evaded in the next three or four months, unless ex-European countries import heavily or unless the world trade cycle enters its rising phase, the immediate outlook hardly seems to favor sharply rising prices. The future course of world prices is of crucial significance to the governmental agencies which in the United States have held wheat prices above export parity since last November.



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.

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# SURVEY OF THE WHEAT SITUATION

## AUGUST TO NOVEMBER, 1930

During the period under review, wheat prices on the British market sank to a level that can be described as one of the lowest reached in the past three-fourths of a century, and much the lowest since the war. Canadian, Argentine, and Australian prices stood far enough below British prices to permit wheat to flow freely to export; but prices in the United States were held above export parity largely through stabilizing operations undertaken by the Grain Stabilization Corporation. Futures prices at Liverpool declined about 44 cents between August 1 and December 23. Stocks of wheat remained heavy; pessimism, induced partly by prevailing depression in business and attendant features, pervaded the wheat markets and weakened the disposition to hold stocks; there was severe pressure of cash wheat on the international market, in considerable part the result of unexpectedly heavy shipments of wheat from Russia. The strikingly low level of international wheat prices cannot be ascribed to an unprecedentedly large world wheat crop in 1930, for the crop of 1928 was larger, though perhaps a trifle smaller if one includes Russian production.

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Bumper crops were harvested in the European countries that lie upon the western boundaries of Russia, probably in Russia itself and in the Scandinavian and Baltic countries, and in India, Australia, and the Union of South Africa. The crops of France, Italy, and the British Isles were comparatively small. Partly because import requirements for 1930–31 are fairly large as a result of the moderate wheat crop of European importing countries, and partly because Russia pressed wheat for shipment, the volume of international trade at 271 million bushels (Broomhall's shipments) was relatively large in August–November. Only in August–November 1928 were shipments larger. Russia shipped about 63 million bushels, some 23 per cent of the total, and the largest quantity exported since before the war. Canada and Australia shipped freely, but Argentine and United States exports were small. Imports were notably heavy into the United Kingdom, Italy, and some smaller countries; rather heavy stocks of imported wheat were built up in many European ports.

For the year as a whole, exportable surpluses seem to exceed import requirements by a substantial margin, even on the assumption that Russian exports will be much smaller in the ensuing months than they were in August–November, and that the United States will furnish only small quantities. To judge by what appear to be import requirements and export surpluses, and by the relationship of August–November shipments to yearly totals in other post-war years, the volume of international trade in wheat and flour in 1930–31 may reasonably be expected to approximate 825 million bushels as measured by net exports, rather more than less. Exports as large as this would leave heavy year-end stocks in Canada, Argentina, Australia, and the Danube basin. Despite small exports, the carryover in the United States may be reduced from 275 to 225 million bushels in the course of the year—by more than 50 million bushels if as much wheat is fed to farm animals (on acount of the shortage of feedstuffs, especially corn) as farmers and others have expressed the intention of feeding, but by less than 50 million if the intentions are executed only by 50 per cent. Total year-end stocks in the four major exporting countries and in and afloat to Europe ex-Russia will probably stand at about as high a level as at the beginning of the year, but not so high as at the end of 1928–29.

On the assumptions that the winter

weather will not be unusual, that Russian exports will not continue to be large, that standing official crop estimates will not be changed appreciably, and that business conditions will at best show only slight improvement, the outlook for the next three or four months does not appear to favor a substantial increase in international wheat prices. It is difficult to see how selling pressure on the international market can be avoided continuously in view of the accumulation of import wheat stocks in Europe and of the exportable surpluses in Argentina, Australia, and Canada. The situation may not be as unfavorable, however, as is suggested by Broomhall's calculation of the margin between export surpluses and import requirements. It is possible that in January–March or January–April prospective heavy shipments can be absorbed most of the time without striking congestion in western Europe. If so, prices could at least display firmness such as they have not shown in August–November, though at the moment continued weakness seems equally probable. Later in the crop year, with the peak of the Southern Hemisphere export movement past, the situation may be more favorable for a substantial advance of prices. A good deal will depend, however, upon the movement of wheat in trade during December–March, upon developments in the trade cycle, and upon changes in new-crop prospects.

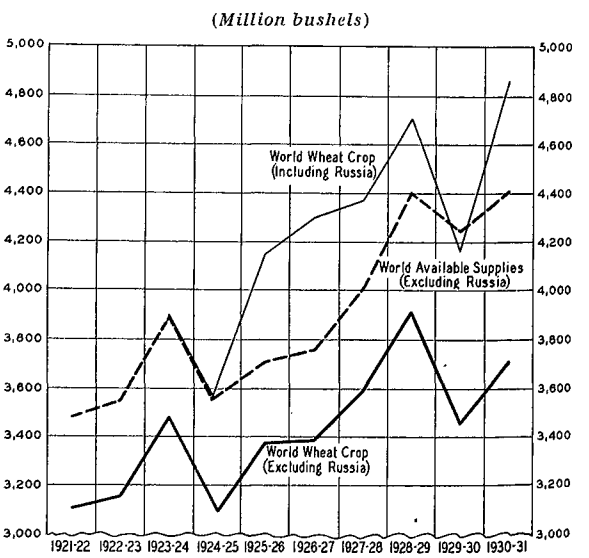
## I. CEREAL CROPS OF 1930

The late growing and early harvesting weather was generally favorable for the wheat crops in North America, although in October rain, snow, and low temperatures interfered with threshing operations in Canada. In Europe weather was decidedly unfavorable for the ripening and harvesting of grains in some of the important producing sections, especially western Europe. The wheat crops of Australia and Argentina, on the other hand, progressed well during the past four months, though drought in eastern Australia caused some anxiety during the last of September and early in October, and in November rust appeared in Argentina. On the whole, there has been no striking change since last August in the outlook for the size of the world wheat crop ex-Russia, though it is now estimated to be a little larger than it was thought to be in August. The first official estimate of the Russian crop exceeded the expectations of observers in the Western World.

### Wheat Crops and Their Distribution

The world wheat crop of 1930 (excluding Russia, China, and Asia Minor) appears at present to approximate 3,695 million bushels.[1] At this figure, as is apparent from Chart 1, the world crop appears to be of about normal size, trend considered. It is about 235 million bushels larger than the short crop of 1929 and about 215 million bushels smaller than the huge crop of 1928.

Chart 1.—World Wheat Crops Excluding and Including Russia, and World Available Supplies Excluding Russia, Annually from 1921–22*




* Crop statistics from Appendix Table II; for estimates of the inward carryovers in the four major exporting countries and in and afloat to Europe, which are added to the world wheat crops ex-Russia to give figures for world available supplies, see Appendix Table XXVII in Wheat Studies, Vol. VII, No. 2, p. 178. The figures for 1930–31 as plotted in the chart are slightly too high.

[1] The United States Department of Agriculture's estimate, which includes a few more countries than our own, is 3,784 million bushels, as compared with 3,495 in 1929.

As compared with post-war crops prior to 1928, the outturn of 1930 ranks second to none.[1]

In view of the strikingly large Russian crop of 1930 an estimate of world production, exclusive of Russian production, has less significance this year than usual. When standing estimates of the post-war crops of Russia are added to world production figures (ex-Russia, China, and Asia Minor) it is apparent that the world wheat crop of 1930 including Russian production was the largest of post-war years, perhaps slightly the largest ever harvested. Many observers believe that the Russian crop of 1930 was overestimated and that the world outturn of 1930 did not exceed the big outturn of 1928. But, even if the Russian crop was not overestimated, even if Russian production in 1930 was actually 400 million bushels larger than in 1929, there is no good reason to believe that the exportable surplus from the 1930 crop is 400 million bushels larger than that from the 1929 crop.

In distribution the crop of 1930 appears to be fairly normal.[2] In 1930 none of the exporting countries of the world harvested such a distinctly short crop as did Argentina and Canada in 1929; moreover, with the exception of India and Australia, none harvested an abnormally large crop. Canada contributed a slightly smaller proportion of the total world crop in 1930 than is her wont, Argentina a slightly larger proportion. But while the Argentine outturn of 1930 appears to be of good size, it apparently fell distinctly below that of 1928, and perhaps also below that of 1927. In the Danube basin the wheat crop of 1930 was the largest of the decade with the exception of 1928, though it fell not far above the line of post-war trend. The importing countries of Europe harvested about 27.1 per cent of the total world crop (ex-Russia, China, and Asia Minor) in 1930; by way of contrast, those countries produced some 33.5 per cent of the crop in 1929.

### Rye and the Feed Grains

Crops of rye and the feed grains in Europe (ex-Russia) and the major ex-European countries from which Europe secures imports of those cereals were, on the whole, considerably smaller in 1930 than in 1929.[3] In those countries the rye outturn of 1930 was only slightly smaller than in 1929, and presumably stands above the approximate trend of production. With carryovers into the present season large, and the Russian crop of good size, the total supply of rye available for consumption in Europe in 1930–31 must be strikingly large, perhaps almost as large as in 1929–30.

European feed grain crops were relatively much shorter in 1930 as compared with 1929 than was the rye outturn; nevertheless, available supplies are probably of moderate size. The 1930 potato crop of Europe was notably small in most countries, Germany and Poland excepted. In Europe and the major countries which send feed grains to the European markets, barley production was apparently about up to its approximate line of trend, although some 50 million bushels smaller than production in 1929; and the corn crop may perhaps be described as of fair average size in spite of the fact that it fell around 140 million bushels short of the crop harvested in the preceding year. The oats outturn of those countries, however, appears not only to have been some 250 million bushels smaller than in 1929, but also to have fallen markedly below trend. The carryover of feed grains, however, was perhaps rather large at the close of 1929–30. On the British markets, the average spreads between wheat and the feed grain prices have not been appreciably smaller than the fairly wide average spreads of 1929–30. In the United States, on the other hand, the position of the feed grains appears relatively tight, largely as a result of the exceptionally small corn crop, the smallest since 1901.

### The United States

The United States wheat crop of 1930 was somewhat above average in size. Larger crops were harvested during the preceding decade in 1922, 1924, 1927, and 1928, whereas smaller ones were secured in the other six years. The crop of 1930, recently estimated at 851 million bushels,[4] was har-

[1] See Appendix Table II.

[2] See Appendix Table II.

[3] See Appendix Table III.

[4] This represents an increase of 30 million bushels over the estimate of August 1.

vested from an area of 59.2 million acres. This area is large in comparison with those harvested in the years 1924–28, but is over 2 million acres smaller than that harvested in 1929—smaller mainly as a result of heavier abandonment in 1930. The yield per acre (14.4 bushels), like the total production, was neither strikingly large nor small in comparison with earlier post-war years; it had been exceeded in four of the preceding ten years, and was only slightly larger than the 1920–29 average of 14.2 bushels.

In distribution by classes of wheat the crop of 1930 was notable for the large outturn of hard red winter wheat, which was exceeded only by the outturns of 1924, 1926, and 1928. The crop of soft red winter wheat was likewise of good size, but it had been exceeded in the first four years of the preceding decade as well as in 1926. The outturns of hard red spring and durum wheats, on the other hand, were moderately small in 1930, both being considerably below the average for post-war years, and even farther below the 1925–29 average.

As regards quality the crop of 1930 appears to be unusually excellent. The crops of both hard red winter and hard red spring wheat are of exceptionally high protein content; consequently protein premiums have been unusually small during the first four months of the season. The moisture content of the crop is notably low as a result of the dry weather of the growing and harvesting periods. In weight per measured bushel, spring and winter wheat combined are reported to average about 58.9 pounds per bushel.[1] This figure is somewhat higher than the corresponding figures for 1928 and 1929, mainly because the winter-wheat crop of 1930 was far above the ten-year average of 58.2 pounds in natural weight. Spring wheat, on the other hand, was of lower weight in 1930 (57.6 pounds) than in 1928 or 1929, but was slightly above the ten-year average of 57.2 pounds per bushel. The general quality of the crop of 1930 has been expressed officially as 91.5 per cent, in comparison with a ten-year average (1919–28) of 88.4 per cent, and an estimate for 1929 of 87.5 per cent.[2]

[1] Computed from data given in *Crops and Markets*, November 1930, and *Crop Report* of the U.S. Department of Agriculture, December 17, 1930.

[2] *Crop Report* of the U.S. Department of Agriculture, November 10, 1930. According to the rating scale used by the Department, 100 per cent represents a crop of high medium grade.

[3] Report of the Dominion Bureau of Statistics, October 11, 1930.

### Canada

The Canadian crop of 1930 was officially estimated on November 13 at 396 million bushels. At this figure the crop of 1930 was about equal to the crops of 1922 and 1925, and, considering trend, ranks as one about of fair average size. The November official estimate was larger than the general run of private estimates current in mid-August. During August and September the weather in the Prairie Provinces was exceptionally favorable for ripening and harvesting, though the late crops in Manitoba and eastern Saskatchewan suffered some reduction from rust infestation. Early in October, however, wet, cold weather, accompanied by snow, interfered with threshing operations. Some 45 or 50 million bushels were officially reported to remain unthreshed about the middle of November; but on December 8, the Northwest Grain Dealers Association placed the unthreshed quantity at only 9 million.

The area sown for the 1930 crop, 24.9 million acres, was the largest of the decade, with the exception of that of 1929 (25.3 million acres). As in 1929, the crop of 1930 was reduced in size by unfavorable weather, mainly drought, in June and July. The yield per acre was, accordingly, relatively low (15.9 bushels); but it was considerably higher than in 1924 or 1929.

The crop of 1930 appears to be of excellent quality, but not quite so good as the crop of 1929. At harvest time the quality of the 1930 crop was officially reported to be equal to that of 1929 and to the average for the period 1920–29.[3] But as a result of the unfavorable threshing weather, inspections of wheat in the Western Division during September–November indicated that the proportion of the crop grading No. 3 Northern or better is lower than it was last year; and that the proportion containing excessive moisture is a good deal larger. The protein content of the crop of 1930 ap-

parently averages around 13 per cent;[1] this is approximately equal to the average protein content of the 1929 crop, and is relatively high as compared with other years. The quality of the gluten is said to be exceptionally good. The average weight per bushel of the 1930 crop appears to be low, lower even than in 1929; as a result the flour yield is likewise low. Baking tests, however, have indicated that the baking quality is good, and that it is equal, if not superior, to that of last year.

### EUROPE

Standing estimates of the wheat crops of European countries indicate that the total European (ex-Russian) outturn of 1930 is about 50 million bushels smaller than the crop of 1928, and over 100 million bushels smaller than the huge outturn of 1929. The marked reduction in the 1930 crop, as compared with the crops of the preceding two years, was due in the main to a striking reduction in the outturn of the group of European importing countries; the outturn of that group approximated only 1,000 million bushels in 1930 (a crop of fairly normal size, trend considered) as compared with 1,038 million in 1928 and 1,158 million in 1929.[2] The Danubian countries, on the other hand, harvested a large crop in 1930; at 354 million bushels, the crop is the second largest of the decade, about 13 million bushels smaller than that of 1928.

In spite of the fact that the European importing countries, as a group, harvested in 1930 a crop which appears relatively small in comparison with the outturns of 1928 and 1929, a number of the individual importing countries secured crops of record (postwar) size. Czecho-Slovakia, Poland, Lithuania, Latvia, Finland, Sweden, Portugal, and perhaps Estonia all harvested crops which rank as the largest of the decade; and the 1930 wheat crops of Germany and Switzerland were each exceeded in only one other year.[3] The large size of most of these crops resulted from a combination of large planted areas and high yields per acre. Czecho-Slovakia, Lithuania, Latvia, Sweden, and Germany had larger areas devoted to wheat in 1930 than in any other year of the decade, while Poland and Finland had wheat areas equal to the largest of the preceding ten years.[4] All of the countries harvesting unusually large crops had high yields per acre in 1930, but only Lithuania was reported to have a record postwar yield; and only Sweden had a yield which was exceeded but once in the decade.

Spain, Belgium, and Austria secured crops of about normal size in 1930; but the crops of France, Italy, the United Kingdom, and Holland were decidedly small. The decrease in the French and Italian crops between 1929 and 1930, some 166 million bushels,[5] more than accounts for the decrease in the wheat production of the group of European importing countries between the same two years. The French crop of 1930, estimated at 232 million bushels, is the smallest of the decade, with the exception of the crop of 1926. The factor of major importance in accounting for the small crop was the low yield per acre, the yield in 1930 ranking with that in 1926 as the lowest of the decade. The Italian crop was not so strikingly small as the French outturn; nevertheless, at 213 million bushels it appears relatively small in comparison with most of the crops since 1923. Here there was an approximately average yield per acre on an acreage about equal to that of 1929 but somewhat smaller than the areas harvested in the preceding three years. In both the United Kingdom and Holland the yields per acre were low; but while the acreage harvested was relatively small in the United Kingdom, it was relatively large in Holland.

Of the Danubian countries, Roumania and Bulgaria both had record yields per acre, and both harvested crops of record size; the estimate of the Roumanian crop now stands at 131 million bushels, and that

[1] Canadian Grain Research Laboratory, *Report on the Milling and Baking Characteristics*, and Canadian Wheat Pool Research Department, *Preliminary Report on the Quality of the 1930 Wheat Crop.*

[2] See Appendix Table II.

[3] Some private advices suggest that the German crop is somewhat underestimated, but it appears improbable that later revisions will raise the estimate of the 1930 crop as high as 142 million, which is the standing estimate for 1928.

[4] Acreage figures are not yet available for Norway, Denmark, Portugal, Switzerland, or Estonia.

[5] This figure is based upon the assumption that France harvested a crop of 350 million bushels in 1929.

of the Bulgarian crop at 61 million. Jugo-Slavia and Hungary did not fare so well. The crop of Jugo-Slavia was large (89 million bushels) but was exceeded by the crops of 1928 and 1929, while the Hungarian crop (73 million bushels) was the smallest since 1925, and presumably somewhat below the approximate trend of production. The large Danubian crop appears to be attributable to a fairly large harvested acreage, and to a moderately high average yield per acre.

Heavy rains in western and central Europe during the first three weeks of August, and during part of September, reduced the average quality of the crops in those areas, and caused appreciable quantities of wheat to be unfit for milling. In quality the French crop of 1930 is strikingly lower than that of 1929. An official French report on natural weight indicates that the crop of 1930 averages only 55.9 pounds per bushel, the lowest of any crop in at least nine years. Trade reports suggest that the French wheat is markedly deficient in gluten this year, and that either strong wheats must be mixed with it in milling, or chemicals must be employed to supply the deficiency. In addition, the moisture content of the French crop frequently has been mentioned as excessive. The German wheat is also of relatively poor quality, though apparently not so poor as the French; only 37 per cent of the German winter-wheat crop of 1930 weighed approximately 59 pounds or over, as compared with 57 per cent in 1928, and 61 per cent in 1929. The weight of the German crop of 1930 was not, however, the lowest of recent years, for in 1927 only 29 per cent of the winter wheat weighed 59 pounds or over. The British, Italian, Dutch, and Belgian crops are likewise reported to be of light weight, and of much lower quality than the crops of 1929. In the Danube basin the quality of the wheat harvested in 1930 is apparently not so strikingly poor as the quality of the wheat in western Europe; neither, on the other hand, is it unusually excellent. Reports concerning the quality of the grain in the various Danubian countries have been somewhat conflicting; but it appears moderately certain that as a whole the crop is of fairly good quality.

According to the official estimate, the Russian outturn of 1930 amounted to approximately 1,157 million bushels, an estimate higher by some 200 million bushels than that of any other post-war year. Some private reports suggest that the 1930 crop has been overestimated, but the facts are not clear.[1] The heavy Russian wheat exports during August–December suggest that the 1930 crop was unusually large and that it presumably ranks as one of the largest, probably the largest, of post-war years even if it actually falls somewhat short of the official estimate; and one is struck by the fact that every European country geographically adjacent to Russia seems to have had a record or near-record yield per acre in 1930. The large Russian crop is reported to have resulted from both a high average yield and a large harvested area. Advices regarding the quality of the Russian crop have varied markedly; apparently some portions of the crop are of very good quality, others much poorer.

### Other Northern Hemisphere Countries

Except for the Indian crop, none of the crops of the other Northern Hemisphere countries was outstandingly large or small. In India the crop of 1930, still estimated at 387 million bushels, was the largest on record; it resulted mainly from an unusually high yield per acre. Japan and Chosen harvested crops of fairly normal size (trend considered), the Japanese crop of 1930 being exceeded only by the outturns of 1928 and 1929; the rice crop of Japan was very large. The Chinese wheat crop, as a whole, was apparently of good size, although Shensi and some of the other provinces had outturns which have been reported as below normal. In China, crops other than wheat also appear to have been moderately large. Food supplies on the Great Plain have been reported as "probably the best in years."[2]

[1] We know of no way to adjudge impartially the accuracy of the Russian official crop estimates. There seems to be no reason to question the capabilities of Russian statisticians or methods of estimation. Nevertheless it must be said that recent developments involving the removal from office of Russian statisticians of good repute in the outside world are not at the moment conducive to the acceptance of the official crop estimate.

[2] *Foreign Crops and Markets*, September 29, 1930, p. 435.

The three French dependencies of northern Africa harvested a wheat crop of moderate size in 1930, even though it was some 17 million bushels smaller than the large crop of 1929. In Morocco and Tunis the outturns were decidedly small; but in Algeria, the most important producer of the three, wheat production was fairly large. The Mexican crop of 1930 was about normal in size. The Egyptian crop was above average in size, but appreciably smaller than those of 1927 and 1929.

### The Southern Hemisphere

From present indications, the Southern Hemisphere crop of 1930 is larger than any other within a decade, except that of 1928. Australia has apparently obtained a record harvest from the largest wheat area ever planted; and recent reports suggest that Argentina has secured an outturn which has been exceeded in size only twice in the preceding ten years.

Prospects for the Australian crop have been mainly favorable ever since the first week of July, when general rains allayed fears regarding possible damage from drought. The first official estimate of the wheat acreage of 1930, which at the time was regarded as too high by certain observers, has since been raised; the estimate now stands at 18.2 million acres. If the estimate is correct, over 3 million more acres were sown to wheat in 1930 than in any other year of the decade. The crop developed under moderately favorable conditions during August–December. However, some deterioration, especially in the eastern states, resulted from lack of sufficient rainfall and from drying winds in September. In view of this deterioration and also the general downward trend in the yield per acre in Australia, present expectations are not for a distinctly high yield per acre in 1930. Most forecasts of production have ranged this year between 165 and 230 million bushels. The official estimate stands at 215 million bushels, a figure not far from the middle of the range suggested by the United States Department of Agriculture's forecast of yield, based upon weather conditions through September.[1] In so far as this figure is questioned by the trade, it seems to be regarded as too high. Early reports indicated that the quality of the new Australian wheat is quite good, the wheat being moderately strong and of excellent color. Rains in December, however, may have tended to lower the quality.

Information in regard to the size of the Argentine crop is as uncertain as, if not more uncertain than, that in regard to the Australian crop. The area sown to wheat in Argentina has been officially estimated at 21.3 million acres. This figure is approximately equal to the revised estimate of acreage sown in 1927, and exceeds in size the standing estimates of sown area for other years of the decade except 1928. The Argentine wheat crop developed under unusually favorable weather conditions up to July. Rainfall during April–June was above average, and the growth of the crop was satisfactory. During July–September, however, the rainfall was decidedly deficient, and considerable anxiety might have been felt about the crop had it not been for the excellent conditions which had prevailed earlier in the season. General rains in the latter part of September and the first of October went far toward assuring a good-sized outturn. Frosts on September 16 and 17 were heavy, but at the time appeared to have caused little damage.[2] In the issue of October 13 the *Times of Argentina* contained the comment: "For the time being, we can say, perfectly honestly, that we do not remember a year in which October has opened with better crop conditions than at present." The weather in October was generally favorable. In November the United States Department of Agriculture published a forecast of the average yield of wheat per acre in Argentina on the basis of weather conditions through October; the indication was a yield of about 11.5 to 12.5 bushels.[3] The Department stated that while the statistical forecast suggested a crop of 245 to

[1] In *World Wheat Prospects*, October 21, 1930, the Department of Agriculture stated that weather conditions through September indicated an Australian yield of between 11.5 and 12.5 bushels to the acre. On the basis of the standing estimate of wheat acreage this suggests a total crop of between 209 and 227 million bushels.

[2] Later (November 3) the *Times of Argentina* advanced the theory that the September frosts made the wheat plants susceptible to rust, and were thus responsible for the rapid spread of rust in later months.

[3] *World Wheat Prospects*, November 22, 1930, p. 7.

265 million bushels (using the latest official estimate of acreage), the crop might be expected to reach 270 to 300 million bushels if allowance were made for an apparent tendency of their Argentine statistical estimates to fall below the actual outturns. Rumors and reports of red and stripe rust in Argentina became current late in October; after the first week of November such reports increased in number and seriousness, and small outbreaks of black rust were also mentioned. On November 19 the Argentine government issued a report which implied that yellow stripe rust was responsible for a shrinkage of the Argentine wheat crop by 75 million bushels. Traders in Argentina appear generally to have regarded this estimate of damage as exaggerated; and on November 27 Broomhall's Argentine agent was reported to have reiterated his previous estimate of the Argentine exportable surplus, which indicated that the 1930 crop would reach about 280 million bushels. About the middle of December the Argentine government published its first estimate of the 1930 crop, indicating an outturn of approximately 271 million bushels. The estimate fell rather closely in line with recent private estimates, and there has been no widespread disposition among the trade to regard it as unduly low, as was the case in regard to the crop estimate of 1929.[1] Reports suggest that the crop is rather light in natural weight, but high in protein content. Rains at harvest are reported to have caused some damage.

## II. MARKETING AND STOCKS

In Europe (ex-Russia) as a whole, wheat seems to have moved to market somewhat later in 1930 than in 1929. The wheat crops of North America were harvested unusually early under favorable weather conditions; consequently the flow of wheat from the farms was notably heavy during July–September. In October and November, however, the North American wheat movement was retarded; this may perhaps have reflected some holding for higher prices, as well as bad October weather, and customary slackening after large early marketings.

Total visible supplies in North America and in ports of the United Kingdom and afloat to Europe were somewhat smaller during most of August–November 1930 than in the same period of 1929. This situation is attributable not to a lower level of visibles in the United States or afloat to Europe in the present season, but to smaller visible supplies in Canada and in ports of the United Kingdom.

### European Marketing

Information in regard to European marketing is, as usual, fragmentary, and in some instances conflicting. There seems to be little reason to suppose that European wheat was marketed either unusually slowly or unusually rapidly during the period under review. Apparently several factors were operating to slow down the movement from the farms to the markets, while others were operating to accelerate it. In general, the harvest was not early, nor was it carried out under favorable weather conditions. This situation, entirely outside the control of growers, undoubtedly kept down the sales of wheat during the early months of 1930–31, as compared, for example, with the corresponding months of 1929–30. Moreover, certain other factors probably operated in the same direction. Two of the major producing countries, France and Italy, harvested strikingly small crops in 1930; stocks of old-crop wheat were not large in Europe, except in France and Austria; and wheat prices in many countries were at extremely low levels. On the other hand, rapid marketing was encouraged in some countries by wheat prices higher than international prices, kept so by tariffs and/or by governmental milling regulations which required that a specified (usually a large) percentage of the total wheat milled be of domestic origin. Furthermore, throughout practically the whole of Europe, financial necessity (resulting from the world trade depression and the low prices secured for farm products during the past

[1] In this connection it is pertinent to observe that a new crop-estimating staff was installed following the Argentine revolution; the change is spoken of favorably by the *Times of Argentina*.

year) probably induced many farmers to sell their wheat crop at an earlier date than they would have sold it under more favorable circumstances.

These various factors seem to have had different effects in the principal producing and importing countries of Europe. In the Danubian exporting countries, which faced the competition of Russian sales at extremely low prices, wheat growers apparently somewhat restricted their marketings; and exports from those countries during August–November were not large in view of the large crop. In Italy, England, Belgium, and Holland, the countries which received most of the Russian wheat, marketing of native wheat may likewise have been somewhat retarded. Unfortunately, statistical evidence is available only in the case of England (including Wales). British farmers' deliveries of wheat during August–November 1930 approximated 3.8 million bushels as compared with 8.2 million bushels in the same period last year, and 7.4 million in 1928; British deliveries were, in fact, smaller during the first four months of 1930 than during the corresponding months of any of the preceding eight years. Not all, perhaps not even most, of the slowing down of the movement can be attributed to Russian competition and the low prices resulting from that competition; probably more important is the fact that English farmers were led to hope for some governmental action which would raise the price of domestic wheat later in the season, and held their wheat expecting to secure whatever gain might result from such action. In Germany, France, and other less important countries which had quota systems in force during August–November, wheat presumably moved from the farms to the mills at a fairly rapid pace. Data of the stocks of wheat remaining on German farms bear out this inference. On November 15, 1930, only 52 per cent of the winter-wheat crop and 75 per cent of the spring-wheat crop remained in the hands of the growers; these percentages are the smallest for four years, and, in view of the large crop of 1930, suggest that marketings during August 1–November 15 were unusually heavy. In absolute terms, however, stocks remaining on German farms were not strikingly smaller than they were last year.

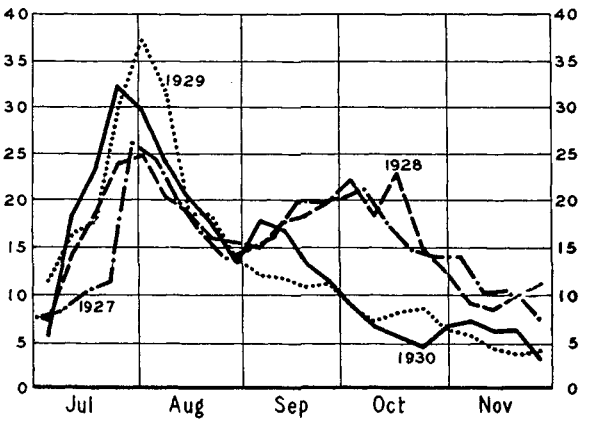
### North American Marketing

In the United States the receipts of wheat at primary markets during August–November were of fairly normal size, that is, normal in view of the early harvest and of the distribution of the crop as between winter and spring wheat. Total receipts during August–November amounted to about 202 million bushels, a figure slightly smaller than that for last year, but somewhat larger than the total for the same period in 1926 when the crop was comparable in size and constitution. In 1924, 1927, and 1928, the receipts at primary markets during August–November were much larger, but this would be expected in view of the larger total outturns and the larger spring-wheat crops of those years.

During July and August, wheat receipts at United States primary markets were exceptionally heavy. Amounting to about 184 million bushels, receipts during those two months were larger in 1930 than in any other post-war year except 1929. Chart 2 shows primary receipts by weeks during July–November 1927–30. As is apparent from the chart, July receipts were larger in 1930 than in any of the preceding three years; moreover, although not apparent from the chart, they were also larger than in any other post-war year. During August, receipts at primary markets were some 16 million bushels short of the record (post-

Chart 2.—Weekly Wheat Receipts at Primary Markets in the United States, July–November, 1927–30*

*(Million bushels)*




* Data for July–November 1927 to 1930 presented in Appendix Table V.

war) receipts of 1929, but they slightly exceeded those of 1928, which were the largest of post-war years exclusive of 1929. The strikingly large marketings of July–August can probably be explained mainly by the early harvest of winter wheat, which was completed under unusually favorable weather conditions. Another factor which may have been of importance is that the financial needs of the growers were perhaps somewhat more pressing this year than usual.

In September there was a good-sized bulge in primary receipts, due probably to the exceptionally early harvest of a spring-wheat crop of average size. Only in 1924, 1927, and 1928 did September receipts at primary markets exceed those of 1930; and in each of those three years the spring-wheat crop was much larger. In 1929, probably the only other year within a decade when the harvest of spring wheat was about as early as in 1930, there was no appreciable bulge in receipts after August—a fact which can be explained partly on the basis of the smaller spring-wheat crop of 1929 and probably partly on the basis of a restriction of farm offerings during September 1929.

Primary receipts in the United States fell off markedly in October and November. October receipts were smaller in 1930 than in any other year of the decade; November receipts were smaller than in any year except 1929. To some extent the small receipts in October–November can be explained by the large September receipts: had it not been for the early harvest in 1930, wheat that flowed to market in September would presumably have swelled the market receipts of October–November. Thus it is probably significant that primary receipts during the three months September–November were not notably small in 1930 as compared with years when spring-wheat crops of similar size had been harvested. At least one other factor, however, may likewise have operated to keep primary receipts of wheat small in October and November; there is some evidence that farmers tended to restrict their marketings as prices continued downward in those two months. This restriction in part may have represented holding for sale at higher prices, and in part holding for feeding use on the farm where grown.

On the whole, the available evidence suggests that farm stocks in the United States were of about average size or smaller on December 1, 1930. Receipts of wheat at primary markets during July–November constituted 35.3 per cent of the total crop of 1930, a percentage exceeded only in 1924, 1927, 1928, and 1929. Moreover, a much larger proportion of the wheat crop presumably was fed on the farms where grown in July–November 1930 than in the corresponding period of any of the preceding years. In view of these facts, and of the additional fact that the crop of 1930 was only slightly larger than normal, whereas the crops of 1927 and 1928 were notably large, it appears reasonable to assume that in 1930 farm stocks were of about average size or smaller on December 1.

With regard to stocks in other positions in the United States less information is available. Stocks in city mills approximated 102 million bushels on September 30, the highest figure for that date of any year within a decade with the exception of 1929; but stocks were probably not maintained at such a relatively high level during the following two months, for as premiums on cash wheat became larger and as the July future fell to an increasingly large discount under the May, millers probably became more reluctant to hold large stocks.

In Canada, as in the United States, wheat was marketed heavily during the first two months of the period under review. In August wheat receipts at country elevators and platform loadings were the largest in at least eight years,[1] while receipts at Fort William, Port Arthur, and Vancouver exceeded all August receipts within a decade. In September country elevator receipts and plat-

[1] The following tabulation shows, in thousand bushels, receipts at country elevators and platform loadings in the Western Division, 1922–30. The data for 1930 are not exactly comparable with those for the preceding years. Figures for 1922–29 are taken from early August issues of *Canadian Grain Statistics;* figures for 1930 from *Canadian Grain Statistics,* September–December 1930.

| | August | September | October | November |
|---|---|---|---|---|
| 1922 | .... | 76,428 | 75,750 | 59,761 |
| 1923 | 3,921 | 62,481 | 92,364 | 102,445 |
| 1924 | 3,978 | 21,302 | 73,245 | 47,249 |
| 1925 | 2,269 | 77,341 | 70,719 | 81,810 |
| 1926 | 4,070 | 60,714 | 89,968 | 75,869 |
| 1927 | 1,668 | 37,977 | 90,437 | 100,007 |
| 1928 | 3,363 | 134,055 | 105,637 | 106,991 |
| 1929 | 14,170 | 109,563 | 52,895 | 19,454 |
| 1930 | 15,917 | 105,561 | 58,636 | 50,195 |

form loadings were large, although they had been exceeded in 1928 and 1929; and receipts at the two major lake ports and Vancouver were, as in August, the largest in a decade. Extremely bad weather in early October and declining wheat prices during the latter part of October and the first half of November tended to keep down the wheat marketings of those two months. Platform loadings and receipts at country elevators in October–November were small in comparison with most post-war years, although larger than in the same months of 1929. Receipts at Fort William, Port Arthur, and Vancouver were relatively even smaller; October receipts were approximately equal to those of 1929 and considerably smaller than the October receipts of the other years of the decade, while the November receipts were strikingly smaller than in any of the preceding nine years.

For the period August–November as a whole, the available evidence suggests that the flow of Canadian wheat from the farms was not restricted to an unusual degree. This, however, neither substantiates nor denies the claim that as prices declined farmers tended to retain legal title to a larger portion of their wheat than has been customary in most other post-war years. And although stocks of wheat in store in Western country elevators were notably larger at the end of November 1930 than at the same date in any other recent year, we have no way of knowing how much of that wheat was legally owned by the original growers. Much less do we know to what extent farmers retained their titles to grain stored in other positions.

## Visible Supplies

In 1930, for the first time in four years, world visible supplies failed to attain a new record height in the course of August–November. As appears on Chart 3 (p. 196), world visibles during August and September were of approximately the same size in 1930 as in 1929, and during October and November 1930 they even fell below the levels established in 1929. The fact that world visibles were not maintained at an unprecedentedly high level during the first four months of 1930–31 is, as may be seen from the chart, attributable mainly to the lower level of Canadian visibles in 1930 than in 1929.

In the United States, visible supplies were of record size throughout the period under review, being strikingly larger in September 1930 than in the same month of 1929. Likewise noteworthy is the fact that in 1930 the peak of United States visibles was reached during the last week of September, an occurrence without precedent during the years 1923–30. After rising abruptly during August and September as a result of unusually heavy early marketings of wheat and relatively small exports (especially small in September), visible supplies declined markedly during October and November. The decline in visibles during the course of October was larger in 1930 than in any of the preceding seven years; but the November decline was relatively slight. Restricted marketings rather than unusually large exports account in the main for the decreases in visibles during October and November.

Table 1.—Canadian Grain in Store Late in November, 1923–30*

*(Million bushels)*

| Day nearest November 30 | Total | Country elevators Western Division | Interior elevators | Fort William, Port Arthur | Vancouver elevators | Public elevators in the East | U.S. lake and Atlantic ports |
|---|---|---|---|---|---|---|---|
| 1923.. | 101.6 | 52.7 | .5[a] | 19.8 | .8 | 11.5 | 16.3 |
| 1924.. | 73.7 | 24.3 | 2.5[a] | 25.6 | 1.3 | 10.2 | 9.8 |
| 1925.. | 104.6 | 44.6 | 5.8 | 12.5 | 5.0 | 19.0 | 17.7 |
| 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 |

* 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.

[a] Figures prior to 1925 are less comprehensive than for later years.

During the first four months of 1930–31 Canadian visible supplies consistently ran below the corresponding figures for last year. In August and September there was little difference in the levels of visibles for the two years; but in October and November the level was strikingly lower in 1930. Unusually large exports during August and September tended to offset the exceptionally heavy marketings of those months;

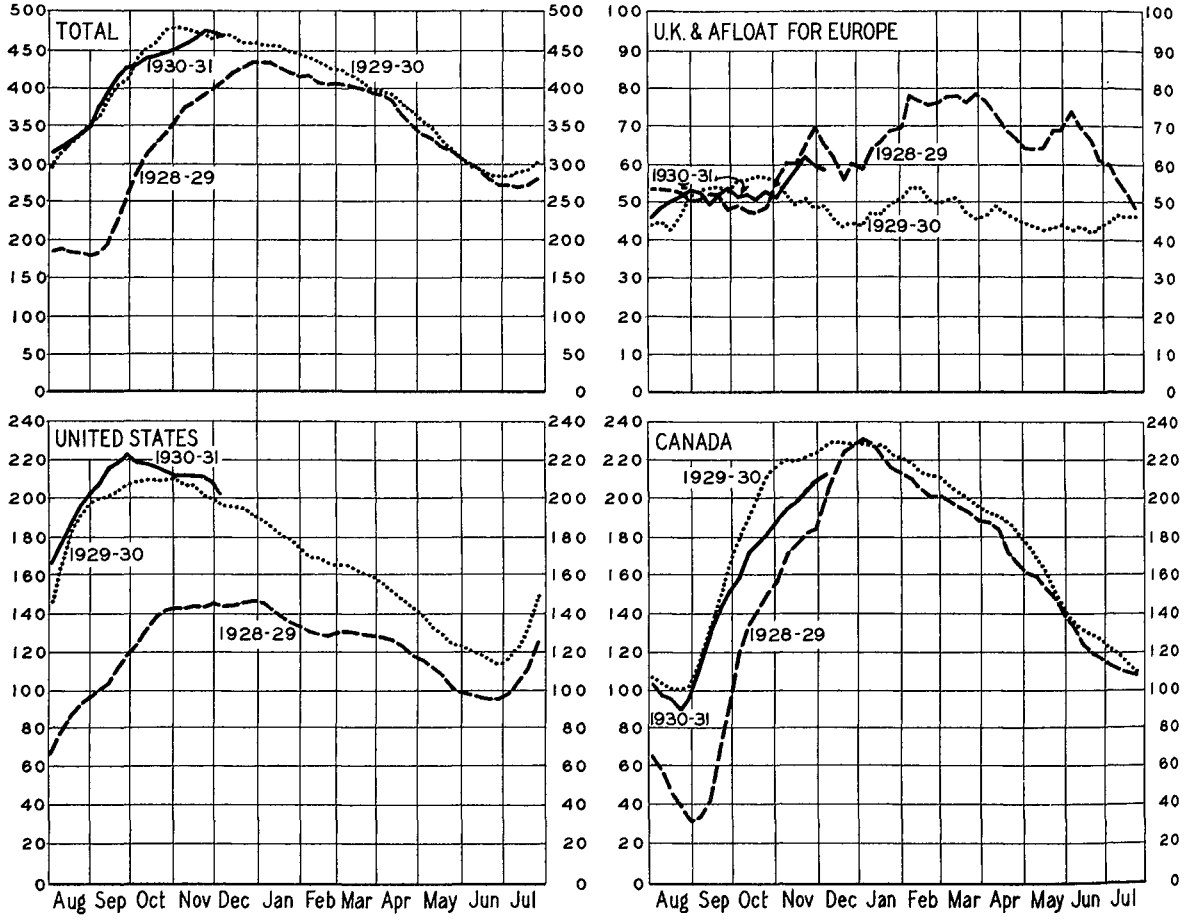
but in October and November when neither marketings nor exports were notably large as compared with the average for past years, exports were apparently relatively larger as compared with 1929 than were marketings.

heavy stocks in Vancouver and Western country elevators suggest that more than the usual amount of wheat will be available for winter shipment from the Pacific Coast.

Supplies of wheat in ports of the United Kingdom and afloat for Europe were nei-

CHART 3.—VISIBLE WHEAT SUPPLIES IN THE UNITED STATES, CANADA, AND UNITED KINGDOM PORTS AND AFLOAT TO EUROPE, WEEKLY, AUGUST 1928—NOVEMBER 1930*

(*Million bushels*)




* Data for August–November 1930 presented in Appendix Table VI.

Table 1 shows the distribution of Canadian stocks according to position for the years 1923–30. As is evident from the table, stocks were relatively large in 1930 as compared with years prior to 1929 in every position except in United States lake and Atlantic ports. In spite of the fact that total Canadian stocks were smaller near the end of November in 1930 than in 1929, stocks in Western country elevators and in Vancouver elevators were of record size. The

ther strikingly large nor small during August–November 1930. In November, however, they stood considerably higher than they did last year, a situation which reflected the larger volume of international trade of the present season. By December 1 about 14 million bushels of wheat had been accumulated in ports of the United Kingdom. Although this figure is some 7 million bushels smaller than the corresponding figure for 1929, it is larger than

the December 1 stocks in any other year of the decade. Port stocks in the United Kingdom rose rapidly during October and November of 1930 largely as a result of heavy Russian shipments.

On the Continent, as well as in the United Kingdom, certain port stocks, notably those in Rotterdam, Antwerp, Amsterdam, and Genoa, appear to have been unusually large at the end of November principally as a result of an inflow of Russian wheat heavy in relation to the demand of millers.

## III. INTERNATIONAL TRADE

International trade in wheat and flour in August–November 1930–31 was of exceptionally large volume. Russia exported more wheat than in any other post-war year. Australia also exported heavily; the movement from Argentina and the United States was light. European imports were notably large, and stocks of import wheat were accumulated in some countries.

### Volume and Course of Trade

According to Broomhall's data on overseas shipments, the volume of trade in the first 17 weeks of 1930–31 was 271 million bushels. This is the highest figure recorded in recent years except for August–November 1928, when shipments were 285 million bushels. The following tabulation in million bushels shows shipment to Europe, to ex-Europe, and in total for the first 17 weeks of the past 10 crop years:

| Aug.–Nov. | To Europe | To ex-Europe | Total |
|---|---|---|---|
| 1921 | 184 | 33 | 217 |
| 1922 | 189 | 30 | 219 |
| 1923 | 178 | 44 | 222 |
| 1924 | 228 | 27 | 255 |
| 1925 | 167 | 41 | 208 |
| 1926 | 196 | 37 | 233 |
| 1927 | 221 | 31 | 252 |
| 1928 | 232 | 53 | 285 |
| 1929 | 172 | 47 | 219 |
| 1930 | 228 | 43 | 271 |

Appreciably heavier trade in August–November 1930 than in the same months of 1929 is explicable chiefly by reference to the European situation. The wheat crop of the European importing countries was over 150 million bushels smaller in 1930 than in 1929, and of poorer quality; the inward carryovers of 1930–31 seem also to have been smaller than those of 1929–30. Trade was heavier largely because the importing countries needed to import more wheat. But it was larger partly because wheat was strongly pressed for export by Russia, and apparently Canadians also were anxious to make export sales; as in 1929, when Argentina was shipping heavily, more wheat seems to have been shipped than European importers were eager to take, and stocks were accumulated in European ports.

Although the wheat crops of the European importing countries were smaller and of poorer quality in 1930 than in 1928, although population has increased in the course of two years, and although carryovers into 1930–31 were probably but little larger than carryovers into 1928–29, the shipments of August–November 1930 were smaller than those of August–November 1928. The difference, only 14 million bushels, is not large. It suggests, however, that the increases of European wheat import duties and the imposition of milling regulations have been effective in reducing European import requirements.

The course of trade (Broomhall's shipments) in August–November 1930, in contrast with the average monthly movement for the period 1921–22 to 1929–30 and with the movement in 1929–30 and 1928–29, is shown in Chart 4 (p. 198). Shipments have tended thus far to follow the average seasonal movement rather more closely than in 1928 or 1929. The tendency, however, has been for shipments to decline in relation to the average, as in 1929, though much less strikingly. In 1928 the tendency was for August–November shipments to rise in relation to the average.

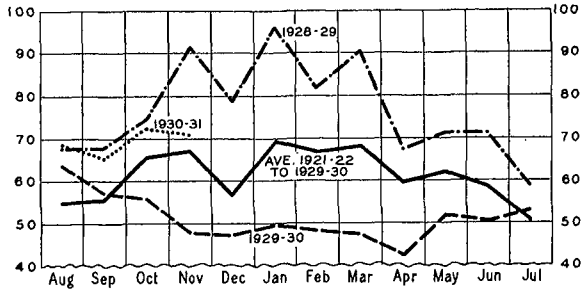
### Sources of Exports

So far as concerns the sources of exports in August–November 1930 as compared with earlier years, the heavy exports from Russia were the outstanding feature. Table 2 (p. 198) shows Broomhall's shipments by sources of origin, together with official statistics of net exports from the United States, Canada, Argentina, and Australia.

Shipments from Russia, according to Broomhall,[1] were nearly 63 million bushels, some 23 per cent of total shipments. The largest August–November exports from Russia in earlier post-war years were 16 million bushels in 1926, some 7 per cent of the total. Not all of the reasons why Russian exports should suddenly have become prominent in the early months of 1930–31 have become clear. If Russian official crop estimates reflect the facts as to wheat production, the Russian wheat crop of 1930 was much the largest in post-war years, exceeding the good crop of 1926 by over 240 million bushels; apparently, therefore, the surplus over and above the customary requirements for domestic consumption was larger in 1930–31 than ever before. Exports however, are not made from a general surplus, but only from as much of this surplus as is "collected" by official Soviet agencies. The quantity collected, in comparison with the quantities collected in earlier years, appears not to have been made public; but one may infer that the collecting campaign of 1930–31 (which apparently closed on December 15, 1930) resulted in larger acquisitions than in earlier years, though the quantities secured seem not to have equaled the quantities and proportions contemplated in the "plan." No definite evidence has appeared to show what are the relations between quantities collected, quantities exported, and quantities reserved for domestic distribution. Bread continued to be rationed in the towns and cities, and it is said that the heavy wheat exports were necessary in order to make payment for imports, obligations for the autumn months having accumulated heavily. But the information is not available for one to form a judgment as to whether the liberal exports of wheat represent surplus supplies such as one expects to move under appropriate circum-

CHART 4.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, MONTHLY, AUGUST 1928—NOVEMBER 1930, AS COMPARED WITH AVERAGE SHIPMENTS 1921–22 TO 1929–30*

(*Million bushels*)




* Compiled from Broomhall's weekly shipments as published in the *Corn Trade News;* see Appendix Table IX for weekly shipments in August–November 1930.

TABLE 2.—INTERNATIONAL SHIPMENTS AND NET EXPORTS OF WHEAT AND FLOUR FROM PRINCIPAL EXPORT AREAS, AUGUST–NOVEMBER, 1922–30*

(*Million bushels*)

| Aug.-Nov. | International shipments (Broomhall) | | | | | | | | Net exports from | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Total | North America | Argentina | Australia | Russia | Balkans | India | North Africa and Chile | United States | Canada | Argentina | Australia |
| 1922..... | 218.8 | 183.6 | 24.8 | 7.2 | .... | 2.4 | .8 | .... | 106.2 | 128.8 | 27.3 | 7.3 |
| 1923..... | 222.0 | 151.2 | 32.0 | 14.8 | 8.8 | 10.4 | 4.8 | .... | 64.3 | 126.2 | 31.5 | 18.0 |
| 1924..... | 255.2 | 201.6 | 24.4 | 12.4 | .4 | 4.0 | 12.4 | .... | 149.0 | 76.0 | 26.7 | 14.7 |
| 1925..... | 207.6 | 145.6 | 18.4 | 10.4 | 11.2 | 9.2 | 1.6 | 11.2 | 35.2 | 123.9 | 20.3 | 12.2 |
| 1926..... | 232.8 | 183.2 | 7.2 | 5.6 | 16.0 | 15.2 | 2.4 | 3.2 | 104.8 | 109.3 | 7.8 | 6.8 |
| 1927..... | 252.0 | 195.2 | 20.8 | 13.6 | 4.0 | 12.0 | 3.2 | 3.2 | 126.1 | 112.9 | 21.7 | 12.2 |
| 1928..... | 284.8 | 213.6 | 35.2 | 16.0 | .... | 14.0 | ... | 6.0 | 74.4 | 189.5 | 39.5 | 17.7 |
| 1929..... | 219.2 | 106.8 | 71.6 | 14.4 | .... | 20.4 | ... | 6.0[a] | 66.5 | 69.9 | 71.6 | 14.3 |
| 1930..... | 270.4 | 143.2 | 14.4 | 22.4 | 62.8 | 17.2 | 3.2 | 7.2 | 56.5 | 119.8 | 15.0[b] | 23.0[b] |

* Shipments figures are Broomhall's cumulative totals for 17 weeks from the *Corn Trade News.* These totals do not agree with the weekly data given in Appendix Table IX. Net exports are official data.

[a] North Africa and India.

[b] November exports estimated from Broomhall's shipments.

[1] Official Russian export statistics apparently have not been made public.

stances from a non-communistic country, or whether they represent a particular combination of circumstances involving a decision of Soviet officials to export at the particular time and in a specified amount.

In any event, the Russian exports came more or less as a surprise to the outside world, and were an important factor in depressing wheat prices.[1] The exports began to be large in the second week of September; the heaviest shipments, however, were made in October and November.[2] The *London Grain, Seed and Oil Reporter* of November 14, 1930, commented that the week's shipments of about 7.5 million bushels from Black Sea ports were the largest they could trace for twenty years past. Exports declined in December, possibly for climatic reasons.

Of the minor exporting countries, the four countries of the Danube basin appear to have exported relatively large quantities in August–November 1930, some 17.2 million bushels as measured by shipments. Only the shipments of 1929 were larger, at 20.4 million bushels. Exports from Roumania rather than the other three countries appear to have been relatively large. Despite a bumper crop, Bulgaria exported net[3] only 1.3 million bushels in the first quarter of the crop year. Poland, with a big wheat crop, was a net exporter in August–October; in some part the exports from Poland probably account for the moderately large shipments of 7.2 million bushels recorded by Broomhall as from "North Africa and Chile." India, though the wheat crop of 1930 was the largest since the war, shipped only 3.2 million bushels, and apparently about half as much wheat as this was sent from Australia to India.[4] Apparently the low level of international prices has not proved attractive to Indian merchants or farmers, and wheat is either being stored or consumed domestically in unusual volume. New-crop prospects in India have been moderately unfavorable, and this may have encouraged retention of wheat.

At 56.5 million bushels, August–November net exports of wheat and flour from the United States were smaller than in any other post-war year except 1925. Under different circumstances, larger exports could of course have been made from a crop and inward carryover totaling 1,125 million bushels, the largest in post-war years. But when prices in the United States moved out of line with British prices and with prices in other exporting countries, especially in late October and November and largely on account of the operations of the Grain Stabilization Corporation, exports necessarily shrank to relatively small figures. Net exports of 16.9 million bushels in October–November 1930 were only 4.9 million bushels larger than in the same months of 1925, though on October 1, 1925, wheat stocks in the United States must have been far smaller than they were on October 1, 1930.

Canadian net exports of 120 million bushels were fairly large in August–November 1930, comparing favorably enough with August–November exports in years (1923 and 1927) when the available supplies in terms of crops plus inward carryovers were of similar size. This year the spread between Winnipeg and Liverpool futures prices has remained wide enough to permit fairly free exportation, in contrast with the situation in 1929, when exports were only 70 million bushels. Nevertheless the exports of August–November 1930 probably constituted a moderately low rather than a high proportion of the total supply available for export. Russian competition in hard wheat was difficult to meet in November particularly, and Canadian net exports of 35 million bushels were rather small, though larger than the November exports of 1929, 1924, and 1921, when the crops were notably smaller than the crop of 1930.

Argentina exported only about 15 million bushels of wheat and flour in August–November, the smallest quantity in nine years except 1925. Stocks on August 1 were probably large enough to have permitted heavier exports, but the quality of much of the available wheat appears to have led importers to prefer other varieties, and Argentine exporters to hold appreciable quanti-

[1] In this connection it should be noted that continued pressure of Russian cash wheat on the European import markets now seems clearly to have been far more important than the relatively small short sales (7,765,000 bushels) made by a Russian organization in Chicago on September 9, 11, and 12, which at the time were widely commented upon in the United States.

[2] See Appendix Table IX.

[3] See Appendix Table VIII.

[4] See below, Table 3, p. 200.

ties for admixture with the oncoming new crop. The situation was somewhat similar in 1926, when the stocks consisted largely of poor-quality wheat.

Australian exports of about 23 million bushels were the largest for August–November in at least nine years. Heavy stocks were accumulated by August 1, 1930, in some part because the early prospects for the new crop to be harvested in December 1930 were not favorable prior to July. The heavy exports seem principally to represent release of these stocks as prospects for a bumper crop became increasingly certain.

### Distribution of Imports

As appears from the tabulation on page 197, shipments both to European and to ex-European destinations, like total shipments, were large in August–November 1930. Shipments to Europe of 228 million bushels, however, were a little more striking for their comparatively large size than were shipments of 43 million bushels to ex-Europe. The shipments to Europe had been equaled once and exceeded once in the preceding nine years; but the shipments to ex-Europe had been exceeded three times.

With prices the lowest in post-war years, it is interesting to observe that ex-European countries as a group have not taken as much wheat in August–November 1930 as in 1923 or 1929. Presumably the shrinkage of income in some wheat-importing countries of ex-Europe explains why shipments to ex-Europe have not been notably large as the result of low wheat prices. An adequate generalized explanation, however, is difficult to find. Table 3 summarizes Broomhall's shipments by ex-European destinations during August–November of the past four years; data for earlier years are not available. Shipments to the group of countries called "Central America" appear rather small. In so far as the imports of this group are dominated by the West Indies, notably Cuba, it is possible that low purchasing power resulting from low prices of sugar has tended to curtail flour imports; but since it is not clear to what extent shipments to sugar-producing countries are included in shipments to "Central America," any explanation must rest on uncertain grounds. Chinese and Japanese takings were the largest in at least four years; this occurred in spite of the fact that a big wheat crop seems to have been harvested in China and a big rice crop in Japan, and that the Chinese silver exchange has continued to depreciate. Apparently low wheat prices have served to stimulate Chinese purchases despite the low price of silver. Shipments to Brazil, on the other hand, were smaller than in any of the three preceding years. Perhaps the explanation lies principally in the fact that Argentina has had available for shipment relatively less than usual of the superior grades of Argentine wheat commonly imported into Brazil; and it may be that Brazilian imports will increase when the new Argentine crop begins to move in large volume, unless (as is possible) a better explanation of the small Brazilian takings thus far in the crop year lies in reduction of Brazilian purchasing power induced in particular by low prices of coffee. Egyptian takings were neither strikingly large nor strikingly small. Shipments to North and South Africa were small, presumably largely because the Union of South Africa harvested two exceptionally large wheat crops in succession in 1929 and 1930. It is interesting to observe that shipments to India (presumably from Australia) were a little larger in August–November 1930 than in 1929, though the Indian wheat crop of 1930 was much larger than that of 1929. A significant fact to be noted in regard to shipments to ex-Europe in August–November 1930 is that in the

Table 3.—Broomhall's Shipments by Ex-European Destinations, August–November, 1927–30*

*(Million bushels)*

| Destination | 1927 | 1928 | 1929 | 1930 |
|---|---|---|---|---|
| Central America[a] | 11.2 | 20.6 | 19.9 | 13.5 |
| China and Japan | 6.6 | 17.3 | 11.9 | 16.0 |
| Brazil | 8.5 | 9.6 | 10.2 | 7.7 |
| Egypt | 2.9 | 4.9 | 2.2 | 2.9 |
| North and South Africa | 1.5 | 2.2 | .9 | .8 |
| India | .1 | 3.7 | 1.6 | 1.6 |
| Others[b] | .3 | .7 | .7 | ... |
| Total | 31.1 | 53.0 | 47.4 | 42.5 |

* Data for 17 weeks, from *Corn Trade News*.

[a] Includes Venezuela, West Indies, Dutch East Indies, etc.

[b] Includes Chile, Syria, Peru, and Palestine.

course of these months shipments tended to rise in relation to the average movement over the period 1921–29.

Table 4 shows Broomhall's August–November shipments by destinations in Europe for the past five years. The outstanding feature was the heavy movement

TABLE 4.—BROOMHALL'S SHIPMENTS OF WHEAT AND FLOUR BY DESTINATIONS IN EUROPE, AUGUST–NOVEMBER, 1926–30*

*(Million bushels)*

| Destination | 1926 | 1927 | 1928 | 1929 | 1930 |
|---|---|---|---|---|---|
| Orders | 24.9 | 30.7 | 26.1 | 48.7 | 74.3 |
| United Kingdom | 54.2 | 60.1 | 57.8 | 52.1 | 45.7 |
| France | 18.6 | 12.0 | 14.6 | 7.2 | 16.0 |
| Belgium | 17.0 | 24.6 | 18.1 | 14.6 | 14.6 |
| Holland | 23.2 | 30.4 | 29.4 | 11.3 | 18.3 |
| Germany[a] | 21.3 | 24.6 | 27.2 | 13.7 | 15.2 |
| Italy | 18.2 | 20.3 | 27.8 | 5.1 | 25.2 |
| Greece[b] | 5.3 | 5.0 | 8.0 | 6.1 | 6.3 |
| Scandinavia | 6.9 | 7.2 | 7.8 | 6.1 | 6.0 |
| Austria[c] | 5.7 | 4.8 | 5.1 | 6.6 | 6.2 |
| Spain[d] | 1.0 | 1.1 | 10.1 | .6 | .5 |
| Total | 196.3 | 220.9 | 232.1 | 172.1 | 228.3 |

* Data for 17 weeks, from the *Corn Trade News*.
[a] Includes Poland and Czecho-Slovakia.
[b] Includes Turkey.
[c] Includes Malta.
[d] Includes Spanish colonies and Portugal.

to "orders," some 74 million bushels; the largest August–November shipments to orders in the preceding nine years had been 48 million bushels in 1924 and 49 million in 1929. Presumably a large fraction of orders shipments is always unsold. This year the bulk of such shipments seems to have consisted of Russian wheat; the orders shipments, as in 1929, may be taken to represent selling pressure on the international market.

Direct shipments to the United Kingdom at 45.7 million bushels were smaller than usual. But net imports into the British Isles, about 87 million bushels in August–November,[1] were distinctly large, exceeded only by those of 1924 and 1929. Apparently the British absorbed a large fraction of the orders shipments. In October and November stocks began to pile up in British ports, as they did in 1924 and 1929. It therefore seems probable that imports have been large in relation to milling requirements, and that British buyers have again placed themselves in a position favorable for resisting an advance of prices, and indeed for contributing to a further decline if they choose for a few months to buy sparingly, meanwhile drawing upon the accumulated stocks.

With regard to other European countries, Broomhall's data are not notably helpful in analyzing the import situation, and net import statistics are available only for August–October. Direct shipments to Italy at 25.2 million bushels were larger than in any of the preceding four years except 1928; and August–October net imports were the largest in eight years. Heavy imports reflect largely the heavy import requirements; but in Italy as in the British Isles there is evidence that imports have exceeded milling needs for the period, and that stocks of import wheat accumulated in the course of August–December. The situation appears to have been similar in Belgium, the Netherlands, and Switzerland. The August–October net import statistics for Austria, Czecho-Slovakia, and the Scandinavian and Baltic countries seem to provide no striking contrasts with those of earlier years, though Austrian imports were rather small and the others moderately large. To judge by direct shipments, France has imported rather heavily in consideration of the requirement that 90 per cent of domestic wheat must be used in the mill mix, though, on the other hand, imports were not heavier than would be expected in a year when the crop was as small as that of 1930, in the absence of the milling regulations. We have seen no evidence of accumulation of import wheat stocks in France. German imports, as in 1929, have apparently been held to low levels by the regulations of milling mixtures;[2] and we have seen no evidence of accumulation of stocks in Germany. Greek takings appear to have been moderately heavy, but Spain and Portugal imported little.

[1] See Appendix Table VIII.

[2] German millers were required to use 60 per cent of domestic wheat between August 15 and September 30, and 80 per cent between October 1 and November 30; in addition, a decree of December 3 required the admixture of 30 per cent of rye flour in all wheat bread weighing over .44 pound per loaf, and permitted the admixture of 10 per cent of potato flour. In France, the percentage admixture of domestic wheat remained at 90 per cent during the

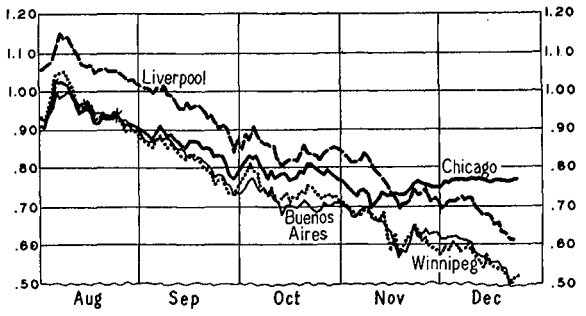
## IV. WHEAT PRICE MOVEMENTS

### The Course of Prices

During August–November 1930, wheat futures prices in the leading world markets moved downward, reaching their lowest levels about the middle of November. Chart 5 shows the general course of prices of the December future in Liverpool, Winnipeg, and Chicago, and of the September, October, and February futures successively in Buenos Aires. On November 10 the December future in Chicago reached the lowest price recorded in 28 years; on November 18 the December future in Liverpool declined to the lowest point since 1894; and on the same date the December future in Winnipeg and the October future at Buenos Aires established new low records for those markets. From the high point in early August to the November low the December future declined about 46 cents in Liverpool, 47 in Winnipeg, and 33 cents in Chicago. In Buenos Aires the price decline from the August high point of the September future to the November low point of the February future was 43 cents. Declines of such magnitude occurring within a three-month period have previously been witnessed only three times since 1921–22: in March–April 1925, in May–July 1928, and in January–March 1930.

Chart 5.—Course of Wheat Futures Prices in Four Markets, August–December 1930*

(*U.S. dollars per bushel*)




* Data from *Daily Trade Bulletin*. December futures in Liverpool, Winnipeg, and Chicago; September, October, and February futures successively in Buenos Aires. The x indicates a change of future.

Such an unusual decline as occurred in the first four months of 1930–31 suggests that the news coming into the markets during the period must have been of an unusually depressing character. During August–November 1930 much bearish news did undoubtedly reach the markets, but, on the whole, the array of bearish news items was probably not so much greater than in a number of other periods when prices did not behave similarly. The early part of the season 1930–31 can, however, be distinguished from most other periods by the existence of two unusual features. First, no bullish news of major importance came into the markets during the entire period—even the most extreme reports concerning Argentine rust did not suggest that the Argentine crop would be a small one. Second, a spirit of decided pessimism pervaded the markets, pessimism which resulted from the general depression of business, the low level and downward drift of commodity and securities prices, and the discouraging decline of wheat prices during 1929–30. One gets the impression that it was not until the fall of 1930 that traders comprehended the full extent of the trade cycle. It is impossible to determine the exact effect which each of these factors had upon the attitude of traders; but undoubtedly each must have been important.

At the end of the crop year 1929–30 the general outlook for wheat prices was not encouraging and became worse rather than better during the first four months of 1930–31. At the beginning of August stocks of

period under review. Minimum percentages of native wheat required in Sweden were 55 from July 15 to August 31; 60 from September 1 to October 31; and 75 from November 1 to December 31. In Czecho-Slovakia, a percentage of 75 was fixed by law on November 26. On July 31 the Latvian cabinet was empowered to prescribe admixtures, and on November 12 stipulated that foreign and domestic wheats must be used in equal proportions. Tariff duties on wheat were increased during the period under review in Germany (where the duty after October 26 reached $1.62 per bushel, or, roughly, twice the price of c.i.f. imported wheat), in Poland, in Estonia, and in Czecho-Slovakia. Minimum prices for domestic wheat were fixed in Sweden, Norway, and Latvia. France and Belgium required special licenses for the importation of Russian grain and flour. The effects of some of these efforts to maintain domestic wheat prices and to restrict imports will not be fully apparent until later; at the moment, the outstanding effects seem to be the small imports of wheat into Germany, and the high prices of domestic wheat in relation to international prices in several countries.

wheat, especially visible stocks, were extraordinarily large; the world crop of 1930 (ex-Russia) appeared to be of moderately large size; and wheat prices had already declined to the lowest level of post-war years, having fallen more or less continually during the preceding season in the face of a relatively small world crop. Moreover, several additional factors of bearish character came to the attention of traders during the period under review. Of these, perhaps the most important were estimates of the large Russian wheat crop and the unexpectedly large Russian shipments made to foreign countries. Early in August traders were not anticipating great pressure from Russian offers, but during the ensuing few months under review that pressure became heavier and heavier. Traders in Liverpool, Winnipeg, Buenos Aires, and Chicago tended generally to focus their attention upon the price of Russian offers and the size of Russian shipments. A second factor of importance throughout August–November was the financial difficulties faced by the Canadian Wheat Pool.[1] Those difficulties and the rumors concerning them were undoubtedly responsible in part for pressure of Canadian offers in the import markets during August – November. That a certain amount of that pressure would have been felt even if the Pool had faced no financial difficulties appears certain in view of the large Canadian supplies and the financial losses traders had suffered as a result of holding wheat last year; but the situation of the Pool can hardly have acted otherwise than to contribute to selling pressure. Finally, a third price-depressing factor during August–November was the generally favorable outlook for the Southern Hemisphere crops. Minor complaints in regard to those crops came to the markets, but no major crop scare developed.

Other factors exerted a more temporary, but nevertheless important, influence upon the wheat markets during parts of the period. In order to evaluate the influence of these other factors, it appears desirable to divide the general downward price movement into its five more or less distinct phases, and to explain in some detail the principal influences which seem to have operated in each of those phases.

From the first of August to the middle of October prices drifted steadily downward, interrupted only by two upturns of any significance; from the middle to the end of October prices remained fairly firm; during the first half of November another decline occurred; during the remainder of November and the first ten days of December there was a tendency toward recovery and relative firmness; finally, near the middle of December, prices (except of the nearer futures in Chicago) broke again to new low levels.

The price decline during the first two and a half months of the period was enhanced by rapid and heavy Canadian marketings resulting from an early harvest, by upward revisions of previously accredited estimates (both private and official) of the North American wheat crops, by the establishment of higher duties on imports of foreign wheat into Germany, and by a decree of the German government which provided that foreign wheat would be permitted in milling mixtures in amounts not to exceed 20 per cent. In the United States, at least, weakness of corn was an additional factor. The corn markets developed considerable weakness in September, following the publication of the official estimate of the United

[1] Until late in August uncertainty existed in the markets in regard to the price at which the Pool would establish its initial payment. Rumors that the Pool could not reach a satisfactory agreement with the banks were disturbing. On August 26, however, when the Winnipeg December future was standing at 92 cents, the Pool announced that the initial advance, basis No. 1 Northern at Fort William, would be 60 cents; this was 25 cents lower than the lowest initial payment previously made by the Pool. Later, effective October 15, when the December future sold at 73 cents, the initial payment was reduced to 55 cents. Finally, a third reduction, this time to 50 cents, was announced November 8 to go into effect November 11; on the latter date the December future stood at 65 cents. More important in their effects upon the wheat markets than the reductions in the initial payment of the Canadian Pool were rumors circulated in November to the effect that the Pool might be forced to liquidate all its holdings. As prices continued to decline, some traders apparently even envisaged forced sales of wheat futures on the part of the Pool; but such views were perhaps generally regarded as extreme, especially after the chairman of one of the Canadian lending banks specifically denied on November 17 that there would be any forced selling of futures by the Pool. When prices improved during the latter part of November and it was reported that a reorganization of the Central Selling Agency had been effected with John I. MacFarland as general manager, the immediate fears regarding the probable effects of the Pool's difficulties were allayed.

States corn crop, and this situation probably caused wheat prices to decline to levels lower than those which would have prevailed if corn prices had remained as firm as in August.

In all leading markets there was a bulge in wheat prices in early August. Prices rose abruptly from August 4 to August 6, and declined almost as abruptly from August 9 to August 13. The upward movement resulted mainly from reports of continued drought in the corn belt of the United States, and from reports of black rust in Manitoba and part of Saskatchewan. The break in prices was precipitated by an improvement of weather conditions in the drought-stricken areas of the United States and in Canada, by the August crop reports of the United States and Canadian governments which were construed as bearish in most markets, and by rumors that the Canadian Pool was having difficulty getting the banks to advance the money to finance the 1930 crop.

A second bulge in prices occurred during September 30—October 9. The rise of prices up to October 3 was in part apparently a technical adjustment of the markets, a reaction to the preceding decline. In part, however, the upturn was induced by reports of continued drought and hot winds in eastern Australia; and the ensuing decline was brought about mainly by reports of general rains in that region. In the United States and Canada, at least, a break in securities prices apparently likewise played some part in forcing wheat prices down between October 4 and October 9.

From October 13 to the end of the month bullish news apparently about offset the bearish news which entered the markets. Reports were current to the effect that storms and snow had interfered with threshing operations in Saskatchewan and Alberta, and that the Canadian crop would probably be reduced in both size and quality. Rust in Argentina was reported to be menacing, though little or no actual damage was indicated in October. United States stock prices, as represented by the Dow-Jones average of industrial stocks, fluctuated markedly from day to day but showed no distinct downward tendency as they did in the latter part of September and in early November. On the other hand, the weather in the Southern Hemisphere was generally favorable for crop development; the export demand for North American wheat was not as large as traders thought it should be in view of the low prevailing prices; and the Argentine exchange rates weakened appreciably, thus encouraging lower c.i.f. offers from that country.

Prices of wheat futures declined drastically during the first half of November in all four of the principal markets except Chicago, where the Stabilization Corporation bought futures in sufficient quantities to help to arrest the decline. During this interval the Liverpool market registered some weakness in the course of its trade sessions, but in the main its opening prices reflected weakness previously registered at Winnipeg or, less frequently, at Buenos Aires. Heavy Russian shipments were undoubtedly a major price-depressing factor in view of the restricted European milling demand. The markets, especially the Canadian markets, were also weakened by the upward revision of the official estimate of the Canadian crop, by rumors (especially persistent near the middle of the month) that the Pool was going to be forced to liquidate, and by backspreading operations between Chicago and Winnipeg brought on by the announcement that the Stabilization Corporation held December contracts in the Chicago market to the amount of 10 million bushels, and that it would stand for delivery.[1] Two other factors probably also had some effect in lowering prices during the early part of November: first, prices of industrial stocks at New York were falling rapidly during the same interval of time; second, reports from India about the middle of the month indicated that the government had ordered a reduction of railroad

[1] According to hearsay in the trade, the volume of backspreading was presumably quite large. Earlier in the season when Chicago prices first rose above Winnipeg prices many traders anticipated that the unusual relationship would exist only for a short time, and hence sold Chicago futures and bought Winnipeg futures, expecting to reverse their operations when the two markets again showed a more normal relationship. After these traders learned that the Stabilization Corporation was holding December futures and expected to stabilize prices at Chicago, they abandoned hope of gain, and immediately removed their spreads by selling Winnipeg futures and buying Chicago futures.

rates on grain to Karachi to facilitate the exportation of the surplus wheat.

Wheat prices moved upward during the latter part of November on reports that Russian shipments would probably be small during the remainder of the season, on confirmation of the belief that the Argentine crop had suffered permanent damage from rust, and on accredited statements that the Canadian Pool would not be forced to liquidate. During the last few days of November and the first ten days of December prices ruled relatively firm. This was probably due, on the one hand, to the fact that little news of distinctly bearish character came into the markets during that period, and, on the other hand, to reports of unfavorable weather conditions in parts of Australia and Argentina.

The December decline in wheat prices is attributable mainly to actual pressure, and to expectations of increased future pressure of wheat from the Southern Hemisphere. Weak Argentine exchange and restricted milling demand in the United Kingdom were both among the factors which contributed to this pressure on the international market. Declining securities prices and weakness in the corn markets also tended to depress wheat prices in mid-December. Wheat futures prices presumably would have declined even more than they did if harvesting weather in Argentina and Australia had been more favorable; as it was, reports of damaged quality served somewhat to sustain prices.

The price relationships among the various futures markets were somewhat unusual during the period under review. Chicago showed relatively less weakness than any of the other leading markets. The December future in Chicago ruled above the December future in Winnipeg during most of the period; and the Chicago-Liverpool spread (as regards the December futures prices) gradually narrowed from the first of September to the middle of November, when the Chicago future rose above the Liverpool future, and remained above that future for a longer interval of time than in any post-war year except 1925–26. During September and October the corn situation in the United States was probably the major factor which tended to keep wheat futures at Chicago from declining as much as futures in the other world markets. In November the Stabilization Corporation began to buy the December future at Chicago, at first for the purpose of maintaining their holdings at 60 million bushels, as they had promised to do last summer, and later for the purpose of preventing a further price decline. Their buying (which amounted to about 10 million bushels by November 12, and to about 50 million bushels distributed among different markets and different futures by November 20)[1] and the short covering induced by the announcement that the Corporation would stand for delivery on December futures[2] account in the main for the unusual relationships which prevailed between the December future at Chicago and the December futures at Liverpool and Winnipeg during the latter part of November. During December all the old-crop futures in United States markets were virtually pegged by the Stabilization Corporation, and the Chicago market consequently remained out of line with other world markets. It may well be that in the absence of the Stabilization Corporation futures prices in Chicago would have shown less weakness in November and December than futures prices in other world markets; that, in fact, the Chicago futures might even have gone to a premium above the Liverpool futures. Such an interpretation can be justified on the record of past years, which shows the United States to be relatively the strongest holder of wheat at low prices. But it seems reasonably certain that the decline in Chicago would probably have been much greater than it was had the Stabilization Corporation not entered the market. The Corporation has suggested that the price was improved 20 cents per bushel through its efforts.

The relationships between near and distant futures in the various markets were, as is apparent in Chart 6 (p. 206), fairly normal till the middle of November; during the latter part of November and early December the relationships among the different futures were strikingly unusual in Chicago, although approximately normal in the

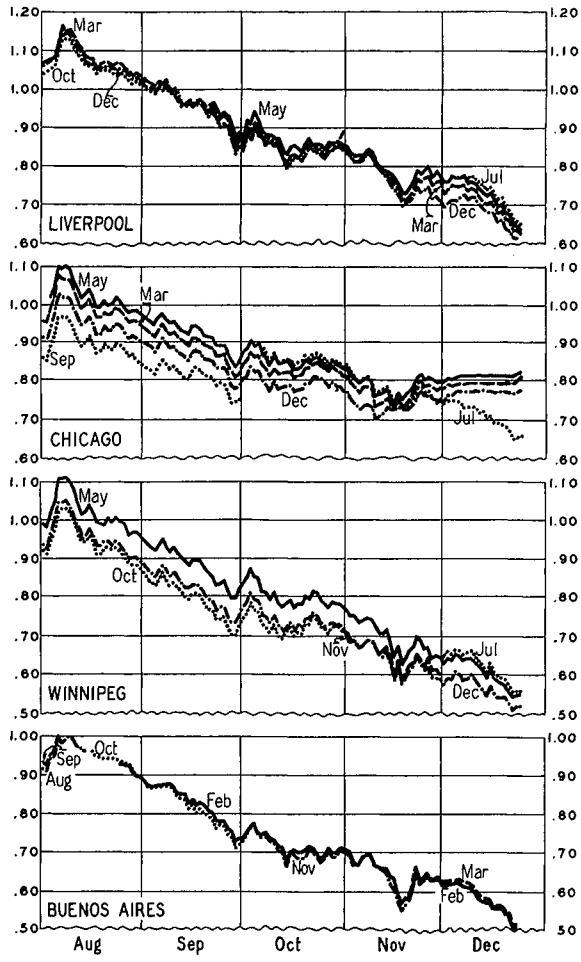
[1] The early purchases were made in Chicago, the later ones were distributed among several important markets in the United States.

[2] This decision was later reversed.

other leading markets. The most unusual features of the Chicago futures prices were the abrupt narrowing in November of the December–March and the December–May price spreads; and the change of the July

CHART 6.—COURSE OF PRICES OF THE PRINCIPAL WHEAT FUTURES IN FOUR MARKETS, AUGUST–DECEMBER 1930*

*(U.S. dollars per bushel)*




* Data from *Daily Trade Bulletin* and *Chicago Journal of Commerce.*

future from a position above the nearer futures in early November to a position 11 cents below the December and 17 cents below the May on December 24. The narrowing of the spreads between the December and the March and May futures was apparently caused by short covering in the December future which followed the announcement of the purchases made by the Stabilization Corporation. The Corporation later bought May futures heavily (and indeed was rumored to have made some sales of December futures),[1] presumably with the intent to increase the spreads between the December future and the March and May futures; and those spreads appear to have been fairly normal during most of December. But even as the relationships among the old-crop futures became more normal, the relationships between those futures, on the one hand, and the July future, on the other hand, became more and more abnormal. When traders in Chicago saw that the Stabilization Corporation apparently expected to keep the prices of the old-crop futures within more or less definite limits, they seem to have transferred their speculative activities from those futures to the July future, which was not being supported by the Stabilization Corporation.[2] As a result, the July future showed more tendency than did the other futures to get into line with international wheat prices, a fact which apparently accounts for the large discount of the July future in December. Nevertheless, despite the large wheat stocks, the July future at Chicago even well into January 1931 stood above the Liverpool July future.

Also noteworthy are the facts that the spreads between the near and distant futures at Liverpool widened appreciably during the latter part of November and December and that at Winnipeg the July future has ruled somewhat above the May future from the first of December, when the July was first quoted, to date. The widening of the spreads at Liverpool presumably reflected to some extent the piling up of port stocks in the United Kingdom. At Winnipeg the premium on the July future suggests that traders anticipate at least a moderately large amount of wheat to be carried over into the late summer months of 1931;

[1] In compliance with the decision not to require delivery of December futures purchases.

[2] As evidence of this change in trading activity, it is interesting to note that the figures of sales of wheat futures in Chicago indicate that on a number of days in December the trading in the July future was greater than the trading in any other future. Moreover, the continuous quotations on futures indicate that the July future was the most active future during most of December. The July future has been the one into which speculators were least afraid to enter.

premiums on the July obtained in 1928–29 and 1929–30, years when the outward carryover was large, but not in the four preceding years, when outward carryovers were smaller.

### United States Cash Prices

Practically throughout the entire period August–November No. 2 Red Winter at St. Louis commanded a higher price than either No. 2 Hard Winter at Kansas City or No. 1 Northern at Minneapolis. The spread between the prices of No. 2 Red Winter and No. 2 Hard Winter ranged between 8 and 16 cents, usually being 12 cents or over, whereas the spread between No. 2 Red Winter and No. 1 Northern was narrower, being less than 6 cents most of the time. Only one feature of the cash price relationships of this period is especially notable—the widening of the spread between No. 1 Northern at Minneapolis and No. 2 Red Winter at St. Louis during October and November. During those two months No. 2 Red was relatively much firmer than No. 1 Northern as a result mainly of strikingly small receipts (size of crop considered) of red winter wheat at the principal soft winter-wheat markets. At present it seems probable that the increased feeding of wheat in the soft red winter-wheat belt was the major factor which restricted marketings, for that belt was the one hardest hit by the drought in the late summer, and hence is the one in which much of the substitution of other feeds for corn may be expected. If 236 million bushels of wheat are fed in 1930–31, we may reasonably expect to see No. 2 Red at St. Louis maintaining a premium of fair size over No. 1 Northern at Minneapolis throughout most of the season.

In most of the leading markets cash wheat prices ruled above the price of the near future during October–December, a relationship which is noteworthy in view of the moderately large wheat crop of 1930, the restricted export demand of October–November, and the large visible supplies of wheat. In Chicago, however, the supply of wheat in elevators was low in relation to the volume of December contracts. Although United States visible supplies were larger during the first four months of 1930–31 than during any previous period, a smaller proportion of the total visibles was available for sale in August–November 1930 than is usually the case. Since the Stabilization Corporation owned something between 60 and 110 million bushels of wheat during those months, the visible supplies available for sale were probably smaller in August–November 1930 than in the corresponding months of 1929. Moreover, in spite of the large stocks in prominent positions, congestion did not develop at the principal terminals in 1930 as it did in 1929; hence, the major factor accounting for the discount of cash wheat in 1929 was not operative in 1930. Finally, some of the apparent tightness of the cash wheat situation may perhaps have resulted from the restriction of marketing during October and November which was reflected by the relatively small volume of receipts at primary markets.

Protein premiums have been strikingly small this year for both hard red winter wheat and spring wheat; the low premiums are the natural result of the uniformly high protein content of the 1930 crops of both of these major classes. On the other hand, traders are reported to be paying an unusual amount of attention this year to securing spring wheat of heavy test weight.

### The General Level of Wheat Prices

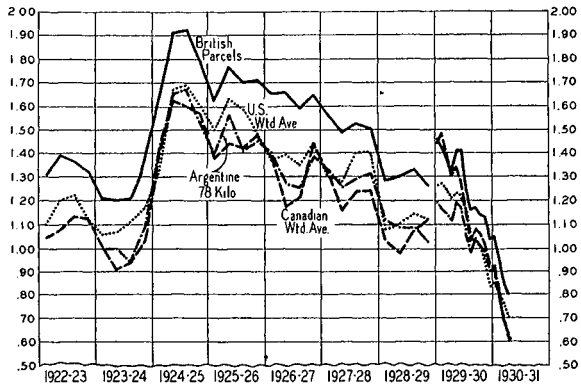
One may readily enough describe the course of prices in the futures markets during August–November, and even give a fairly satisfactory account of the major factors which apparently influenced that course; but it is considerably more difficult to find a reasonably satisfactory explanation for the strikingly low level of prices in most countries during the first four months of 1930–31. Charts 7 and 8 (p. 208) show quarterly average wheat prices on the international market (British parcels prices), in three of the principal exporting countries, and in three of the leading European importing countries, from 1922–23 to 1928–29, and monthly average prices from August 1929 to November 1930.

In the exporting countries and in Great Britain prices averaged lower during August–October 1930 than in any other quarter within at least nine years; and in November 1930 British parcels prices averaged lower than did the Liverpool price for red

wheat of good average quality in any month from 1862 to 1929 with the exception of certain months in the years 1893–96.[1] High tariffs in Italy, and high tariffs combined with milling regulations in France and Germany, with domestic wheat crops smaller than normal consumption requirements, kept average prices of domestic wheat in those countries considerably above the international price. In each of those three countries average prices for the first quarter of 1930–31 were farther above the average British parcels price than they had been in the first quarter of any of the preceding eight years.[2] Only in France, however, did prices appear to be relatively high as compared with the August–October prices of other recent years; and it is noteworthy that in Germany the net decline in monthly average prices from July to October was greater than during the corresponding period of any year since 1922, with the possible exception of 1927.

CHART 7. — QUARTERLY AVERAGE WHEAT PRICES, AUGUST 1922—JULY 1929, AND MONTHLY AVERAGE WHEAT PRICES, AUGUST 1929—NOVEMBER 1930, IN THREE EXPORTING COUNTRIES AS COMPARED WITH BRITISH PARCELS PRICES*

*(U.S. dollars per bushel)*

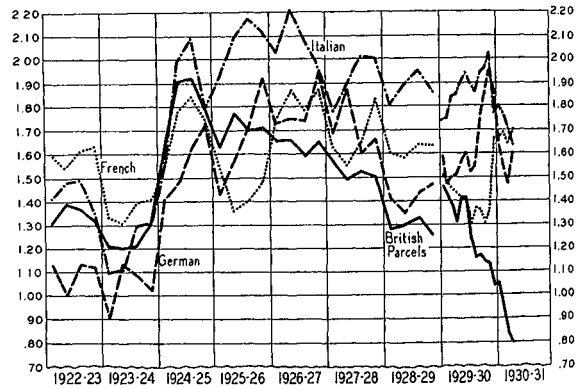



* Weekly data for August–November 1930 are given in Appendix Table X.

The concept of a general level of prices is of questionable significance for periods when daily prices move persistently and extensively either upward or downward. However, for the period under review the extremely low averages do not misrepresent the feature of outstanding importance, namely, that the daily prices recorded on the international market were strikingly low in comparison with earlier years. Hence, in the following discussion we shall use average British parcels prices as a convenient quantitative indication of the low level of international prices in August–November 1930, as compared with the levels in other years.

CHART 8.—QUARTERLY AVERAGE PRICES OF DOMESTIC WHEAT, AUGUST 1922—JULY 1929, AND MONTHLY AVERAGE PRICES, AUGUST 1929—NOVEMBER 1930, IN THREE EUROPEAN IMPORTING COUNTRIES AS COMPARED WITH BRITISH PARCELS PRICES*

*(U.S. dollars per bushel)*




* See note to Chart 7 and Appendix Table XI, which gives monthly average wheat prices in the European importing countries from August 1928.

As usual, one has difficulty in explaining the average level of prices by reference to comparisons of crops, available supplies, or margins between exportable surpluses and import requirements in the current and in earlier years. These statistical set-ups of the simpler sort seem not to serve very satisfactorily to explain the low level of British parcels prices in August–November 1930, some 90 cents per bushel as compared with 129 cents in August–November 1928 and 121 cents in August–November 1923,

[1] It should be noted that the series of British parcels prices is not exactly comparable with the price series for red wheat of good average quality, but the comparison made above probably does not greatly misrepresent the actual situation. The latter price series appears in *Wheat and Rye Statistics* (U.S. Department of Agriculture Statistical Bulletin No. 12), p. 84. The prices are unadjusted for monetary changes.

[2] It seems desirable to confine comparisons to the corresponding quarter of earlier years, since the price data plotted in Chart 8 suggest that there may be an underlying seasonal tendency in the price movements of Italian and German, and perhaps also of French, wheat.

which were other periods of notably low post-war prices. Thus the 1930 world wheat crop excluding Russia and China seems not to have stood as far above the line of post-war trend as did the crops of 1923 and 1928; and if deviation from trend of world wheat crops ex-Russia and China[1] is an explanation of wheat price levels, the explanation fails because prices ought not to have ruled as low in August–November 1930 as in the same months of 1923 and 1928. If one adds to the world wheat crop ex-Russia and China the inward carryovers of wheat in the major exporting countries and in and afloat to Europe, the available supplies of wheat so calculated for 1930–31 likewise seem not to stand as far above the line of post-war trend as was true of available supplies in 1923–24 and 1928–29, though the relatively large carryover into 1930–31 brings the deviation from trend nearer to those of 1923–24 and 1928–29 than is the case if one leaves carryovers out of consideration. Even if one considers the world wheat crop including Russia but excluding China, it does not appear that the crop of 1930 was farther above the line of post-war trend than was that of 1928. Further, we are unable to reach a calculation of the margin between export surpluses and import requirements for 1930–31 that shows as wide a margin as existed in 1928–29, unless we include more than 100 million bushels for the Russian surplus, and allow less than 100 million bushels for the quantity of wheat likely to be fed to farm animals in the United States. Broomhall's current estimate of the margin between export surpluses and import requirements, 408 million bushels for 1930–31 is, however, larger than any margin which he has calculated for post-war years, though it is not much wider than his estimate of margins published in the latter part of 1928–29, which ranged from 352 to 400 million bushels. All told, the several sorts of statistical set-ups seem to us not to provide an adequate explanation of the strikingly low level of international wheat prices in August–November 1930.

[1] See Chart 1, p. 186.

[2] If, however, the wheat prices of 1928–29 and 1929–30 should be deflated by the wholesale price index numbers, the level of 1929–30 would be somewhat higher than that of 1928–29.

A more satisfactory explanation is to be found in consideration of changes in size of world wheat crops or of available supplies. Wheat prices were higher in 1924–25 than in 1923–24, principally because the wheat crop of 1924 fell below that of 1923; prices were lower in 1925–26 principally because the wheat crop of 1925 fell below that of 1924; and so on, the single post-war exception being that average annual prices in 1929–30 were not higher than those of 1928–29, in spite of the fact that the crop of 1929 was much smaller than the crop of 1928.[2] In accord with what has usually occurred (but, it should be noted, not always), prices in 1930–31 have thus far averaged lower than prices in 1929–30 largely because the portion of the crop of 1930 that usually plays a part in international trade was larger than that of 1929; and in effect it was made larger still by the unexpected appearance of Russia as a heavy exporter.

Nevertheless certain factors not readily included in statistical set-ups seem to have been important. One cannot escape the conclusion that the level of prices in August–November 1930 was as low as it was partly because the disposition to hold wheat seems to have become notably weak in the past year or more. In most of 1928–29, when wheat supplies were almost certainly more ample in relation to consumption requirements than they were in 1929–30 or are in 1930–31, prices were apparently sustained by widespread willingness to hold wheat stocks; the atmosphere of the wheat markets was one of optimism. Pessimism began to appear toward the end of that crop year, to be replaced by optimism induced by the Canadian crop scare in the summer of 1929. But at some time in the fall or winter of 1929–30, pessimism again became dominant, and has persisted since. It was apparently induced not only by a persistently unfavorable outlook for wheat prices themselves, including a prospective increase in the crop of wheat in 1930 as compared with 1929 and the appearance of Russia as a heavy exporter, but also by progressing inactivity in business, by depressed securities markets, and by declining prices of many commodities other than wheat, and probably by the accumulation of evidence that world wheat prices could not be greatly in-

fluenced, to say nothing of being controlled, by such organizations as the Federal Farm Board or the Canadian Pool. In the winters of 1923–24 and 1928–29, when prices were relatively low, holders of wheat had some reason to anticipate higher prices than those prevailing if only because the oncoming wheat crops could hardly be expected to prove as large as the current ones (bumper crops at the time), and because general business conditions were favorable and on the whole promising. This year, as in 1929–30, on the contrary, it has been and continues to be difficult to discover equally firm bases for entertaining an optimistic view, for the chances seem quite as well to favor a wheat crop in 1931 larger than that of 1930 as they do to favor a smaller one, and convincing evidence is lacking to show that a sharp revival of business activity must soon appear. In fact, merchants seem to feel themselves in the trough of the trade cycle.

## V. OUTLOOK FOR TRADE, CARRYOVERS, AND PRICES[1]

### Import Requirements and Export Surpluses

The international statistical position of 1930–31 is undeniably easy. In so far as it is possible quantitatively to evaluate exportable surpluses and import requirements, the surpluses now seem to exceed the requirements by a sizable margin. Quantitatively, the margin may or may not be wider than it was in 1923–24 or 1928–29; the difficulties involved in calculating margins preclude a trustworthy statement. Yet the main fact is nearly indisputable that importers now, as in those years, can see available for export more wheat than they are likely to need.

If European importing countries should take enough wheat (in terms of Broomhall's shipments to Europe) in 1930–31 (1) to bring domestic utilization up to the line of post-war trend and (2) to build up carryovers as much as they were built up in 1923–24 and 1928–29, and if ex-European countries aside from India should import as much wheat and flour as in 1928–29, when ex-European takings were very large, world import requirements would be 1,000 million bushels in 1930–31. If, on the other hand, European countries should reduce stocks somewhat and at the same time should reduce per capita wheat consumption, and if ex-European countries should take as little wheat as they did in 1924–25, when prices were high and takings very small, world import requirements for 1930–31 might be as low as 700 million bushels. This range, 700–1,000 million bushels, appears extreme in the sense that the data for past years suggest that the upper limit is a maximum, the lower limit a minimum. It would be more reasonable to say that the range of requirements in 1930–31 is around 775–875 million bushels, a range that we contemplated in our survey of the world wheat situation written in late August 1930. But it is necessary to observe that the bases of calculation do not warrant precise numerical evaluation of import requirements.

Nor are the bases for calculating exportable surpluses altogether secure. If a country's exportable surplus is to be defined as crop plus inward carryover, minus normal domestic use for food, feed, and seed and minimum carryover, one may reach a rough approximation to the world exportable surplus; but even for the major exporting countries the calculation will be only a rough one because of uncertainties surrounding in particular the definitions of normal domestic use for feed and minimum carryovers. For the minor exporting countries, the exportable surplus cannot be so defined, and one must fall back upon pure guesswork or upon deviation of crop from trends of production. Using these rough bases, one can conclude that the world exportable surplus is larger in 1930–31 than in any other post-war year (though only a little larger than in 1928–29), if the Russian surplus is taken at 100 million bushels, and if the United States surplus is taken as about 350 million bushels, as happens if one calculates normal use of wheat for feed at 50

[1] It is perhaps unnecessary to state that the calculations set forth in this section rest heavily upon standing official crop estimates, and upon our own evaluations of inward carryovers for 1930–31. Appendix Table XII contains most of the figures discussed, at least so far as concerns the four major exporting countries.

million bushels. But if it be assumed that use of wheat for feed in the United States must exceed 150 million bushels in 1930–31, then the world exportable surplus for 1930–31 would appear to be smaller than it was in 1928–29. So far as we are able to ascertain, the exportable surplus of 1930–31 ranks as a very large one; and the margin between exportable surpluses and import requirements is notably wide. But we are unable to evaluate the data in such a manner as to show conclusively that the margin of 1930–31 is by all odds the widest of post-war years; it appears to be narrower than that of 1928–29, and may not be much wider than those of 1929–30 or 1923–24. The unprecedentedly low post-war level of international wheat prices thus far in 1930–31 does not appear to be the result of an unprecedentedly wide margin between exportable surpluses and import requirements;[1] it reflects a wide margin, it is true, but it also reflects the downward phase of the world trade cycle.

### Volume of Trade and Sources of Exports

The volume of international trade that has transpired in the first third of the crop year is now of record, and developments in August–November provide something of an indication as to the probable volume of trade for the crop year.

In the preceding nine crop years, Broomhall's shipments in August–November have constituted from 28.5 to 35.7 per cent of the shipments recorded at the end of the several crop years—on the average, 32 per cent. Since shipments in August–November 1930 were 271 million bushels, it follows that, if post-war precedent is not to be broken, shipments in August–July 1930–31 might range anywhere from 760 to 950 million bushels; if the average post-war seasonal movement were to be followed, shipments would be 845 million bushels.

Better reasons appear for supposing that the percentage shipped in August–November will prove to be above average than that it will prove to be below. Stocks have accumulated in Europe somewhat as they did in 1924 and 1929, the years when the concentration of shipments in August–November was historically the greatest; and the tendency in the course of August–November 1930 was for shipments to decline more (or to increase less) than the average seasonal movement in these months. On the other hand, European stocks of import wheat seem not to have accumulated to so marked a degree as they did in 1929, and shipments in August–November 1930 have not tended to decline in relation to the post-war average as sharply as they did in 1929. It seems reasonable on the basis of the historical record to suppose that August–November shipments in 1930–31 may prove on the one hand to constitute a larger percentage of the year's total than has been the case on the average during the preceding nine years, and on the other hand a smaller percentage of the year's total than was the case in 1929–30. On this basis August–November shipments may constitute more than 32 and less than 35.7 per cent of the year's total in 1930–31; that is, total shipments may exceed 760 million bushels, and may fall below 845 million. Perhaps 800 million bushels, rather more than less, is as reasonable an approximation to the probable volume of overseas shipments in 1930–31 as the available information seems to warrant. If shipments prove to be 800 million bushels or more, net exports ought to be 825 million bushels or more, for net exports always exceed shipments, though by varying amounts in different years. The largest net exports of post-war years were about 945 million bushels in 1928–29; the smallest were about 625 million bushels in 1929–30.

No particularly reliable basis appears for anticipating what the net exports of the several minor exporting countries—the four Danube countries, India, Poland, Chile, and three French dependencies in northern Africa—may be. India has a big crop, and could export over 50 million bushels and still retain for domestic use as much wheat as has been retained on the average in the preceding five years. But shipments thus far have hardly exceeded 3 million bushels, the new-crop prospects have not been favorable, and historically India tends either to expand domestic consumption or to build up stocks when wheat prices are low. Net exports in 1930–31 seem unlikely to exceed

[1] This might be inferred, however, from Broomhall's calculations, which show the margin of 1930–31 to be the widest in post-war years.

10 million bushels unless prices rise sharply or the new crop turns out to be large; a reduction of domestic railway freight rates on wheat by nearly 50 per cent[1] on November 17 (effective until February 28, 1931) thus far gives no evidence of having stimulated the movement to export. The net exports of Poland, Chile, Algeria, Morocco, and Tunis may approximate 15 million bushels. As in India, the wheat crop of the Danube basin was large in 1930, and exports of as much as 60 million bushels could be made and domestic retention kept up to the level indicated by the trend of domestic utilization over the past nine years. But the moderate outflow of wheat in August–November (crop considered), the fact that the large crops are in Roumania and Bulgaria, the two countries that seem usually to absorb domestically the fluctuations in crops, and the low level of wheat prices suggest that net exports from the four countries may approximate 45 million bushels in 1930–31, or about 10 million smaller than the record post-war net exports of 1929–30.

It is difficult to anticipate how large Russian exports may prove to be; the uncertainties surrounding the Russian situation require no comment. In the first 20 weeks of the crop year, Russian shipments were a little over 70 million bushels. For some weeks Broomhall has carried an estimate of 88 million bushels for probable Russian shipments, though on December 3, 1930, he stated that "quite possibly the total put afloat next spring and summer may be roundly 6,000,000 quarters [48 million bushels] . . . ."[2] This would imply shipments of more than 110 million bushels for the year. The basis for expecting shipments of 48 million bushels next spring and summer is not clearly stated; one may infer, however, that the fact that Russia before the war exported heavily first in the autumn and again in the spring constitutes a significant background for the expectation. But before the war wheat flowed from Russia not as the judgment of officials dictated, but in response to economic circumstances; among other things, there was no such "collecting campaign," ending in December for the current crop year, as is now practiced. In view of this innovation, it seems quite as reasonable to guess that there will not be a striking revival of spring exports as that such a revival will occur, the more so because winter storage space available for the stocks already collected and owned by the government is probably not large. It seems not unreasonable to guess that Russian shipments (and presumably net exports) may not exceed 90 million bushels for the crop year. If so, selling pressure from Russia seems unlikely to be important in the remaining months of the crop year. But it must be emphasized that any such conclusion rests heavily upon mere guesswork.

August–July net exports from the United States (including shipments to possessions) seem likely to be notably small, perhaps smaller than in any other post-war year except 1925–26. The seasonal movement of monthly net exports in earlier years, taken in connection with net exports in August–November 1930, suggests that net exports and shipments to possessions in 1930–31 might be expected to be within the range of 85–170 million bushels. The indication based on the nine-year average seasonal movement is about 110 million bushels. With Chicago futures prices (except the July future) so far above Liverpool futures that a free flow of wheat to export is impossible, in view of the firm attitude toward the domestic price level expressed by Mr. Milnor of the Grain Stabilization Corporation[3] and in view of the fact that it would probably take some time to reach export parity on a general rise in world prices, we take it that 110 million bushels is a reasonable approximation to United States net exports (including shipments to possessions) for the crop year. On this basis exports could average 6.7 million bushels per month in December–July; this would be the smallest average monthly movement for these months in a decade, though not much smaller than in 1927–28. But the prevailing relationship of Chicago-Liverpool futures prices is also unprecedented. Except for the fact that more or less flour and more or less durum and substandard wheat would be exported under almost any conditions, it would be sur-

[1] See *Indian Trade Journal*, November 20, 1930, p. 428.

[2] *Corn Trade News*, December 3, 1930.

[3] If the Stabilization Corporation continues to support the May future and undertakes to support the June, and if Liverpool prices continue stable or decline, it would obviously be impossible to achieve export parity prior to July 1931.

prising that under prevailing price relationships exports could be made at all.

Since exports were fairly large in July 1930, but may be smaller in July 1931, it is possible that July–June net exports (including shipments to possessions) in 1930–31 may be larger than August–July net exports and shipments—perhaps 120 as contrasted with 110 million bushels.

Taken as a group, the exporting countries aside from Canada, Argentina, and Australia may perhaps be reasonably expected to furnish net exports of around 270 million bushels; if the total may be expected to reach 825 million, some 555 million bushels would have to be furnished by Canada, Argentina, and Australia. The full exportable surplus[1] of these countries seems to approximate 750 million bushels. A contrast of these figures lends emphasis to Broomhall's comment that "competition will be keen" in coming months.[2] Neither the record of past years nor the movement of wheat to export thus far in 1930–31 seems to provide a trustworthy indication of the contributions to be expected from Canada, Argentina, and Australia respectively. If only 555 million bushels will be exported from these three countries, it seems probable that one or the other, or all, must hold notably large stocks at the end of the crop year. Since wheat naturally tends to move more freely from Argentina and Australia, where storage facilities are inadequate, than from Canada, where storage facilities are superior, a reasonable guess would be that Australia should export around 150 million bushels, and Argentina around 160 million. If so, and if other exporters are to supply 270 million bushels of the probable total trade, Canada could export only 245 million bushels.[3] Exports as small as this, however, would probably leave the Canadian outward carryover at about 145 million bushels, much the highest level in recent years, and exceeding even the big carryover on August 1, 1930. It is difficult to believe that this will be allowed to occur. In order to strike a balance, Australian probable exports may tentatively be placed at 135 million bushels, Argentine at 140 million, and Canadian at 280 million. If our calculations are accurate, and if the data upon which they are based are accurate, Australia would retain the largest year-end stocks of post-war years, Canada would retain a carryover about equal to the big one of August 1, 1930, and Argentina would retain stocks on August 1, 1931, larger than in any other post-war year except 1929, following the bumper crop of 1928. The alternative seems to be that importing countries should choose to import more heavily than we have assumed to be probable; that the volume of trade as measured by net exports should substantially exceed 825 million bushels; and hence that outward carryovers in one or the other or all of these three exporting countries should be brought to a lower level than is implied by the above evaluations of probable net exports. Such developments are not altogether unlikely, and it is for this reason that our approximation of probable net exports, 825 million bushels, is to be regarded as low rather than high.

[1] Crops plus inward carryovers, minus minimum stocks and normal use for food, feed, and seed.

[2] As of December 3, 1930, Broomhall wrote in the *Corn Trade News:* "Reduced Russian shipments are bound to have a steadying influence, but any loss in this direction will certainly be made good when Argentina and Australia are shipping at full strength, and, assuredly, competition will then be keen, and it will be more than keen if Canada tries to force out large quantities from her heavy stock."

[3] European millers no longer over-value Canadian wheat.

### Outward Carryovers

The foregoing analysis carries certain implications with regard to outward carryovers, some of which have already been stated. Rather large stocks will probably be held in the Danube basin at the end of the year. In the European importing countries, year-end stocks will probably be smaller in France than they were when the year opened, but it is possible that increases may occur in other countries, notably the British Isles and Italy; perhaps it is reasonable to assume that increases will be larger than decreases. Even after the year has closed, however, it will be difficult to say whether or not an increase has occurred, for the evidence regarding consumption will be as uncertain as usual. Stocks of wheat afloat to Europe and in ports of the United Kingdom ought to run somewhat larger on August 1, 1931, than on the same date of 1930, if only because the volume of trade

promises to be larger rather than smaller in the closing months of 1930–31 than it was in the closing months of 1929–30. Stocks of Canadian wheat held in United States ports and of United States wheat in Canadian ports may not differ greatly from what they were on August 1, 1930; but the basis for judgment is tenuous. If Canadian net exports prove to be 280 million bushels, the outward carryovers might approximate 110 million bushels, or rather less than this if the quantity unmerchantable and lost in cleaning, and fed to animals as sound wheat, exceeds 30 million bushels. If Argentina and Australia should export 140 and 135 million bushels respectively, the year-end stocks would approximate 105 and 60 million bushels. Stocks in all these positions were perhaps around 425 million bushels when the year opened, though this figure contains a large element of estimate. The calculations above suggest that these stocks may approximate 500 million bushels, rather more than less, at the close of the year. So far as concerns three of the four major exporting countries, Europe ex-Russia, and wheat afloat to Europe, an increase of stocks seems fairly in prospect, though probably not to the record post-war level of August 1, 1929.

For the United States, on the assumption that both the crop of 1930 and the inward carryover on July 1, 1930, are correctly estimated, and that net exports and shipments in July–June 1930–31 will approximate 120 million bushels, some 405 million bushels would be available for outward carryover and for domestic disappearance as feed and waste in July–June 1930–31. The question is, how much of this quantity will be fed to livestock and wasted, how much carried over on July 1, 1931. The records of past years are of little value in reaching a decision. Historically (on the basis of post-war experience), the outward carryover might vary anywhere from 100 to 275 million bushels, leaving from 130 to 305 million bushels to be fed and wasted; to judge, on the other hand, by discrepancies between total available supplies and total calculable disappearance,[1] the computed quantity of wheat fed and wasted might range between nothing and 115 million bushels, leaving anywhere from 290 to 405 million to be carried over.

The unusual shortage of feedstuffs in the United States in 1930–31, especially of corn, creates the presumption that the feeding of wheat to animals will be practiced far more extensively than usual, though the usual amount so fed is by no means clear. Developments during July–December have tended to demonstrate that feeding of wheat has been widely practiced; not only have corn prices ruled extraordinarily high in relation to wheat prices, but attempts to determine by questionnaire the amount to be fed have indicated high figures. Reports to the United States Department of Agriculture suggested a figure of 236 million bushels; to Mr. Murray, statistician for Clement, Curtis, and Company of Chicago, about 167 million. Despite the care with which these evaluations were prepared, we see no reason to suppose that either of them must prove to have measured accurately the feed use of wheat; too much depends upon future changes in the price relationships between wheat, corn, other grains, and meat and dairy products. In certain respects, however, the figure of 236 million bushels looks high. The intentions to feed this quantity of wheat were expressed as of November 16; the price of corn (December future at Chicago) tended in most of December to decline rather sharply in relation to the price of wheat, so that the incentive to feed wheat in place of corn has been lessened. Again, if some 235 million bushels of wheat should be fed, the outward carryover would be about 170 million bushels. It is a little difficult, in view of the size of Bradstreet's visible supplies on December 6, 1930 (some 202 million bushels), and in view of the quantities of wheat held in earlier years on July 1, to envisage as large a reduction of Bradstreet's visible between early December and the end of June as must occur if the total outward carryover is to reach 170 million bushels. City mills, it is true, now have little incentive to carry wheat stocks,[2] and may not hold more than they did (or even as much as they did) on June 30, 1926, after a year when the July future tended, as it does this year, to stand below the May; on this date the mills held

[1] See Appendix Table XII.

[2] See below, pp. 217–18.

about 30 million bushels. July 1 stocks in country mills and elevators have never fallen below 20 million bushels since the war, and the same is true of stocks on farms; but with wheat prices the lowest in post-war years, it is difficult to see why stocks in these positions should fall as low as they have fallen under other circumstances. For July 1, 1931, minimum stocks in city mills, in country mills and elevators, and on farms might be 80 or 90 million bushels. If a figure of 85 million be taken, and a figure of 170 million for the total, the visible supply would have to be 85 million bushels; and it would have to be reduced by about 115 million bushels between December 13 and June 30. Historically, a reduction of this size would be strikingly large, some 30 million larger than the record post-war reduction that occurred between the same dates of 1929–30; and the historical record creates the presumption that as large a reduction as this is to be ranked as improbable—though not impossible, of course, if no comparable set of conditions making for reduction of visibles has prevailed in other years. Wheat does not readily move from visible positions back to farm animals.

In view of these circumstances, we are disposed to infer that the United States outward carryover is likely to exceed 170 million bushels, and the quantity of wheat fed to livestock to fall below 235 million bushels. Practically a reversal of these figures does not seem to do violence to the circumstances so far as we are able to envisage them; and tentatively we employ 225 million bushels as a useful approximation to the probable outward carryover, and 180 million bushels as the amount to be fed to livestock and wasted. A carryover of 225 million bushels implies a reduction of 50 million bushels from the record carryover on July 1, 1930, and would be smaller than the carryover of July 1, 1929. By comparison with other post-war years it would be a distinctly large one.

If the stocks should be reduced by 50 million bushels in the United States, total stocks in the four major exporting countries, and in and afloat to Europe, would probably remain somewhat larger at the end of 1930–31 than they were at the end of 1929–30, but not so large as at the end of 1928–29. The level would have to be described as a high one, and as one in itself not conducive to a high level of wheat prices.

## Prices

In our survey of the world wheat situation written in August 1930, we stated that, if the Southern Hemisphere did not harvest a big crop and if general business conditions should improve, there was hope of recovery of international wheat prices from the level of July–August 1930 (British parcels $1.05 per bushel). But prices have declined substantially, parcels prices averaging 80 cents per bushel in November 1930. The Southern Hemisphere did harvest a big crop; business conditions grew worse instead of better; and in addition, Russia exported very heavily, a development not foreseen in August. Our principal assumptions, which at the time were stated to be assumptions, proved to be erroneous.

It is necessary again to employ assumptions in considering the outlook for international prices in the ensuing months, say January–March or January–April. One cannot foresee the weather conditions of these months and their effect upon winter wheat; we assume that winterkilling will not be more in evidence than usual. We assume that business conditions will at best show only slight improvement; this seems to be the consensus among students of business activity. We assume that wheat crop estimates for 1930 will remain much as they stand at present. We further assume that exports from Russia will not be resumed in large volume in the spring or early summer, and will be small in the winter months. Any or all of these assumptions may prove to be erroneous. It seems desirable that they should be stated.

Under these assumptions, it is difficult to see how or why a substantial increase of international prices (British parcels) could occur in the next few months. It is almost certain that Argentina and Australia will ship wheat in large volume from their big crops in January–April at least; Canada also is in a position to ship heavily from Vancouver and from wheat in store at Eastern lake ports, and at the moment seems likely to do so. With stocks of import wheat rather large in many European ports, it is

difficult to see how selling pressure on the international market can be evaded. There are, however, some circumstances under which heavy shipments could be absorbed readily. Possibly a large quantity of Australian wheat, and a good deal of the lower grades of Canadian, will be absorbed in the Orient; it is possible, even probable, that shipments to ex-European countries should become decidedly large in the next few months (partly because Brazil may import heavily from the new Argentine crop), and that the year's shipments to ex-Europe should reach or even exceed 150 million bushels. It is possible that stocks of domestic wheat in France and Germany particularly have been so far worked down that decidedly heavier imports will be necessary in the coming months than were made in August–November. Hence even if British and perhaps Italian takings should fall off for a time, demand from other sources might more than offset the loss. Yet developments of this sort would presumably occur slowly; they would tend to keep prices steady rather than provide a spectacular cause for a substantial advance. And even if such developments take place, it is not clear that selling pressure could be evaded at all times. In general, on our stated assumptions, little reason appears for anticipating a substantial advance of prices—20 cents a bushel or more—in the next few months; steady or declining prices seem more reasonable to expect during January–April. But even as vague a formulation as this must be qualified; the markets may have discounted the bearish features.

After April, or possibly March, with the peak of the Southern Hemisphere export movement past (and no resumption of a heavy export movement from Russia), the factors that now suggest that selling pressure may continue on the international market will no longer carry great weight. If international trade, particularly to ex-Europe, proves to have been large in December–March, and if the North American visible supply decreases sharply on account of heavy feeding of wheat to animals in the United States, selling pressure ought to be less in evidence in the closing three or four months of the crop year. Many observers expect the trade cycle to turn upward in the spring; if this transpires quite significantly throughout the world, lending confidence to holders of wheat stocks, prices might rise substantially even in the absence of a crop scare. But the changing prospects for the crop of 1931, which at present can hardly be foreseen, may reasonably be expected to exert a strong influence upon prices.

## VI. FARM BOARD ACTIVITIES

Regarding the Farmers' National Grain Corporation and the Grain Stabilization Corporation as responsible to the Farm Board and interpreting their actions as expressing Farm Board policy and projects, we observe in the Farm Board program in the new crop year a change in the importance to be attached to the several activities. In our review of the first year of wheat under the Agricultural Marketing Act[1] we interpreted long-term planning as of greater significance than the short-term merchandising activities. The plans for contraction of acreage, co-operative organization of growers, and absorption of terminal distribution by growers assumed more significance than the price-influencing policies applied during the crop year 1929–30. Now, on the other hand, price-influencing measures put into effect in the new crop year must be regarded as the most significant development thus far evident.

The outstanding occurrence of the new crop year was the pegging of the United States price of wheat in November.[2] On November 25 it was indicated to the press that the Board expected to "stabilize" the price of wheat. Later the Stabilization Corporation ceased to buy December futures and bought May futures. Following the

[1] See WHEAT STUDIES, December 1930, Vol. VII, No. 2.

[2] It seems to be little to the purpose now to urge that supporting the price is not the same as pegging the price. When the Grain Stabilization Corporation undertakes to hold the price of May wheat from December to the end of the contract month to a stated figure, that must be regarded as equivalent to pegging the price of wheat over the interval. We hesitate to use "valorization" on account of the low international repute of the term; but it is difficult to explain why commentators in foreign countries should not now apply the term to the price-stabilization measures of the Grain Stabilization Corporation.

experience in the fall of 1929 and the spring of 1930, the trading public was fully prepared for the announcement that this action had been taken in view of demoralization in the grain markets of the world, to avert panicky selling, and to prevent further declines in domestic wheat prices. From late in November until the close of the calendar year, the December, March, and May futures remained practically constant from day to day. With the Stabilization Corporation supporting the market, the speculators ceased trading in the nearer futures and went into the July market or into other countries.

In a statement issued to the press by the president of the Grain Stabilization Corporation on December 23, 1930, the policy of the Corporation was revealed as follows:

> Undoubtedly the wheat that has been purchased by this company has had the effect of preventing a decline in domestic prices to an unwarranted lower level, thus giving producers and owners the benefit of prices more than 20 cents a bushel higher than Canadian and other foreign prices.
>
> Domestic conditions on the present crop do not justify lower prices and this company will continue to follow the policy of handling such surplus market offerings as may be necessary in order to maintain the present or a higher level.
>
> It is believed that the merchandising of the next six months' domestic requirements at the present or higher level will prove a distinct benefit, not only to wheat producers, owners and processors, but also to other lines of business.[1]

It was this announcement that indicated to the trade the intention of the Corporation at least up to the end of May 1931.[2] The announcement was interpreted as giving to mills and merchants notice to make the adaptations appropriate to their business. On December 25 Chairman Legge suggested imposition of embargo on wheat imports in order to exclude Canadian wheat and make the "stabilization" effective irrespective of the world price of wheat.

The operations of the Stabilization Corporation showed their effect when, late in November, the decline of prices in evidence since early August was checked in the United States,[3] but continued in Canada, Argentina, and Great Britain until the end of the calendar year, and continued also in the United States July futures. On the last day of December 1930 the May future in Chicago stood 27 cents over the Winnipeg May future and 19 cents over the Liverpool May future. The Chicago July future, however, stood only 7 cents above the Winnipeg July, and 1 cent below the Liverpool July. The Chicago July future stood 19 cents below the Chicago May.

This relationship was inevitably a serious circumstance for American millers. Before the Stabilization Corporation was in the market in furtherance of a formal price policy, during July–October, the relations of cash to futures and of futures prices in different months and markets to each other represented cash and speculative transactions. Millers were then able to protect themselves by hedging, though declining prices disturbed buying of flour and provoked efforts at evasion of commitments on forward purchases. As soon as the Grain Stabilization Corporation undertook to support the price, and particularly when it came to be understood that the price would be supported at something like 80 cents at least to the close of the May contracts, the practical marketing problems of millers and cash grain dealers took on a totally different aspect. We take it as not the intent of the Congress to have wheat growers take over the milling of wheat; therefore, it does not lie in the fulfilment of the objectives of the Agricultural Marketing Act to make the milling of wheat and the distribution of flour uneconomical and hazardous. That this has occurred, is not to be denied. Grain merchants were of course also put to losses and inconveniences, but their embarassment is merely one additional incident in the process, contemplated in the Agricultural Marketing Act, of absorbing their business.[4]

[1] *Chicago Journal of Commerce*, December 23, 1930, p. 1.

[2] Recent behavior of the June future, which is quoted at prices much nearer to the May than to the July, suggests that stabilization (of cash or futures or both) is contemplated for the month of June.

[3] In view of the relation of Chicago futures to Liverpool futures during the past three years, it cannot be assumed that, if the Grain Stabilization Corporation had not supported the domestic price of wheat, our price would have declined to 15–20 cents below the Liverpool price; speculation might still have kept the domestic price upward out of line with Liverpool.

[4] It is to be assumed that the holders of wheat included under the Farmers' National Grain Corporation would be able to transfer their liabilities to the Grain Stabilization Corporation.

With the May future (also the March) pegged by the Stabilization Corporation and the July future determined on a free market by speculation, carrying charges on wheat stocks were abolished. Millers have not infrequently faced reverse carrying charges in the transition from one crop year to the next; but the situation created by an arbitrary spread of 15–20 cents (on the basis of December experience) between the price of wheat at the end of May (or at the close of the present crop year) and the beginning of the next crop represented for millers a critical prospect. Assuming a continuation of the relative positions of American and world wheat prices, millers had to plan to scale down a price precipice before or after the first of next July. In the interval, they have to maintain the volume of operations required by the needs of the country and continue to furnish flour meeting in quality and uniformity the specifications of the trade. It necessitates a progressive building down of stocks and a hand-to-mouth operation between wheat purchases and flour sales. Under these circumstances, it would not be expected that the accustomed efficiency could be maintained in the manufacture of flour; also, the mills would lose the income which under usual conditions they were able to earn in the operation of their storage facilities. The prices of flour have followed the prices of cash wheat closely. Certainly it is not surprising that flour millers found the policy of the Grain Stabilization Corporation highly prejudicial to their normal interests, though some mills may have found the circumstances to their advantage. If supported price were continuous through the year and extended from year to year, mills would cease to hedge and rely on the Stabilization Corporation for their wheat; it is the in-and-out of the supporting operations which creates the critical difficulties. The support of the domestic price has made export of flour practically impossible except under special circumstances. So long as price is supported, millers enjoy a firm price of wheat, but no gain from mixing, storing, or hedging. The only profit possible must come over cost of materials and conversion; and taking milling as a whole, this represents a low rate of return. The Grain Stabilization Corporation is in position to alleviate the difficulties of millers by avoiding a "squeeze" in May, by appropriate transactions in June futures to facilitate transfer of hedges or by offering old wheat in exchange for new wheat in September–October without loss to the mills.

The pegging of the United States wheat price after November 1930 seems to have brought to light an aspect of Board policy not previously in evidence, and one of highly significant implications. The statement issued on December 23 by the head of the Grain Stabilization Corporation contains the declaration that the supported price level of wheat "will prove a distinct benefit, not only to wheat producers, owners, and processors, but also to other lines of business." Under "other lines of business" might be interpreted a reference to banks and grain companies (outside of the Farmers' National Grain Corporation) which had become overextended during the price decline. We take it, however, that the reference to "other lines of business" has a broader import and applies to activities not directly connected with wheat. We take it that one of the motives for holding the price of wheat up to 80 cents for the remaining futures of the crop year was to make a contribution to the armamentarium against business depression.

If sustaining the price of wheat is held to serve not only the commercial interest of wheat growers but also the economic interest of other lines of business, the question naturally arises why the operation has been limited to wheat. Unless one accords to wheat a preference corresponding to primogeniture, it would seem to follow that supporting the prices of oats, barley, and rye at levels appropriate to 80-cent wheat would have protected the growers of these grains from price declines regarded as unwarranted, and would have contributed also to the combat against the business cycle. It would hardly be an effective rejoinder in theory, though it might be conclusive in practice, to reply that the Congressional appropriation was not large enough to include support of prices of the other grains. Possibly on both internal and external grounds a corresponding argument might be conducted on behalf of

other agricultural products—for example, cotton, wool, and lard.

It is important to envisage the circumstance that a new element has entered into so-called price stabilization of agricultural products. It would seem to enforce a reinterpretation of agricultural distress and a re-examination of the permissive powers of the Farm Board under the Agricultural Marketing Act, if the operations of the subsidiaries of the Farm Board envisage urban relief as well as farm relief. Operations based on conditions internal to the individual commodity and designed to improve a particular branch of agriculture, with the gains accruing to individual farmers, have, we infer, been supplemented by operations based on conditions external to the individual commodity, related to the business depression. The prices of raw materials the world over have fallen to levels touching or exceeding the lowest prices of half a century. Silver at less than 30 cents, copper at 9 cents, rubber at lower than 10 cents, and raw sugar down to 1 cent represent illustrations of price declines as pronounced as 60-cent wheat at Liverpool. Whatever relations within the commodity are expressed in the low prices of raw materials, the stamp of the trade cycle is on them all. If support of the prices of the raw materials during the business depression, which constitutes the downward phase and trough of the trade cycle, is to be one of the measures for the control of the cycle, the policy is one of outstanding significance. If the price of a commodity is to be supported in the name of general business as well as in the name of the producers of that commodity, the policy should be placed on the program for public discussion, in order that the implications, obligations, and consequences may be evaluated. A lowering of the rediscount rate of central banks brings into operation factors tending to raise the general price level. The present rates are very low; the rate of the New York bank is 2 per cent, the lowest in the world. Whether government agencies should directly support commodity prices, pending the oncoming of the upswing of the trade cycle supported by low bank rates, represents a theoretical and practical question of large import.

Leaving general considerations and returning to the special case, let us approach the practical question of immediate interest. Whether the Farm Board will under certain circumstances, or will not under any circumstances, support the domestic price of wheat in the new crop year is the most important question in the last half of the present crop year.

The price-pegging actions established in November 1930 suggest, with reference to the wheat price, that the Farm Board thus far has contemplated only a policy of influencing the intraseasonal fluctuation of domestic wheat prices. Directly or through subsidiaries, the Board has entered the market three times since its organization. In the fall of 1929, the Board offered loans to co-operatives to enable growers to hold back wheat. The Board held that current prices did not reflect conditions of supply and demand, and growers were urged to withhold marketing in order to obtain later the expected higher prices. The operation was originally limited to members of co-operatives; the terms of the loans had for the recipients the effect of fixing a minimum price of around 115 cents at Chicago. During February–May 1930 the Grain Stabilization Corporation bought wheat futures to support the May wheat price. Since the Corporation was not limited in the volume of futures purchased, it seems fair to assume that the price of wheat futures in May represented the level contemplated by the Board. The May future in Chicago during April–May averaged 106 and closed at 105 cents. In November 1930 the Grain Stabilization Corporation supported the price of the December futures at Chicago at around 76 cents; later the operation was extended to other futures. It is presumed to be the intention of the Farm Board and the Grain Stabilization Corporation to maintain the price of the May future at or above 80 cents to the closing of the May contract, and inferentially the June option (and cash) at about the same level.

In short, regarding minimum price, supported price, and pegged price as equivalent for the purpose of the present discussion, we have the outstanding fact that within fifteen months the Farm Board supported the wheat price at three successively lower levels, roughly 115, 105, and 80 cents.

The Farm Board has made it clear that the three operations were isolated and not connected, since each one was undertaken to support a particular price at a time when decline was not regarded as warranted, under the circumstances of supply and demand as the Farm Board appraised them. One cannot regard these three sets of operations as "stabilization" in the sense in which the term is commonly employed, though the Farm Board and its subsidiaries have used the term merely to describe support of the market against untoward price decline. If "stabilization" includes equalizing the domestic price as between larger and smaller crops, the operation is necessarily an interseasonal one, thus far not undertaken. The Board has not announced whether or not interseasonal stabilization is contemplated. The annual report of the Farm Board may be interpreted to suggest that this is regarded as unpracticable or undesirable; and the striking change in the levels at which price support was undertaken (notably the lowering of 25–30 cents in the levels between February and November 1930)[1] tends to confirm the impression that interseasonal stabilization is not regarded favorably.

[1] One may reasonably suppose that the precise levels at which price support was undertaken were not determined by precise statistical appraisal of the wheat price situation and the factors bearing upon it, but were in a sense opportunistic. We take it that in large part the changes in level must have represented retrospective recognition of developments in the world trade cycle.

[2] The Grain Stabilization Corporation held something over 60 million bushels of wheat on July 1, 1930. How much more wheat had come into its possession at the close of December 1930 as a result of the third price-supporting operation is not on public record, but the total was then supposed to be in the neighborhood of 130 million bushels. How many bushels will be in the possession of the Farmers' National Grain Corporation and the Grain Stabilization Corporation when the May (possibly the June) contracts are closed out by delivery depends largely on the disappearance of wheat (by milling and feeding to animals) in the interval. If the policy of November–January 1930–31 is persisted in till the end of June, apart from wheat on farms and the lowest practicable stocks of wheat in mills and elevators, the Grain Stabilization Corporation and the Farmers' National Grain Corporation will hold practically all the old-crop wheat remaining in the country. With May wheat at Chicago pegged far above Liverpool and Winnipeg, exports of domestic wheat and of flour ground from domestic wheat will continue low. The price of the futures has shown a tendency gradually to rise under the support of the Farm Board, but the price of cash wheat has tended to lag, and this has

At the moment the question confronting farmers, bankers, grain dealers, and millers is whether or not the Farm Board, presumably acting through the Grain Stabilization Corporation, will elect to undertake price-supporting measures in the early months of the next crop year, i.e., July–June 1931–32; and if so, at what level of price for, let us say, the July and September futures at Chicago. No direct statement of intentions has been issued by the Board or the Grain Stabilization Corporation. Hence observers, interested and disinterested, must fall back upon the implications inherent in earlier actions and upon an evaluation of the circumstances that may arise.

The record of earlier operations is not conclusively controlling. Even though the policy of the Board has not seemed to include interseasonal price stabilization, it does not seem to exclude changes in the definition of a price at which "emergency" operations may be undertaken. Nor does it seem to be based upon a theory as to the time when an emergency operation ought to be undertaken. No inconsistency with earlier statements or actions would be involved in announcing before or on July 1, 1931, that the price of the Chicago July future would be supported at the price of that future prevailing during May and June. No inconsistency would be involved in supporting the market without naming a price, as was done early in 1930. No inconsistency would exist in entering on support of the market, with or without designation of price level, at a later date than July 1. The continuation or abandonment of price-supporting measures, the choice of price level, and the timing of action if support is undertaken appear not to be controlled or conditioned by theory or actions already on record. Importance attaches rather to the circumstances that may arise if the Liverpool price moves upward or downward or continues unchanged, and to the present and prospective expenditures involved in accumulating and carrying wheat, in the light of the balance in the revolving fund at the close of the crop year.

About all that can be said with assurance of the relationship of commitments against the revolving fund to wheat stocks[2] is that less money was available for the operation

beginning last November than was available for the previous operation and (barring sales of stocks) potentially less money will be available after July 1.

Entering the new crop year the shrinkage in the revolving fund consequent on commitments on behalf of other branches of agriculture and on the wheat stocks in the hands of the Stabilization Corporation can hardly fail to engender caution in entering upon new price-supporting measures. On the whole, the state of the budget of the Board, when taken in conjunction with the Board's expressed reluctance to undertake price support except in emergencies, suggests, other things equal, that active support of the new-crop price level is less clearly in prospect than absence of action, though passive support might be accorded by holding the accumulated stocks from the cash market. At the same time, there is no known reason to suppose that the revolving fund has been so far tied up by commitments and depleted by losses that price-supporting operations in respect of new-crop wheat price are altogether out of the question for 1931–32, except with support of new Congressional action; they are merely made less probable than they would be if funds had not already been so heavily employed. Nor is it to be assumed that Congress is in the mood to drop support of wheat prices at the present stage.

It is rather the level of Liverpool prices that happen to prevail during, let us say, May–September 1931 that will condition the price-influencing tactics of the Farm Board and its subsidiary corporations. Holding and accumulating stocks as a merchandising venture, the Grain Stabilization Corporation is now in effect gambling upon an increase in the Chicago wheat price. The Farm Board hopes for such increase in the price of wheat as would enable it to dispose of its stocks without loss. Is there, on the other hand, a price for the new crop which the Farm Board will be likely to regard as a fourth emergency? It is possible to envisage, under different sets of circumstances of different degrees of likelihood, that the wheat price level of the world at the beginning of the new crop year, as revealed in the Liverpool price, might be lower, about the same, somewhat higher, or substantially higher than at the end of December 1930. In the meantime, the developments in the business cycle may be expected to give evidence of a forthcoming trend in the general price level. Without undertaking to conjecture what might be the policy of the Board at the different possible new price levels of wheat,[1] let us endeavor to envisage the problem and prospect with continuation of the current price level and of current price relationships.

If, entering the new crop year, the Farm Board finds a Liverpool price of, let us say, 60–70 cents, or even up to 80 cents, without signs which to the Board indicate change, and without regard for the Southern Hemisphere crop, what would be the expectation of growers in general and of those included in the Farmers' National Grain Corporation? What would be the alternatives before the Grain Stabilization Corporation?

If the Stabilization Corporation should remain out of the market under such circumstances, this in effect would leave wheat growers exposed to the embarrassment from which the Corporation sought to protect them by supporting the price at 80 cents. It is not to be questioned that many wheat growers would regard failure to support the wheat price as desertion. It would be difficult to explain that the price which was considered an emergency in 1930–31 was not considered an emergency in 1931–32. The action could of course be defended on purely financial grounds, but we take it this would be found acceptable or understandable only if sup-

led to purchase of cash wheat by the subsidiaries of the Farm Board. The Grain Stabilization Corporation may have merely had the desire to have the farmer receive the full equivalent of the futures price, but a deeper interpretation is possible. Conjecturally, the Stabilization Corporation may plan to secure during January–March the wheat approximating its estimate of the carryover it must expect to receive at the close of May, rather than to await delivery on futures contracts in May. In this case, a gradual rise in the price would represent a profit. But if this is the plan, and the price rises until the end of May, then in the event of an underestimate of the carryover the Stabilization Corporation would need to accept deliveries of wheat at a loss.

[1] Vice-Chairman Stone of the Farm Board was quoted in the *United States Daily* of January 6, 1931, to the effect that the amount of wheat being fed to animals might prove to be so much larger than the amount estimated (236 million bushels) that the carryover on June 30 would be so much reduced as to bring about a substantial rise in the price of wheat.

ported by the Congress. Not to operate in the crop year 1931–32 would be regarded as abandonment of price stabilization, and growers in favor of some form of direct price support would thereupon invoke the equalization fee or the export debenture. In the event of such a decision, we take it that the Stabilization Corporation would continue to withhold its stocks from the market, in order not to sell them in competition with the 1931 crop. Under such a course, the prices of cash wheat and futures would be determined on free markets; and millers, independent grain dealers, and cooperative marketing associations would be in position to hedge according to their accustomed practices. Even under such circumstances, however, it would not follow that the price of Chicago futures would occupy such a position in relation to Liverpool futures as would facilitate exports.

If, on the other hand, the Board should decide to support the new-crop price (to combat the business cycle, to subsidize desperate wheat growers, in acceptance of an interseasonal operation, in the belief of a later impending rise in price, or for any other reason), speculators would leave the supported markets and millers and grain dealers would face a continuation of difficulties in hedging. Month by month, the Grain Stabilization Corporation would face the prospect of adding further stocks of wheat to the accumulated carryover brought into the 1931 crop.

If such an action were undertaken early in the new crop year, it would need to be carried through irrespective of the prospect of accumulating losses, of the reactions of other branches of agriculture, and of the protests of the non-agricultural population. In the nature of the process, it is not one that can be reversed in midstream. And it is in part because a decision to continue support of wheat prices can hardly be revoked after it is under way that the decision ought to be arrived at and announced as soon as possible.

It is worth pointing out that, if the Grain Stabilization Corporation undertakes to support the price of wheat in the new crop year, it will not merely encounter a fourth operation, but it will undertake a task different from the other three. The three previous price-supporting operations were undertaken only after the natural price level for the crop year had been indicated by months of open trading. If the Corporation were to undertake to support the July and September futures at the opening of the crop year, this would represent an attempt to fix the new crop-year price instead of an intervention in a crop-year price indicated by open trading. The difficulties might be obviously quite different, the implications more far-reaching, and the obligations more profound.

If perchance the wheat price for the new crop year should rise to a substantial extent above that of the present season, the Grain Stabilization Corporation would be placed in position to exchange a program for support of wheat price for a program for liquidation of wheat stocks. This would necessitate technical procedures in themselves difficult enough, if the interests of both growers and millers were to be safeguarded. Trade opinion inclines to the view that the operations of the Grain Stabilization Corporation after July 1 will include neither support of the wheat price nor liquidation of the wheat stocks. The remarks of Senator Smoot in the Senate on December 20 may perhaps be interpreted to the same general effect. If the world price of wheat in the new crop year stands about where it did at the close of the last calendar year, the Farm Board and the Grain Stabilization Corporation will face in July a situation that may become an impasse. The dilemma will not only be crucial in July (unless previously solved by declaration of policy), but the prospect of it will exert an influence on the wheat price in the interval, abroad as well as in the United States.

*This study is the work of M. K. Bennett, Helen C. Farnsworth, and Alonzo E. Taylor, with the aid of P. S. King, Robert F. Lundy, and Katharine Merriam*

# APPENDIX

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1920–30*

*(Million bushels)*

| Year | United States | Canada | India | Australia | Argentina | Chile | Uruguay | Hungary | Bulgaria | Jugo-Slavia | Roumania | Soviet Russia | Mexico |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1920 | 833.0 | 263.2 | 377.9 | 145.9 | 156.1 | 23.2 | 7.8 | 37.9 | 29.9 | 43.0 | 61.3 | ..... | 15.0 |
| 1921 | 814.9 | 300.9 | 250.4 | 129.1 | 191.0 | 23.6 | 10.0 | 52.7 | 29.2 | 51.8 | 78.6 | ..... | 5.1 |
| 1922 | 867.6 | 399.8 | 367.0 | 109.5 | 195.8 | 25.9 | 5.2 | 54.7 | 32.6 | 44.5 | 92.0 | ..... | 13.6 |
| 1923 | 797.4 | 474.2 | 372.4 | 125.0 | 247.8 | 28.1 | 13.3 | 67.7 | 29.1 | 61.1 | 102.1 | 419.1 | 13.7 |
| 1924 | 864.4 | 262.1 | 360.6 | 164.6 | 191.1 | 24.5 | 9.9 | 51.6 | 24.7 | 57.8 | 70.4 | 472.2 | 10.4 |
| 1925 | 676.8 | 395.5 | 331.0 | 114.5 | 191.1 | 26.7 | 10.0 | 71.7 | 41.4 | 78.6 | 104.7 | 782.3 | 9.2 |
| 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 | 776.0 | 11.9 |
| 1928 | 914.9 | 566.7 | 290.9 | 159.7 | 349.1 | 29.7 | 15.2 | 99.2 | 49.2 | 103.3 | 115.5 | 795.2 | 11.0 |
| 1929 | 809.2 | 304.5 | 320.7 | 126.5 | 162.6 | 37.1 | 13.4 | 75.0 | 33.2 | 95.0 | 99.8 | 702.9 | 11.3 |
| 1930 | 851.0 | 395.9 | 386.5 | 214.8 | 271.4 | .... | .... | 73.3 | 61.0 | 89.0 | 130.8 | 1,157.4 | 11.3 |
| Average 1909–13 | 690.1 | 197.1 | 351.8 | 90.5 | 147.1 | 20.1 | 6.5[a] | 71.5 | 37.8 | 62.0 | 158.7[a] | 758.3[b] | 11.5[a] |
| 1925–29 | 821.5 | 430.7 | 320.5 | 135.9 | 243.0 | 29.5 | 12.8 | 79.5 | 40.5 | 81.0 | 105.5 | 794.0 | 10.7 |

| Year | Morocco | Algeria | Tunis | Egypt | British Isles | France | Germany | Italy | Belgium | Netherlands | Denmark | Norway | Sweden |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1920 | 17.9 | 16.2 | 5.2 | 31.7 | 58.0 | 236.9 | 82.6 | 142.3 | 10.3 | 6.0 | 7.4 | 1.00 | 10.3 |
| 1921 | 23.2 | 28.5 | 9.0 | 37.0 | 77.1 | 323.5 | 107.8 | 194.1 | 14.5 | 8.6 | 11.1 | .97 | 12.3 |
| 1922 | 12.9 | 18.9 | 3.7 | 36.0 | 66.4 | 243.3 | 71.9 | 161.6 | 10.6 | 6.2 | 9.2 | .64 | 9.5 |
| 1923 | 20.0 | 36.2 | 9.9 | 40.7 | 60.6 | 275.6 | 106.4 | 224.8 | 13.4 | 6.2 | 8.9 | .59 | 11.0 |
| 1924 | 28.8 | 17.3 | 5.1 | 34.2 | 53.9 | 281.2 | 89.2 | 170.1 | 13.0 | 4.6 | 5.9 | .49 | 6.8 |
| 1925 | 23.9 | 32.7 | 11.8 | 36.2 | 53.7 | 330.3 | 118.2 | 240.8 | 14.5 | 5.7 | 9.7 | .49 | 13.4 |
| 1926 | 16.2 | 23.6 | 13.0 | 37.2 | 52.2 | 231.8 | 95.4 | 220.6 | 12.8 | 5.5 | 8.8 | .59 | 12.2 |
| 1927 | 23.5 | 28.3 | 8.3 | 44.3 | 57.2 | 276.1 | 120.5 | 195.8 | 16.3 | 6.2 | 9.4 | .60 | 15.3 |
| 1928 | 24.7 | 30.3 | 12.1 | 37.3 | 50.9 | 281.3 | 141.6 | 228.6 | 17.2 | 7.3 | 12.2 | .80 | 19.2 |
| 1929 | 31.8 | 33.2 | 12.3 | 45.2 | 50.9 | 319.9 | 123.1 | 260.8 | 13.2 | 5.5 | 11.8 | .75 | 19.0 |
| 1930 | 19.5 | 30.6 | 9.7 | 41.1 | 39.7[c] | 232.0 | 131.2 | 213.1 | 13.6 | 4.9 | 10.5 | .77 | 22.0 |
| Average 1909–13 | 17.0 | 35.2 | 6.2 | 33.7 | 59.6 | 325.6 | 131.3 | 184.4 | 15.2 | 5.0 | 6.3 | .31 | 8.1 |
| 1925–29 | 24.0 | 29.6 | 11.5 | 40.0 | 53.0 | 287.9 | 119.8 | 229.3 | 14.8 | 6.0 | 10.4 | .65 | 15.8 |

| Year | Spain | Portugal | Switzerland | Austria | Czecho-Slovakia | Poland | Finland | Latvia | Estonia, Lithuania | Greece | Japan, Chosen | South Africa | New Zealand |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1920 | 138.6 | 10.4 | 3.6 | 5.4 | 26.4 | 22.7 | .27 | .39 | 2.58 | 11.2 | 39.4 | 7.6 | 6.9 |
| 1921 | 145.1 | 9.3 | 3.8 | 6.5 | 38.7 | 40.5 | .58 | .78 | 3.34 | 10.3 | 38.0 | 8.7 | 10.6 |
| 1922 | 125.5 | 10.0 | 2.5 | 7.4 | 33.6 | 46.8 | .71 | .96 | 4.17 | 9.0 | 38.1 | 6.3 | 8.4 |
| 1923 | 157.1 | 13.2 | 3.8 | 8.9 | 36.2 | 54.9 | .69 | 1.64 | 3.70 | 8.8 | 33.6 | 6.0 | 4.2 |
| 1924 | 121.8 | 10.6 | 3.1 | 8.5 | 32.2 | 37.5 | .79 | 1.58 | 3.86 | 7.7 | 35.7 | 7.1 | 5.4 |
| 1925 | 162.6 | 12.5 | 3.5 | 10.7 | 39.3 | 63.9 | .93 | 2.16 | 6.08 | 11.2 | 40.0 | 9.2 | 4.6 |
| 1926 | 146.6 | 8.6 | 4.2 | 9.4 | 34.1 | 52.5 | .92 | 1.86 | 5.02 | 12.4 | 38.7 | 8.3 | 8.0 |
| 1927 | 144.8 | 11.4 | 4.1 | 12.0 | 47.2 | 61.1 | 1.06 | 2.64 | 6.35 | 13.0 | 38.3 | 6.0 | 9.5 |
| 1928 | 119.9 | 7.5 | 4.3 | 12.9 | 51.5 | 59.2 | 1.00 | 2.50 | 7.36 | 13.1 | 39.4 | 6.7 | 8.8 |
| 1929 | 154.2 | 10.6 | 5.8[d] | 11.6 | 52.9 | 65.9 | 1.10 | 2.34 | 10.60 | 8.5 | 38.8 | 11.1 | 7.3 |
| 1930 | 145.1 | 13.2 | 5.3[d] | 11.4 | 53.1 | 70.2 | 1.19 | 3.67 | 10.91[e] | .... | 38.4 | 11.4 | ... |
| Average 1909–13 | 130.4 | 11.8[f] | 3.3 | 12.8 | 37.9 | 61.7 | .14 | 1.48 | 3.63 | 16.3[f] | 32.0 | 6.3[a] | 6.9 |
| 1925–29 | 145.6 | 10.1 | 4.4 | 11.3 | 45.0 | 60.5 | 1.00 | 2.30 | 7.08 | 11.6 | 39.0 | 8.3 | 7.6 |

* Data of U.S. Department of Agriculture and International Institute of Agriculture. For 1909–13, including U.S. Department of Agriculture estimates for area within post-war boundaries. Dots (...) indicate that data are not available. See Appendix Table II for our adjustments of certain official estimates of the four major exporting countries.

[a] Four-year average.

[b] Regarded as too low by some Soviet officials, whose estimate is 908 million bushels.

[c] England and Wales only.

[d] Includes spelt and meslin.

[e] Lithuania only.

[f] One year only.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1920–30*

| Year | United States | Canada | Soviet Russia | Lower Danube[a] | Other Europe | Northern Africa[b] | India | Other Northern Hemisphere[c] | Northern Hemisphere ex-Russia[d] | Argentina | Australia | Other Southern Hemisphere[c] | Southern Hemisphere[d] | World ex-Russia[d] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | MILLION BUSHELS | | | | | | | | | | | | | |
| 1920..... | 833 | 263 | ... | 172 | 776 | 39 | 378 | 86 | 2,550 | 156 | 146 | 48 | 350 | 2,900 |
| 1921..... | 815 | 301 | ... | 212 | 1,009 | 61 | 250 | 80 | 2,730 | 191 | 129 | 56 | 375 | 3,105 |
| 1922..... | 868 | 400 | ... | 224 | 820 | 35 | 367 | 88 | 2,800 | 196 | 109 | 49 | 355 | 3,155 |
| 1923..... | 797 | 474 | 419 | 260 | 996 | 66 | 372 | 88 | 3,055 | 248 | 125 | 55 | 425 | 3,480 |
| 1924..... | 864 | *275* | 472 | 204 | 853 | 51 | 361 | 80 | *2,690* | 191 | 165 | 50 | 405 | *3,095* |
| 1925..... | *700* | *430* | 782 | 296 | 1,100 | 68 | 331 | 85 | *3,010* | 191 | 115 | 54 | 360 | *3,370* |
| 1926..... | *850* | *415* | 914 | 294 | 915 | 53 | 325 | 86 | *2,940* | 230 | 161 | 52 | 445 | *3,385* |
| 1927..... | 878 | 480 | 776 | 272 | 1,001 | 60 | 335 | 94 | 3,120 | *290* | 118 | 65 | *475* | *3,595* |
| 1928..... | 915 | 567 | 795 | 367 | 1,038 | 67 | 291 | 88 | 3,335 | *350* | 160 | 64 | *575* | *3,910* |
| 1929..... | *825* | 305 | 703 | 303 | *1,158* | 77 | 321 | 95 | *3,085* | *175* | 126 | 72 | *375* | *3,460* |
| 1930..... | 851 | 396 | 1,157 | 354 | *1,000* | 60 | 387 | 91 | *3,140* | 271 | 214 | *70* | *555* | *3,695* |
| Average 1909–13.. | 690 | 197 | 758 | 330 | 1,015 | 58 | 352 | 77 | 2,720 | 147 | 90 | 43 | 280 | 3,000 |
| 1925–29.. | 834 | 439 | 794 | 306 | 1,042 | 65 | 321 | 90 | 3,100 | 247 | 136 | 61 | 445 | 3,545 |
| | PERCENTAGE | | | | | | | | | | | | | |
| 1920..... | 28.7 | 9.1 | ... | 5.9 | 26.8 | 1.4 | 13.1 | 3.0 | 87.9 | 5.4 | 5.0 | 1.7 | 12.1 | 100.0 |
| 1921..... | 26.2 | 9.7 | ... | 6.8 | 32.5 | 2.0 | 8.1 | 2.6 | 87.9 | 6.1 | 4.2 | 1.8 | 12.1 | 100.0 |
| 1922..... | 27.5 | 12.7 | ... | 7.1 | 26.0 | 1.1 | 11.6 | 2.8 | 88.8 | 6.2 | 3.4 | 1.6 | 11.2 | 100.0 |
| 1923..... | 22.9 | 13.6 | ... | 7.5 | 28.6 | 1.9 | 10.7 | 2.6 | 87.8 | 7.1 | 3.6 | 1.6 | 12.2 | 100.0 |
| 1924..... | 27.9 | 8.9 | ... | 6.6 | 27.6 | 1.6 | 11.7 | 2.6 | 86.9 | 6.2 | 5.3 | 1.6 | 13.1 | 100.0 |
| 1925..... | 20.8 | 12.8 | ... | 8.8 | 32.6 | 2.0 | 9.8 | 2.5 | 89.3 | 5.7 | 3.4 | 1.6 | 10.7 | 100.0 |
| 1926..... | 25.1 | 12.3 | ... | 8.7 | 27.0 | 1.6 | 9.6 | 2.5 | 86.9 | 6.8 | 4.8 | 1.5 | 13.1 | 100.0 |
| 1927..... | 24.4 | 13.4 | ... | 7.6 | 27.8 | 1.7 | 9.3 | 2.6 | 86.8 | 8.1 | 3.3 | 1.8 | 13.2 | 100.0 |
| 1928..... | 23.4 | 14.5 | ... | 9.4 | 26.5 | 1.7 | 7.4 | 2.3 | 85.3 | 9.0 | 4.1 | 1.6 | 14.7 | 100.0 |
| 1929..... | 23.9 | 8.8 | ... | 8.8 | 33.5 | 2.2 | 9.3 | 2.7 | 89.2 | 5.0 | 3.6 | 2.1 | 10.8 | 100.0 |
| 1930..... | 23.0 | 10.7 | ... | 9.6 | 27.1 | 1.6 | 10.5 | 2.5 | 85.0 | 7.3 | 5.8 | 1.9 | 15.0 | 100.0 |
| Average 1909–13.. | 23.0 | 6.6 | ... | 11.0 | 33.9 | 1.9 | 11.7 | 2.6 | 90.7 | 4.9 | 3.0 | 1.4 | 9.3 | 100.0 |
| 1925–29.. | 23.5 | 12.4 | ... | 8.6 | 29.4 | 1.8 | 9.1 | 2.5 | 87.4 | 7.0 | 3.8 | 1.7 | 12.6 | 100.0 |

* Data summarized from Appendix Table I. The italicized figures represent inclusion of our adjustments of official estimates that seem not to accord with disposition statistics (see Appendix Table XII). The French crop of 1929 is carried at 350 million bushels rather than at the official estimate of 320 million.

[a] Hungary, Bulgaria, Roumania, and Jugo-Slavia.
[b] Algeria, Morocco, and Tunis.
[c] Egypt, Mexico, Japan, and Chosen.
[d] Rounded figures.
[e] Peru, Chile, Uruguay, Union of South Africa, and New Zealand.

TABLE III.—PRODUCTION OF RYE, CORN, BARLEY, AND OATS IN IMPORTANT PRODUCING AREAS, 1920–30*

*(Million bushels)*

| Year | Rye | | Corn | | | Barley | | | | Oats | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Europe Ex-Russia | Other[a] | Europe Ex-Russia | United States | Others[b] | Europe Ex-Russia | Russia | United States | Others[c] | Europe Ex-Russia | Russia | United States | Others[c] |
| 1920..... | 532 | 73 | 520 | 3,209 | 264 | 551 | ... | 189 | 67 | 1,478 | ... | 1,496 | 578 |
| 1921..... | 765 | 85 | 393 | 3,069 | 224 | 566 | ... | 155 | 66 | 1,509 | 307 | 1,078 | 457 |
| 1922..... | 720 | 139 | 423 | 2,906 | 247 | 599 | 176 | 182 | 80 | 1,544 | 409 | 1,216 | 547 |
| 1923..... | 831 | 90 | 468 | 3,054 | 317 | 649 | 196 | 198 | 89 | 1,720 | 405 | 1,306 | 675 |
| 1924..... | 654 | 81 | 590 | 2,309 | 273 | 565 | 180 | 182 | 96 | 1,569 | 603 | 1,503 | 484 |
| 1925..... | 946 | 60 | 626 | 2,917 | 361 | 672 | 269 | 214 | 104 | 1,708 | 838 | 1,488 | 507 |
| 1926..... | 752 | 58 | 654 | 2,692 | 386 | 674 | 246 | 185 | 118 | 1,848 | 1,071 | 1,247 | 473 |
| 1927..... | 813 | 80 | 484 | 2,763 | 380 | 659 | 207 | 266 | 111 | 1,747 | 917 | 1,183 | 519 |
| 1928..... | 900 | 66 | 384 | 2,818 | 298 | 742 | 252 | 357 | 153 | 1,884 | 1,135 | 1,439 | 546 |
| 1929..... | 945 | 59 | 706 | 2,614 | 331 | 826 | 338 | 303 | 118 | 2,087 | 1,144 | 1,228 | 369 |
| 1930[d]..... | 920 | 78 | 570 | 2,081 | 325 | 737 | ... | 326 | 154 | 1,679 | ... | 1,402 | 525 |
| Average 1909–13... | 976 | 39 | 581 | 2,712 | 225 | 701 | 418 | 185 | 50 | 1,931 | 925 | 1,143 | 428 |
| 1925–29... | 871 | 65 | 571 | 2,761 | 351 | 715 | 262 | 265 | 121 | 1,855 | 1,021 | 1,317 | 483 |

* Official data as reported by U.S. Department of Agriculture.

[a] Canada, United States, Argentina.
[b] Argentina, Union of South Africa.
[c] Argentina, Canada.
[d] Preliminary, partially estimated.

TABLE IV.—MONTHLY WHEAT RECEIPTS AT PRIMARY MARKETS IN THE UNITED STATES AND CANADA*

*(Million bushels)*

| Month | United States primary markets | | | | Fort William and Port Arthur | | | | Vancouver | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1927-28 | 1928-29 | 1929-30 | 1930-31 | 1927-28 | 1928-29 | 1929-30 | 1930-31 | 1927-28 | 1928-29 | 1929-30 | 1930-31 |
| Aug. | 81.6 | 84.2 | 101.7 | 85.5 | 2.4 | 3.5 | 2.4 | 11.1 | .09 | 1.07 | .74 | 4.98 |
| Sept. | 79.7 | 73.3 | 47.0 | 62.6 | 8.6 | 39.1 | 27.7 | 49.0 | .32 | 2.61 | 4.83 | 6.12 |
| Oct. | 73.3 | 84.4 | 36.3 | 28.9 | 51.4 | 81.4 | 28.9 | 29.7 | 6.17 | 12.69 | 7.32 | 6.94 |
| Nov. | 44.8 | 43.6 | 20.6 | 24.6 | 71.0 | 72.9 | 17.0 | 14.6 | 10.78 | 14.62 | 6.19 | 10.18 |
| Aug.–Nov. | 279.4 | 285.5 | 205.6 | 201.6 | 133.4 | 196.9 | 76.0 | 104.4 | 17.36 | 31.02 | 19.08 | 28.22 |
| Dec. | 26.5 | 33.0 | 22.9 | .... | 41.0 | 51.6 | 6.2 | .... | 11.81 | 13.53 | 4.73 | .... |
| Jan. | 23.5 | 22.5 | 17.5 | .... | 21.1 | 11.0 | 2.8 | .... | 16.49 | 13.90 | 4.25 | .... |
| Feb. | 22.5 | 28.7 | 19.9 | .... | 9.5 | 2.9 | 1.8 | .... | 12.54 | 9.25 | 6.23 | .... |
| Mar. | 26.3 | 27.2 | 16.7 | .... | 3.3 | 5.2 | 1.6 | .... | 10.50 | 15.46 | 6.89 | .... |
| Dec.–Mar. | 98.8 | 111.4 | 77.0 | .... | 74.9 | 70.7 | 12.4 | .... | 51.34 | 52.14 | 22.10 | .... |
| Apr. | 18.0 | 17.5 | 13.4 | .... | .9 | 9.7 | 1.6 | .... | 10.88 | 7.31 | 4.12 | .... |
| May | 25.9 | 18.6 | 16.5 | .... | 17.6 | 13.8 | 7.4 | .... | 7.43 | 3.91 | 3.08 | .... |
| June | 15.6 | 25.7 | 18.7 | .... | 20.1 | 14.7 | 23.7 | .... | 3.66 | 3.04 | 3.60 | .... |
| July | 72.6 | 94.2 | 99.0 | .... | 14.4 | 14.6 | 14.2 | .... | 2.44 | 3.30 | 3.31 | .... |
| Apr.–July | 132.1 | 156.0 | 147.6 | .... | 53.0 | 52.8 | 46.9 | .... | 24.41 | 17.56 | 14.11 | .... |
| Aug.–July | 510.3 | 552.9 | 430.2 | .... | 261.3 | 320.4 | 135.3 | .... | 93.11 | 100.72 | 55.29 | .... |

* United States data are unofficial figures compiled from *Survey of Current Business;* Canadian data are official figures from *Reports on the Grain Trade of Canada* and *Canadian Grain Statistics.* Vancouver figures include receipts at Prince Rupert.

TABLE V.—WEEKLY WHEAT RECEIPTS AT PRIMARY MARKETS IN THE UNITED STATES AND CANADA*

*(Million bushels)*

| Month | United States | | | | Fort William and Port Arthur | | | | Vancouver | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1927 | 1928 | 1929 | 1930 | 1927 | 1928 | 1929 | 1930 | 1927 | 1928 | 1929 | 1930 |
| July | 8.54 | 7.40 | 11.45 | 18.30 | 2.07 | 4.28 | 3.25 | 3.49 | .07 | .69 | .75 | 1.09 |
| | 10.35 | 14.24 | 16.49 | 23.57 | 2.89 | 3.14 | 3.61 | 2.49 | .04 | .50 | .57 | .90 |
| | 11.35 | 18.76 | 17.84 | 32.35 | 3.10 | 3.07 | 3.42 | 2.47 | .02 | .46 | .85 | .62 |
| | 26.01 | 23.93 | 29.69 | 29.76 | 2.61 | 3.03 | 2.89 | 3.53 | .00 | .72 | 1.00 | .29 |
| Aug. | 24.37 | 24.87 | 37.38 | 24.11 | .95 | 1.80 | .77 | 2.55 | .07 | .50 | .55 | .17 |
| | 19.56 | 20.18 | 31.98 | 20.29 | .81 | 1.07 | .59 | 1.77 | .00 | .32 | .09 | .89 |
| | 16.41 | 18.56 | 18.64 | 17.66 | .35 | .76 | .33 | 1.87 | .00 | .22 | .12 | 1.62 |
| | 13.84 | 15.97 | 18.55 | 13.49 | .21 | .41 | .17 | 4.08 | .01 | .10 | .11 | 2.10 |
| Sept. | 14.88 | 15.51 | 13.81 | 17.87 | .20 | .43 | .56 | 7.14 | .01 | .09 | .13 | .96 |
| | 16.09 | 15.03 | 12.02 | 16.88 | .23 | .96 | 2.79 | 14.96 | .03 | .13 | .58 | 1.26 |
| | 19.91 | 17.67 | 11.66 | 13.32 | 1.01 | 6.28 | 8.23 | 14.32 | .07 | .15 | 1.68 | 1.66 |
| | 19.57 | 18.36 | 10.72 | 11.51 | 3.00 | 12.84 | 8.47 | 9.96 | .15 | .52 | 1.12 | 1.60 |
| Oct. | 20.07 | 19.68 | 11.12 | 8.99 | 5.19 | 16.81 | 7.01 | 8.06 | .07 | 1.42 | .92 | 1.59 |
| | 21.20 | 22.18 | 9.09 | 6.76 | 11.79 | 19.37 | 5.63 | 8.01 | .33 | 2.21 | 1.24 | 1.19 |
| | 17.52 | 18.36 | 7.38 | 5.81 | 11.54 | 19.56 | 6.41 | 8.08 | .36 | 2.97 | 1.59 | 1.62 |
| | 14.82 | 22.75 | 8.32 | 4.69 | 8.71 | 18.38 | 7.73 | 4.37 | 1.61 | 3.07 | 1.65 | 1.66 |
| | 14.03 | 15.00 | 8.73 | 6.83 | 13.30 | 17.34 | 6.45 | 4.30 | 2.75 | 2.68 | 2.04 | 1.68 |
| Nov. | 14.02 | 12.30 | 6.38 | 7.43 | 19.27 | 16.05 | 5.59 | 2.26 | 3.38 | 3.01 | 1.70 | 1.86 |
| | 10.24 | 9.28 | 5.95 | 6.45 | 18.21 | 15.04 | 4.36 | 2.69 | 2.15 | 3.59 | 1.20 | 2.78 |
| | 10.54 | 8.72 | 4.50 | 6.38 | 14.30 | 17.05 | 2.87 | 4.33 | 2.56 | 3.58 | 1.24 | 2.51 |
| | 7.91 | 10.05 | 3.81 | 3.20 | 15.18 | 18.37 | 4.14 | 4.63 | 2.12 | 4.04 | 2.07 | 2.15 |
| | | | 4.23 | | | | 4.02 | | | | 1.24 | |

* United States data are unofficial figures compiled from *Grain World;* Fort William and Port Arthur data are official figures for *net* receipts furnished by Canadian Board of Grain Commissioners; Vancouver data are official figures compiled from *Canadian Grain Statistics.* United States and Fort William and Port Arthur figures begin with weeks ending July 10, 1926, July 9, 1927, July 7, 1928, and July 6, 1929; Vancouver figures are for weeks ending one day earlier. Beginning October 1, 1926, Vancouver figures include receipts at Prince Rupert.

TABLE VI.—WEEKLY VISIBLE SUPPLIES OF WHEAT IN NORTH AMERICA, UNITED KINGDOM PORTS, AND AFLOAT TO EUROPE, AUGUST–NOVEMBER, 1930*

*(Million bushels)*

| Date | United States | Canada | U.K. ports | Afloat to Europe | Total | Date | United States | Canada | U.K. ports | Afloat to Europe | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Aug. 2 | 165.6 | 103.3 | 6.8 | 39.2 | 315.0 | Oct. 4 | 219.1 | 158.5 | 8.4 | 43.4 | 429.3 |
| 9 | 176.3 | 97.5 | 6.0 | 42.7 | 322.5 | 11 | 218.5 | 171.0 | 8.6 | 43.6 | 441.6 |
| 16 | 186.0 | 95.4 | 5.8 | 44.2 | 331.4 | 18 | 216.6 | 176.8 | 8.4 | 42.4 | 444.1 |
| 23 | 195.7 | 89.7 | 5.4 | 46.3 | 337.1 | 25 | 214.1 | 179.5 | 9.0 | 43.7 | 446.4 |
| 30 | 201.5 | 96.5 | 6.0 | 47.7 | 351.0 | Nov. 1 | 211.6 | 188.7 | 9.2 | 42.2 | 451.7 |
| Sept. 6 | 207.1 | 112.1 | 6.4 | 46.2 | 371.7 | 8 | 210.6 | 194.8 | 10.3 | 44.7 | 460.4 |
| 13 | 215.8 | 131.0 | 7.6 | 41.8 | 396.2 | 15 | 210.4 | 197.9 | 11.5 | 47.2 | 467.0 |
| 20 | 218.9 | 143.0 | 8.8 | 43.7 | 414.5 | 22 | 210.2 | 203.7 | 12.8 | 49.5 | 476.0 |
| 27 | 222.2 | 151.8 | 9.1 | 44.2 | 427.2 | 29 | 207.5 | 207.2 | 14.2 | 45.6 | 474.5 |

* United States data are Bradstreet's; Canadian data from *Canadian Grain Statistics;* United Kingdom and Afloat data from Broomhall's *Corn Trade News* and *Milling.* Canadian figures are for days preceding the dates indicated in the above table, and include stocks in some elevators for the preceding weeks, but are adjusted to bring stocks in Western country elevators to the correct week.

TABLE VII.—WORLD VISIBLE WHEAT SUPPLIES, DECEMBER 1, 1920–29, AND MONTHLY, AUGUST–DECEMBER 1930*

*(Million bushels)*

| Date | United States | Canada | Argentina | Australia | United Kingdom ports | Afloat to Europe | North America | Argentina, Australia | U.K. and afloat | Grand total | Total ex-Australia |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1920 Dec. 1 | 92.2 | 51.9 | .1 | 6.5 | 31.6 | 36.6 | 144.1 | 6.6 | 68.2 | 218.9 | 212.4 |
| 1921 Dec. 1 | 107.9 | 76.6 | 3.1 | 6.7 | 11.1 | 42.4 | 184.5 | 9.8 | 53.5 | 247.8 | 241.1 |
| 1922 Dec. 1 | 125.4 | 89.3 | 2.9 | 10.0 | 4.5 | 56.2 | 214.7 | 12.9 | 60.7 | 288.3 | 278.3 |
| 1923 Dec. 1 | 139.2 | 110.5 | 2.9 | 1.0 | 7.8 | 51.8 | 249.7 | 3.9 | 59.6 | 313.2 | 312.2 |
| 1924 Dec. 1 | 168.7 | 77.1 | 4.4 | 2.0 | 14.3 | 59.2 | 245.8 | 6.4 | 73.5 | 325.7 | 323.7 |
| 1925 Dec. 1 | 109.6 | 104.5 | 3.7 | .7 | 3.8 | 35.1 | 214.1 | 4.4 | 38.9 | 257.4 | 256.7 |
| 1926 Dec. 1 | 133.0 | 123.0 | 1.8 | 2.0 | 3.6 | 36.9 | 256.0 | 3.8 | 40.5 | 300.3 | 298.3 |
| 1927 Dec. 1 | 154.7 | 120.9 | 3.6 | .7 | 9.6 | 57.1 | 275.6 | 4.3 | 66.7 | 346.6 | 345.9 |
| 1928 Dec. 1 | 208.0 | 169.5 | 4.4 | 8.0 | 5.7 | 63.5 | 377.5 | 12.4 | 69.2 | 459.1 | 451.1 |
| 1929 Dec. 1 | 274.3 | 220.7 | 7.4 | 1.8 | 20.6 | 28.6 | 495.0 | 9.2 | 49.2 | 553.4 | 551.6 |
| 1930 Aug. 1 | 221.9 | 103.5 | 7.0 | 33.5 | 6.5 | 39.2 | 325.5 | 40.5 | 45.7 | 411.6 | 378.1 |
| Sept. 1 | 294.2 | 87.4 | 6.6 | 27.0 | 6.0 | 47.7 | 381.6 | 33.6 | 53.7 | 468.9 | 441.9 |
| Oct. 1 | 316.9 | 154.8 | 5.9 | 13.0 | 9.0 | 44.2 | 471.7 | 18.9 | 53.2 | 543.7 | 530.7 |
| Nov. 1 | 289.2 | 174.1 | 4.8 | 7.8 | 10.0 | 42.2 | 463.3 | 12.5 | 52.2 | 528.1 | 520.3 |
| Dec. 1 | 277.7 | 194.7 | 4.0 | 5.0 | 13.9 | 45.6 | 472.4 | 9.0 | 59.6 | 541.0 | 536.0 |
| Average, Dec. 1 | | | | | | | | | | | |
| 1910–14 | 111.7 | 35.2 | .5 | .6[a] | 18.6 | 36.0 | 146.9 | ... | 54.6 | ..... | 202.0 |
| 1925–29 | 175.9 | 147.7 | 4.2 | 2.6 | 8.7 | 44.2 | 323.6 | 6.8 | 52.9 | 383.4 | 380.7 |

* 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.

[a] Australian figure for one year only.

TABLE VIII.—INTERNATIONAL TRADE IN WHEAT AND FLOUR, MONTHLY, JULY–NOVEMBER, 1930*

*(Million bushels)*

A.—NET EXPORTS

| Month | United States | Canada | India | Australia | Argentina | Roumania | Hungary | Jugo-Slavia | Bulgaria | Poland | Algeria, Tunis | Egypt | Greece |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | 15.04 | 22.81 | 2.48 | 4.33 | 2.62 | .33 | .68 | .40 | .03 | (.09)[a] | 1.44 | ... | (1.78)[a] |
| Aug. | 23.06 | 20.45 | 1.71 | 5.91 | 3.76 | 3.10 | 2.42 | 1.89 | .71 | .04 | 2.22 | (.68)[a] | (1.86)[a] |
| Sept. | 16.57 | 31.10 | .71 | 4.41 | 2.90 | .... | 2.17 | .... | .46 | .54 | 3.18 | ... | (2.04)[a] |
| Oct. | 9.80 | 33.42 | .12 | 6.86 | 4.95 | .... | 2.19 | .64 | .12 | .38 | .19[b] | ... | (2.53)[a] |
| Nov. | 7.09 | 34.76 | .... | .... | .... | .... | .... | .... | ... | ... | .... | ... | .... |

B.—NET IMPORTS

| Month | Irish Free St. | United Kingdom | France[c] | Germany | Belgium | Italy | Netherlands | Scandinavia | Switzerland | Austria | Czecho-Slovakia | Baltic States[d] | Japan |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| July | 1.53 | 19.41 | (3.93)[e] | 3.29 | 3.84 | 5.46 | 2.82 | 2.02 | 1.60 | 2.08 | .88 | .95 | .77 |
| Aug. | .86 | 17.15 | 1.78 | 3.23 | 4.54 | 4.50 | 2.96 | 2.01 | 1.56 | .41 | 1.59 | .87 | 1.00 |
| Sept. | 1.64 | 22.69 | 5.15 | 4.42 | 4.27 | 6.06 | 4.55 | 2.45 | 1.90 | 1.08 | 1.90 | .87 | (.08)[e] |
| Oct. | 1.78 | 20.42 | 5.38[f] | 3.59 | 3.70 | 8.46 | 3.35 | 2.90 | 2.20 | 1.04 | 1.77 | 1.34 | .70 |
| Nov. | .... | 20.64 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |

* Data from official sources and International Institute of Agriculture.

[a] Net import.
[b] Tunis only.
[c] Net imports in "commerce général."
[d] Finland, Estonia, Latvia.
[e] Net export.
[f] "Commerce spécial."

TABLE IX.—WEEKLY WHEAT AND FLOUR SHIPMENTS BY AREAS OF ORIGIN AND DESTINATION, AUGUST–NOVEMBER, 1930*

*(Million bushels)*

| Week ending | North America | Argentina, Uruguay | Australia | Russia, Danube[a] | India | Other countries[b] | Total | To Europe | To Ex-Europe |
|---|---|---|---|---|---|---|---|---|---|
| Aug. 9 | 9.75 | 1.34 | 1.71 | .94 | .88 | .79 | 15.41 | 13.05 | 2.36 |
| 16 | 9.86 | .93 | .86 | 2.38 | .54 | .61 | 15.18 | 12.98 | 2.20 |
| 23 | 10.41 | .52 | 1.42 | 3.02 | .07 | .67 | 16.11 | 14.24 | 1.87 |
| 30 | 10.50 | .94 | .82 | 2.79 | .38 | .63 | 16.07 | 13.91 | 2.16 |
| Sept. 6 | 9.82 | .47 | .51 | 2.79 | .36 | .42 | 14.38 | 13.19 | 1.19 |
| 13 | 7.58 | .90 | .56 | 3.00 | .07 | .54 | 12.65 | 10.93 | 1.72 |
| 20 | 10.97 | .97 | 1.75 | 3.84 | .26 | .42 | 18.21 | 15.29 | 2.92 |
| 27 | 8.39 | .54 | 1.32 | 4.31 | .06 | .40 | 15.02 | 12.51 | 2.51 |
| Oct. 4 | 8.79 | .87 | 1.31 | 5.38 | ... | .22 | 16.58 | 13.75 | 2.83 |
| 11 | 7.36 | .70 | .88 | 5.44 | .18 | .18 | 14.74 | 12.62 | 2.12 |
| 18 | 5.80 | 1.30 | 2.06 | 6.18 | ... | .66 | 15.98 | 13.25 | 2.73 |
| 25 | 7.35 | 1.39 | 1.78 | 7.50 | .04 | .45 | 18.51 | 15.46 | 3.05 |
| Nov. 1 | 8.17 | .74 | 1.77 | 4.65 | .04 | .37 | 15.73 | 13.02 | 2.71 |
| 8 | 9.24 | .60 | 1.85 | 6.46 | .17 | .21 | 18.53 | 14.92 | 3.61 |
| 15 | 6.34 | .86 | 1.72 | 8.71 | ... | .28 | 17.91 | 14.92 | 2.99 |
| 22 | 7.46 | .54 | .89 | 7.28 | .07 | .37 | 16.61 | 13.90 | 2.71 |
| 29 | 5.36 | .90 | 1.00 | 5.70 | .02 | .19 | 13.17 | 10.37 | 2.80 |
| Dec. 6 | 8.79 | .92 | 1.90 | 4.65 | ... | .59 | 16.85 | 13.39 | 3.46 |

* 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 X.—WEEKLY CASH PRICES OF REPRESENTATIVE WHEATS IN LEADING EXPORTING AND IMPORTING MARKETS, AUGUST–NOVEMBER, 1930*

*(U.S. dollars per bushel)*

| Week ending | United Kingdom | United States | | | | Canada | | Argentina | Liverpool | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | British parcels | All classes and grades[a] | No. 2 Red Winter (St. Louis) | No. 2 Hard Winter (Kansas City) | No. 1 Northern (Minneapolis) | Weighted average (Winnipeg) | No. 3 Manitoba (Winnipeg) | 78 Kilos (Buenos Aires) | No. 1 Manitoba | No. 3 Manitoba | No. 2 Winter | Argentine Rosafe | Australian |
| Aug. 9 | 1.08 | .84 | .88 | .80 | .93 | .97 | .95 | .95 | 1.10 | 1.08 | 1.04 | 1.08 | 1.12 |
| 16 | 1.07 | .86 | .92 | .83 | .92 | .92 | .90 | .95 | 1.16 | 1.13 | 1.07 | n.q. | 1.16 |
| 23 | 1.03 | .84 | .90 | .80 | .89 | .89 | .85 | .91 | 1.07 | 1.02 | 1.03 | 1.07 | 1.14 |
| 30 | 1.03 | .84 | .94 | .83 | .90 | .87 | .83 | .89 | 1.08 | 1.03 | 1.04 | 1.04 | 1.10 |
| Sept 6 | .98 | .81 | .89 | .79 | .88 | .82 | .79 | .84 | 1.04 | .99 | 1.00 | 1.00 | 1.04 |
| 13 | .96 | .81 | .90 | .80 | .89 | .80 | .77 | .82 | 1.01 | .96 | .98 | 1.00 | .99 |
| 20 | .94 | .79 | .89 | .78 | .87 | .77 | .74 | .79 | .96 | .93 | .93 | .93 | .96 |
| 27 | .87 | .78 | .87 | .77 | .86 | .72 | .68 | .74 | .93 | .89 | .90 | .90 | .93 |
| Oct. 4 | .85 | .74 | .85 | .73 | .82 | .73 | .70 | .72 | .87 | .84 | .84 | .81 | .86 |
| 11 | .86 | .77 | .90 | .75 | .84 | .70 | .68 | .71 | .94 | .90 | .88 | .86 | .90 |
| 18 | .83 | .75 | .88 | .73 | .82 | .68 | .66 | .67 | .86 | .83 | n.q. | .80 | .86 |
| 25 | .84 | .77 | .87 | .76 | .82 | .70 | .68 | .67 | .91 | .86 | n.q. | .82 | .84 |
| Nov. 1 | .84 | .75 | .87 | .74 | .81 | .68 | .66 | .67 | .89 | .85 | n.q. | .82 | .90 |
| 8 | .83 | .71 | .82 | .71 | .76 | .65 | .63 | .66 | .87 | .82 | n.q. | .78 | .90 |
| 15 | .82 | .68 | .82 | .67 | .73 | .62 | .60 | .62 | .84 | .79 | n.q. | .77 | .87 |
| 22 | .74 | .68 | .83 | .68 | .72 | .58 | .58 | .56 | .80 | .77 | n.q. | .70 | .81 |
| 29 | .80 | .73 | .84 | .70 | .78 | .56 | .57 | .56 | .83 | .80 | n.q. | .73 | .84 |

* United Kingdom prices are averages of sales of wheat parcels in British markets for weeks ending Saturday, from *London Grain, Seed and Oil Reporter.* United States prices are weekly averages of daily weighted prices for weeks ending Friday, from *Crops and Markets.* Prices of No. 3 Manitoba at Winnipeg are averages for weeks ending Saturday, from *Canadian Grain Statistics;* for the Canadian weighted average see WHEAT STUDIES, March 1929, Vol. V, No. 5. Argentine prices are averages for weeks ending Saturday, from *Revista Semanal.* Liverpool prices are for Tuesday of the same week, parcels to Liverpool or London, and are from Broomhall's *Corn Trade News.*

[a] Six markets.

TABLE XI.—MONTHLY PRICES OF DOMESTIC WHEAT IN EUROPE, FROM AUGUST 1928*

*(U.S. dollars per bushel)*

| Month | Great Britain | | | France (Chartres) | | | Italy (Milan) | | | Germany (Berlin) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 1928–29 | 1929–30 | 1930–31 | 1928–29 | 1929–30 | 1930–31 | 1928–29 | 1929–30 | 1930–31 | 1928–29 | 1929–30 | 1930–31 |
| Aug. | 1.33 | 1.52 | 1.09 | 1.60 | 1.51 | 1.66 | 1.72 | 1.74 | 1.80 | 1.49 | 1.59 | 1.63 |
| Sept. | 1.19 | 1.29 | .95 | 1.58 | 1.48 | 1.69 | 1.81 | 1.75 | 1.77 | 1.36 | 1.47 | 1.55 |
| Oct. | 1.24 | 1.24 | .91 | 1.61 | 1.45 | 1.64 | 1.88 | 1.84 | 1.70 | 1.38 | 1.50 | 1.47 |
| Nov. | 1.28 | 1.22 | .87 | 1.60 | 1.43 | 1.69 | 1.87 | 1.85 | 1.63[a] | 1.37 | 1.51 | 1.60[a] |
| Dec. | 1.25 | 1.24 | .... | 1.56 | 1.41 | .... | 1.87 | 1.90 | .... | 1.33 | 1.57 | .... |
| Jan. | 1.25 | 1.24 | .... | 1.59 | 1.40[b] | .... | 1.92 | 1.94 | .... | 1.35 | 1.60 | .... |
| Feb. | 1.27 | 1.16 | .... | 1.64 | 1.31 | .... | 1.96 | 1.89 | .... | 1.40 | 1.52 | .... |
| Mar. | 1.27 | 1.08 | .... | 1.68 | 1.37 | .... | 1.95 | 1.86 | .... | 1.44 | 1.55 | .... |
| Apr. | 1.28 | 1.13 | .... | 1.60 | 1.36[b] | .... | 1.93 | 1.94 | .... | 1.45 | 1.75 | .... |
| May | 1.29 | 1.14 | .... | 1.65 | 1.31 | .... | 1.89 | 1.96 | .... | 1.41 | 1.87 | .... |
| June | 1.25 | 1.11 | .... | 1.62 | 1.36 | .... | 1.91[b] | 2.02 | .... | 1.39 | 1.95 | .... |
| July | 1.35 | 1.08 | .... | 1.62 | 1.66[b] | .... | 1.77 | 1.77 | .... | 1.62 | 1.87 | .... |

* Data for Great Britain are averages of weekly average *Gazette* prices as given in the *Economist;* for France, averages of Saturday prices furnished directly by Federal Reserve Board through November 1929, after which they are taken from *Bulletin des Halles;* for Italy, averages of Friday prices of soft wheat as given in *International Crop Report and Agricultural Statistics;* for Germany, monthly average prices as given in *Wirtschaft und Statistik.* All data are converted, for convenience, from the domestic currency in which they are quoted in the sources above into U.S. money by monthly average exchange rates.

[a] Preliminary.

[b] Three-week average.

TABLE XII.—APPROXIMATE DISPOSITION OF WHEAT SUPPLIES IN THE PRINCIPAL EXPORTING COUNTRIES, BY CROP YEARS FROM 1921–22*

*(Million bushels)*

A.—UNITED STATES (July–June)

| Item | 1921-22 | 1922-23 | 1923-24 | 1924-25 | 1925-26 | 1926-27 | 1927-28 | 1928-29 | 1929-30 | 1930-31 |
|---|---|---|---|---|---|---|---|---|---|---|
| Initial stocks | 124 | 117 | 152 | 146 | 117 | 99 | 13 | 128 | 247 | 275 |
| New crop | 815 | 868 | 797 | 864 | 677 | 831 | 878 | 915 | 809 | 851 |
| Total supplies | 939 | 985 | 949 | 1,010 | 794 | 930 | 991 | 1,043 | 1,056 | 1,126 |
| Net exports | 269 | 208 | 135 | 257 | 96 | 209 | 194 | 146 | 143 | 120 |
| Seed requirements | 93 | 88 | 76 | 81 | 79 | 84 | 90 | 84 | 83 | 78 |
| Consumed for food | 463 | 468 | 477 | 479 | 493 | 494 | 505 | 506 | 514 | 522 |
| Stocks at end | 117 | 152 | 146 | 117 | 99 | 113 | 128 | 247 | 275 | 225 |
| Calculable disappearance | 942 | 916 | 834 | 934 | 767 | 900 | 917 | 983 | 1,015 | 945 |
| Discrepancy | —3 | +69 | +115 | +76 | +27 | +30 | +74 | +60 | +41 | +181 |

B.—CANADA (August–July)

| Item | 1921-22 | 1922-23 | 1923-24 | 1924-25 | 1925-26 | 1926-27 | 1927-28 | 1928-29 | 1929-30 | 1930-31 |
|---|---|---|---|---|---|---|---|---|---|---|
| Initial stocks | 25 | 40 | 32 | 45 | 27 | 37 | 51 | 78 | 104 | 112 |
| New crop | 301 | 400 | 474 | 262 | 396 | 407 | 480 | 567 | 305 | 396 |
| Total supplies | 326 | 440 | 506 | 307 | 423 | 444 | 531 | 645 | 409 | 508 |
| Net exports | 184 | 279 | 346 | 192 | 324 | 293 | 333 | 406 | 185 | 280 |
| Seed requirements | 39 | 40 | 39 | 38 | 40 | 39 | 42 | 44 | 45 | 44 |
| Milled for food | 37 | 41 | 42 | 42 | 42 | 43 | 42 | 44 | 44 | 44 |
| Unmerchantable | 12 | 10 | 19 | 12 | 11 | 12 | 28 | 30 | 7 | 25 |
| Lost in cleaning | 9 | 12 | 12 | 10 | 6 | 19 | 7 | 13 | 9 | |
| Stocks at end | 40 | 32 | 45 | 27 | 37 | 51 | 78 | 104 | 112 | 110 |
| Calculable disappearance | 321 | 414 | 503 | 321 | 460 | 457 | 530 | 641 | 402 | 503 |
| Discrepancy | +5 | +26 | +3 | —14 | —37 | —13 | +1 | +4 | +7 | +5 |

C.—ARGENTINA (August–July)

| Item | 1921-22 | 1922-23 | 1923-24 | 1924-25 | 1925-26 | 1926-27 | 1927-28 | 1928-29 | 1929-30 | 1930-31 |
|---|---|---|---|---|---|---|---|---|---|---|
| Initial stocks | 40 | 53 | 64 | 66 | 57 | 51 | 69 | 90 | 135 | 70 |
| New crop | 191 | 196 | 248 | 191 | 191 | 230 | 282 | 349 | 163 | 271 |
| Total supplies | 231 | 249 | 312 | 257 | 248 | 281 | 351 | 439 | 298 | 341 |
| Net exports | 118 | 139 | 172 | 123 | 94 | 143 | 178 | 224 | 150 | 140 |
| Seed requirements | 20 | 19 | 21 | 23 | 25 | 24 | 25 | 23 | 24 | 25 |
| Consumed for food | 47 | 48 | 49 | 53 | 54 | 57 | 59 | 61 | 63 | 65 |
| Stocks at end | 53 | 64 | 66 | 57 | 51 | 69 | 90 | 135 | 70 | 105 |
| Calculable disappearance | 238 | 270 | 308 | 256 | 224 | 293 | 352 | 443 | 307 | 335 |
| Discrepancy | —7 | —21 | +4 | +1 | +24 | —12 | —1 | —4 | —9 | +6 |

D.—AUSTRALIA (August–July)

| Item | 1921-22 | 1922-23 | 1923-24 | 1924-25 | 1925-26 | 1926-27 | 1927-28 | 1928-29 | 1929-30 | 1930-31 |
|---|---|---|---|---|---|---|---|---|---|---|
| Initial stocks | 47 | 18 | 28 | 26 | 23 | 17 | 23 | 29 | 26 | 35 |
| New crop | 129 | 110 | 125 | 165 | 115 | 161 | 118 | 160 | 126 | 215 |
| Total supplies | 176 | 128 | 153 | 191 | 138 | 178 | 141 | 189 | 152 | 250 |
| Net exports | 115 | 50 | 86 | 124 | 77 | 103 | 71 | 109 | 63 | 135 |
| Seed requirements | 10 | 10 | 10 | 11 | 11 | 12 | 14 | 14 | 17 | 16 |
| Consumed for food | 27 | 28 | 28 | 29 | 29 | 30 | 30 | 31 | 31 | 32 |
| Stocks at end | 18 | 28 | 26 | 23 | 17 | 23 | 29 | 26 | 35 | 60 |
| Calculable disappearance | 170 | 116 | 150 | 187 | 134 | 168 | 144 | 180 | 146 | 243 |
| Discrepancy | +6 | +12 | +3 | +4 | +4 | +10 | —3 | +9 | +6 | +7 |

* Based so far as possible upon official estimates. For explanation of the several items, see footnotes to Appendix Table XXXV, WHEAT STUDIES, Vol. VII, No. 2, pp. 184–85.

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