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# W H E A T   S T U D I E S

## OF THE

### FOOD RESEARCH INSTITUTE

VOL. IX, NO. 8

(Price \$.50)

MAY 1933

#### SURVEY OF THE WHEAT SITUATION

##### DECEMBER 1932 TO APRIL 1933

**W**HEAT futures in foreign markets were remarkably stable, in terms of gold, throughout December–April. Chicago prices changed little until mid-March, and then rose sharply first on the poor outlook for United States winter wheat, later on the embargo of gold exports and prospective enactment of inflationary legislation. The failure of foreign markets to respond significantly to bullish developments here reflected the continued bearishness of the wheat statistical position. World stocks on April 1 were still some 350 million bushels above normal, and about as large as last year, though visible supplies were lower. With large domestic wheat supplies and import restrictions more rigid than ever before, European countries imported relatively little wheat in August–April. Ex-European takings were large, but failed to offset the reduction in European imports; and world shipments were the second smallest in a decade.

We maintain our December forecasts of August–July trade (shipments of 645 million bushels, net exports of 665 million) and of “world” stocks about August 1, 1933 (1,007 million bushels as compared with 976 million last year). Small changes have been made, however, in the forecasts for individual countries.

Price movements in May–July will depend largely upon changing new-crop prospects and upon actual and anticipated governmental action to reduce the wheat surplus, to raise commodity (particularly agricultural) prices, and to improve international financial conditions. Such developments are mainly unpredictable, but on the whole seem likely to lend strength to wheat prices. Both Liverpool and Chicago futures prices are more likely to advance than to decline from the price level of early May. Chicago prices will remain above Liverpool at least through July, but probably by an irregularly narrowing margin, in terms of gold dollars.

STANFORD UNIVERSITY, CALIFORNIA

May 1933

**WHEAT STUDIES**  
**OF THE**  
**FOOD RESEARCH INSTITUTE**

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# SURVEY OF THE WHEAT SITUATION

DECEMBER 1932 TO APRIL 1933

Changes in the world wheat situation since our last survey was published about four months ago were unimportant until early in March. Prior to that time, wheat futures prices in the leading markets were remarkably stable, though there was a bulge and reaction in early January. Even the striking events of March-April in the United States — the "bank holiday"; deterioration of the winter-wheat crop; presentation to Congress and subsequent discussion of bills embodying potentially far-reaching action on farm relief and currency and credit inflation; and, after April 18, depreciation of the dollar on foreign exchanges—affected the gold level of wheat prices in foreign markets very slightly. Liverpool and Buenos Aires gold prices in the first week of May averaged almost the same as in the last week of February, and Winnipeg gold prices were no more than 10 per cent higher. This action of foreign markets indicates clearly that no significant progress has yet been made toward solving the world wheat-surplus problem, even though the foreign prices as currently expressed in depreciated United States dollars were substantially higher in early May than in late February. At Chicago, however, futures prices, adjusted for depreciation of the dollar, rose steeply from mid-March to mid-April, and for about a month have run nearly 15 cents above Liverpool. Chicago prices as currently quoted, unadjusted for dollar depreciation, were naturally more buoyant than adjusted prices, and rose nearly 25 cents per bushel between late February and early May.

The world statistical position of old-crop wheat has changed little since late December. Crop estimates for 1932 have been revised

downward by about 25 million bushels net, but subsequent revisions seem more likely to be up than down. World wheat stocks on April 1 were probably about as large as in 1932, and some 350 million bushels above a normal level. Less wheat, however, was in visible positions closest to the channels of

consumption; in the main, this reflected a substantial reduction in the visible supply in the United States, where farm marketings have been small and mill accumulations heavy. April stocks were exceedingly high in Canada, the United States, France, Spain, and Germany; moderately large in the Southern Hemisphere; of fair size in the British Isles; and distinctly low in eastern Europe. As was expected, European net imports thus far in the crop year have run low, ex-European tak-

ings high. For the first time in many years, the British Isles imported more wheat than all other European countries combined. On the Continent, import restrictions were more rigid than ever before. For the first time in history, China imported more wheat than any other country in the world except the British Isles, a reflection of the extraordinarily low wheat prices and the restricted European demand.

Our December forecasts of international trade in the crop year and of probable end-year stocks seem to require little revision, despite changes in crop estimates, accumulation of evidence respecting the flow of wheat to consumption, and the appearance of official estimates of total wheat stocks in Canada and the United States as of April 1.

With regard to international trade, total shipments in 1932-33 still seem likely to approximate 645 million bushels, total net ex-

## CONTENTS

	PAGE
<i>Changes in Supply Estimates</i>	276
<i>Exports</i> .....	277
<i>Imports</i> .....	279
<i>Visible Supplies</i> .....	281
<i>World Stocks, April 1</i> .....	283
<i>Consumption in 1932-33</i> .....	284
<i>The Course of Prices</i> .....	286
<i>Price Spreads</i> .....	289
<i>Outlook for 1933 Crops</i> .....	291
<i>Outlook for Exports</i> .....	292
<i>Outlook for End-Year Stocks</i>	294
<i>Outlook for Prices</i> .....	296
<i>Appendix Tables</i> .....	299

ports about 665 million. Net exports in April–July may be expected to run about 210 million bushels. Roughly 200 million will probably be exported from Canada, Argentina, and Australia (respectively, 95, 60, and 45 million). Exports from the United States may not exceed 6 million in April–July (they were only 29 million bushels in August–March, the lowest in the present century). From other countries, including Russia, no more than a trickle of exports is in prospect.

“World” stocks at the end of the crop year still seem likely to be somewhat larger than at the beginning—and hence far above a normal level. On the basis of reported April 1 stocks and probable domestic disappearance and net exports in April–July, we still expect the Canadian carryover on August 1 to be the largest on record, about 160 million bushels; our December forecast was 150 million. Similarly estimated, the United States carryover on July 1 may nearly reach last year’s figure of 363 million; our December forecast was 370 million. Appraisal of the probabilities in the United States, however, meets with conflicting elements in the pertinent available statistics. Our present forecast of end-year “world” wheat stocks is 1,007 million bushels, the same as our December forecast, as compared with 976 million (slightly revised) last year. Unusually large carryovers are likely in North America, France, Spain, and a few minor European countries; elsewhere moderate or low end-year stocks are in prospect.

The outturn of the 1933 world wheat crop depends heavily upon unpredictable weather conditions in coming months. With weather conditions neither very favorable nor very unfavorable, the crop of 1933 (ex-Russia, China, and southwestern Asia) will probably fall 100–200 million bushels below the crop of 1932. A strikingly short crop of winter wheat in the United States is assured, and a moderate crop in India; of these crops, an approximation can be made to their probable size. The available data suffice only to indicate the probable direction of change from 1932 in the size of 1933 crops of European importing countries, which are likely to be smaller; and in the crops of the Danube countries, which are likely to be larger. Even the

probable direction of change is not at present clearly indicated for the important crops of North American spring wheat and of winter wheat in Argentina and Australia.

The outlook for wheat prices up to the end of the crop year depends heavily not only upon unpredictable new-crop developments (which may be especially important in Canada), but also upon what wheat traders anticipate and learn about devaluation of currencies here and abroad, international agreements designed to control the world wheat surplus, and domestic measures to raise farm prices. In general, erratic fluctuations in wheat prices are in prospect on account of the many uncertainties on these points. There appears to be adequate ground for expecting that, on the whole, developments outside of the wheat situation itself will tend to strengthen wheat prices. We therefore regard as probable a May–July level of the Liverpool October future (expressed in gold) higher than that of early May; for, with the early-May level so low, even exceptionally favorable new-crop developments probably would not suffice to offset the price-raising effects of non-wheat developments, while unfavorable crop developments would strengthen these. At Chicago the characteristic tendency of wheat prices to decline after a sharp spring advance may not suffice to offset strength contributed by developments outside of the wheat situation. The present abnormal Chicago–Liverpool futures price relationship is likely to continue, though favorable development of the spring-wheat crop would tend to correct it. The July–September spread at Chicago, which during June tends to widen in years of large stocks, will probably act similarly this year.

#### CHANGES IN SUPPLY ESTIMATES

Changes in 1932 crop estimates during the past four months (see Table I) indicate a net reduction of about 25 million bushels from our December estimate of the world wheat crop (excluding Russia, China, and southwestern Asia). In only one of the five preceding years was a net downward revision larger than this recorded during January–April; last year the world crop was revised upward by 36 million bushels in these months. The net

reduction this year was distributed among importing and exporting countries in such a way as not greatly to affect the outlook for international trade. The aggregate crop of European importing countries now appears about 7 million bushels smaller than it did in December, and the Danubian and northern African crops 12 and 4 million smaller, respectively. Estimates for individual countries that have been reduced by 5 million bushels or more include only Roumania, Poland, Chile, and the Union of South Africa (for two of these no official estimate was available in December). Only the Hungarian and Australian estimates were raised by as much as 5 million bushels; but data on wheat marketings and stocks suggest that the Canadian estimate will later be revised upward by something like 10 million bushels.<sup>1</sup>

The world crop of 1932 still appears nearly 300 million bushels smaller than the crop of 1928, and over 200 million larger than the crop of 1929. Yet as shown below, in million bushels, total available supplies (including in-

Crop year	Stocks ex-Russia <sup>a</sup>	Crops ex-Russia <sup>b</sup>	Russian exports	Total supplies
1927-28 .....	649	3,588	2	4,239
1928-29 .....	720	3,925	0	4,645
1929-30 .....	981	3,425	10	4,416
1930-31 .....	926	3,688	114	4,728
1931-32 .....	1,014	3,646	65	4,725
1932-33 .....	976	3,652	20	4,648

<sup>a</sup> Revised stocks estimates as published in *WHEAT STUDIES*, February 1933, IX, 184. These differ from figures presented in our last Survey mainly in that these are more inclusive.

<sup>b</sup> See Table 1.

ward carryovers of wheat as of about August 1, and anticipated Russian exports) appear about the same size this year as in 1928-29, the first year of the big world surplus. On the other hand, though the world crop of 1932 was about as large as the two preceding, total supplies of wheat for 1932-33 appear somewhat smaller than in those years.

## EXPORTS

Despite a substantial increase in export shipments when the new Southern Hemi-

<sup>1</sup> The underestimate of the Canadian crop has been officially recognized. See *Crop Report* published by the Dominion Bureau of Statistics, April 12, 1933, p. 3.

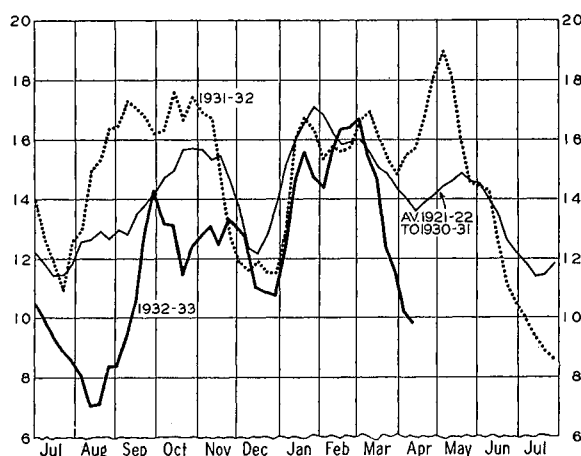
sphere crops began to move, the total volume of international trade thus far in 1932-33 continues strikingly small. Shipments of 426 million bushels during August-March (Table VI) were around 95 million below the 1927-32 average and those of 1931-32. Large wheat crops in European importing countries and generally stringent import restrictions have kept total exports low, despite heavy surpluses available for export and sizable takings by ex-European countries, notably China.

Total shipments in December-March 1932-33 were 239 million bushels—about the same as in these months of the two preceding years, above those of 1929-30, but well below the level of earlier years. This quantity represented an increase of 53 million bushels over shipments in August-November—an increase larger than any recorded in more than a decade, 1926-27 excepted, and sharply in contrast with a decrease of 28 million bushels in 1931-32. Last year in August-November import wheat stocks accumulated in Europe as a result of Russian and Danubian export pressure but were drawn down in December-March, whereas this year import stocks were reduced in August-November in the absence of Russian and Danubian export pressure but were built up slightly in December-March as abundant Southern Hemisphere supplies became available. Again, ex-European takings increased only by 10 million bushels between August-November and December-March 1931-32, but by 31 million between these periods of 1932-33. The contrast in the seasonal course of total trade this year and last is not to be explained by earlier and more extensive relaxation of import restrictions this year; for the restrictions have been more rather than less severe.

Chart 1 (p. 278) emphasizes this shift in the seasonal course of shipments. The very low shipments of August-November 1932 stand in sharp contrast with December-March shipments, which up to mid-March were not far different from the average or those of 1931-32. As usual, a seasonal trough in shipments was recorded in December, followed by a rise—steep in relation to the average—as Southern Hemisphere crops began to move to export. The relatively heavy total shipments in

late February and early March reflected on the one hand a sharp increase in Australian exports, and on the other an increase in shipments to ex-Europe and on "orders" to Europe. The decline later in March and into April was strikingly steep. With the New

CHART 1.—WORLD SHIPMENTS OF WHEAT AND FLOUR, 1932-33, WITH COMPARISONS\*  
(Million bushels; 3-week moving average)



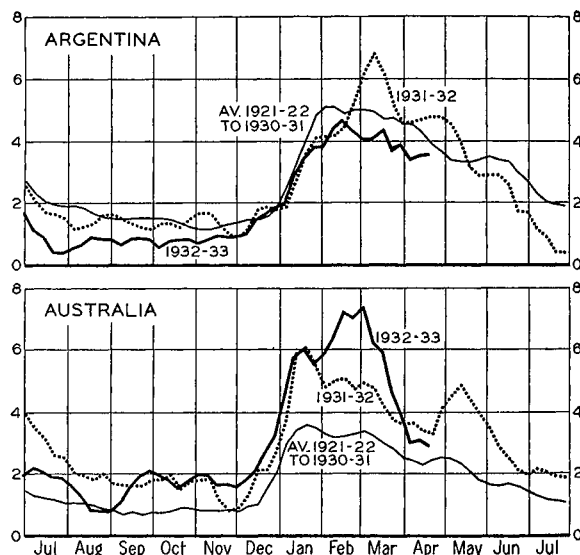
\* Data from Broomhall's *Corn Trade News*.

York foreign exchange market closed during part of the "bank holiday" in the United States (March 4-15), and with subsequent erratic fluctuations in the foreign exchanges, both exporters (particularly in Canada) and importers tended to restrict their transactions. In Australia there is evidence that farmers and exporters tended to hold on account of unfavorable seeding conditions for the new crop; but Argentine shipments were well maintained.

To an extent unprecedented in recent years, December-March shipments were supplied from the Southern Hemisphere. Australia and Argentina provided 57 per cent of the total, as against 46 per cent on the average in 1929-32 and 53 per cent last year. Australia in particular shipped freely, and her December-March exports of 84 million bushels were of record size. One factor in the heavy movement was the size of the new crop, now estimated as the largest on record. Unlike the crop of 1930, which was almost as large, it

was harvested promptly and moved freely from farms, so that December-March shipments much exceeded those of 1930-31. So much was taken by the Orient, especially China, that shipments to Europe were not much larger than in 1931-32. Argentine total shipments were relatively less liberal, 53 million bushels as against 46 and 62 million in the two preceding years, when the crops were of about the same size as that of 1932. Chart 2 illustrates the weekly course of shipments from Australia and Argentina. A striking feature is the high peak of Australian shipments in late February and early March; this repre-

CHART 2.—ARGENTINE AND AUSTRALIAN SHIPMENTS, 1932-33, WITH COMPARISONS\*  
(Million bushels; 3-week moving average)



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

sents the exceptional movement to the Orient. Argentina shared in the movement to the Orient to a greater extent than ever before because of the low quality of part of the crop and very low ocean freight rates.

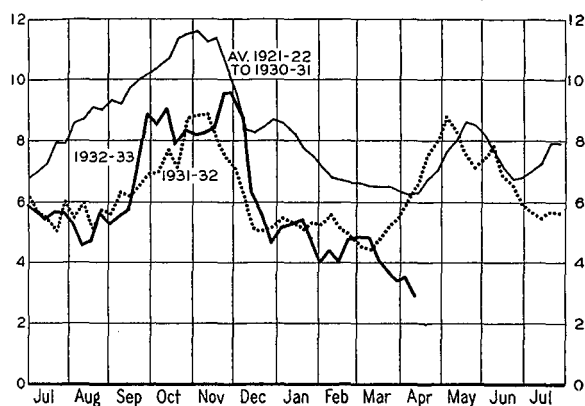
Shipments from North America were a relatively small fraction of total December-March shipments, as in the two preceding years. The absolute figures (see Chart 3 for weekly data), compared with December-March net exports from the United States (including shipments to possessions) and Canada, are as follows in million bushels:

Year Dec.-Mar.	North American shipments	Net exports		
		Total	United States	Canada
1927-28 .....	149.6	146.1	32.9	113.2
1928-29 .....	169.1	158.2	33.5	124.7
1929-30 .....	90.8	87.2	38.1	49.1
1930-31 .....	92.0	81.0	17.1	63.9
1931-32 .....	88.8	92.6	34.1	58.5
1932-33 .....	91.2	85.4	9.6	75.8

As has usually occurred (but not in 1931-32), shipments exceeded net exports. United States exports were the smallest since the war, for domestic prices continued above export parity in the face of a heavy export surplus, and this year there were no non-commercial exports such as were made in 1931-32 by the Grain Stabilization Corporation.

CHART 3.—NORTH AMERICAN SHIPMENTS, 1932-33, WITH COMPARISONS\*

(Million bushels; 3-week moving average)



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

In contrast, Canadian net exports of 75.8 million bushels in December-March were the largest since 1928-29, as was the Canadian fraction of world exports. Canada was a free seller as compared with the three preceding years, and this is reflected in the prevailing relatively wide spread between Winnipeg and Liverpool May futures. Yet she did not sell so freely as Argentina and Australia, and the proportion of Canadian exports to world exports was lower than in most years prior to 1929-30.

Chart 3, in which the data represent mainly Canadian wheat, shows that shipments were

<sup>1</sup> This matter has not yet been definitely settled. The general subject of Empire preference will be discussed in a later issue of *WHEAT STUDIES*.

well maintained until early December; in January-March, and particularly February, the Canadian contribution was smaller even than in 1931-32. Outstanding features of Canadian exports were a heavy movement from Vancouver and a light movement from United States Atlantic ports. Uncertainty as to whether the British wheat duty would be collected on Canadian wheat shipped from United States ports<sup>1</sup> kept stocks of Canadian wheat in the United States from reaching their normal level at the close of lake navigation in December, so that shipments of Canadian wheat out of United States ports were inevitably small in December-March.

Other countries as a group made the smallest December-March exports in recent years. The movement from India continued negligible; Danubian exports were exceptionally small, as in August-November, on account of the short crop of 1932; Russia shipped little; only the northern African countries exported fair quantities. Hungary and Bulgaria shipped out practically all that left the Danube basin; but Roumania and Jugo-Slavia, while exporting very little, were not reported as net importers up to the end of February.

## IMPORTS

Of the notably small total shipments in August-March 1932-33, those which went to Europe were the smallest in a decade; but those to ex-Europe were exceeded only by those of 1928-29 and 1931-32. Pertinent data on European trade are given below, in million bushels:

Aug.-Mar. (34 weeks)	Unadjusted total	Adjusted <sup>a</sup>			
		Total	U.K. <sup>b</sup>	Orders <sup>b</sup>	Conti- nent <sup>b</sup>
1927-28 .....	444	422	112	85	225
1928-29 <sup>c</sup> .....	480	454	105	82	266
1929-30 .....	312	315	87	87	143
1930-31 .....	398	389	77	133	179
1931-32 .....	386	366	85	136	145
1932-33 .....	309	288	107	71	112

<sup>a</sup> By subtracting from (or adding to) the reported figures the amounts by which stocks afloat to the specified destinations were increased (or decreased) between August 1 and April 1.

<sup>b</sup> The summation of these figures does not precisely equal the "adjusted total," since the basic data are from different tables in the *Corn Trade News*.

<sup>c</sup> Including a good deal shipped to countries in Asia Minor.

The strikingly small total takings of Europe are best brought out by the adjusted figures, which point to actual European arrivals in August–March nearly 9 per cent smaller even than those of 1929–30; the unadjusted figures show much less of a decline. Statistics both of unadjusted shipments, adjusted shipments, arrivals, and net imports point to European takings in August–March 1932–33 around 80 million bushels smaller than those of 1931–32. Orders shipments were much smaller than in 1930–31 and 1931–32 partly because much less wheat was exported from Black Sea ports, especially in August–November. The shrinkage of European takings is apparent in adjusted shipments to orders and to the Continent, but not in shipments direct to the United Kingdom.

The extremely small European takings in August–March 1932–33 reflect a combination of circumstances extraordinarily adverse to wheat importation. European importing countries as a group harvested a record wheat crop in 1932; this alone would tend to keep imports low. Governmental restraints<sup>1</sup> on im-

<sup>1</sup> We do not undertake here to consider in detail the changes in governmental regulations which occurred in December–April 1932–33. See *WHEAT STUDIES*, December 1932 and January 1933, IX, 77–86, 136, 147–49, for description and discussion of regulations in force in the early part of the crop year 1932–33. In their main outlines, the policies of European governments remained substantially unchanged in the period here under review. An important fact, however, is that in several important countries the required admixtures of domestic wheat in mill mixes have been raised in recent months, not lowered as they were in earlier years. In the main this reflects the abundance of domestic supplies. By decree of December 3, 1932, the French allowed only 1 per cent foreign wheat; by decree of March 26, 1933, none whatever. Effective February 13, 1933, Dutch millers were allowed to use only 65 instead of 75 per cent foreign wheat. Effective in January–April 1933, the Swedish quota of foreign wheat was placed at 5 per cent as against 10 per cent earlier, the maximum for short periods and small lots being 20 instead of 30 per cent. Effective January 1, 1933, the Italian regulations covering certain areas were somewhat relaxed, but were strengthened again March 16 and April 16. In Germany, the pressure of domestic supplies led in March to a decree providing for governmental purchase at market prices, and sale to poultrymen at reduced prices, of about 11 million bushels of domestic wheat stained with eosin; and, after a lapse since January 31, export certificates (plus a small duty) were again allowed to be accepted in payment of the full duty for the period March 7 to July 31.

ports—high tariffs, milling regulations, restrictions on purchase of foreign exchange—were prevalent; where operative, these all tended to stimulate early-season consumption of domestic rather than of imported wheats, and to prevent accumulation of import wheat stocks. The large domestic rye crops in countries where wheat imports are restricted have tended to cause rye to displace wheat in consumption. Finally, importers have not had wheat in effect thrust upon them this year as in the three preceding years, and have had no greater incentives to accumulate stocks; this alone has tended to keep imports relatively low, and stocks of import wheat as well. Every important stimulus to importation has been lacking in 1932–33.

Net import statistics by countries in Europe (August–March data, partly estimated; see Table VII) bring out the fact that the small total European takings this year find reflection in practically every country, not merely in a few. Only Switzerland and Denmark imported as much wheat and flour in August–March 1932–33 as had been imported on the average in the same eight months of 1927–28 to 1931–32. The only countries which imported as much in 1932–33 as in 1931–32 were Poland and Spain. Polish net imports, however, were insignificant—less than a million bushels in spite of the very short crop of 1932. Spanish net imports, though the largest since 1928–29, represented arrivals late in the preceding crop year, before the bumper crop of 1932 became available.

The following tabulation, in million bushels, summarizes the August–March net import statistics of European countries except Poland, Spain, and Portugal, with comparisons:

August–March	British Isles	Germany, France, Italy	Belgium, Holland, Switzerland, Greece	Austria, Czechoslovakia	Scandinavian and Baltic states
Average <sup>a</sup> ...	160	98	78	24	25
1929–30 .....	155	65	74	21	22
1931–32 .....	182	58	81	27	28
1932–33 <sup>b</sup> ....	152	28	71	12	20

<sup>a</sup> August–March, 1927–28 to 1931–32.

<sup>b</sup> Partly estimated.

British imports were small in relation both to the average and to those of 1931-32 mainly because stocks were not increased between August 1 and April 1, as they were in three of the preceding five years; somewhat reduced feeding of wheat to poultry, especially as compared with 1931-32, was presumably a contributing factor.<sup>1</sup> For the first time in many years, the imports of the British Isles exceeded those of all other European countries combined.

With bumper crops in 1932, and stringent milling regulations, Germany and Italy were insignificant as importers; Germany, indeed, made net exports of nearly 4 million bushels, and Italian net imports of only 7 million bushels were the smallest in many years. At 24 million bushels, French net imports (mainly from the northern African possessions) were above those of 1929-30; but more than half of the total was reported last August and September and may in part represent arrivals at the end of the preceding crop year. The small net imports of all three of these countries reflect the large domestic crops of 1932, and import and milling regulations which tend to encourage consumption of domestic rather than of imported supplies, and at the same time to discourage accumulation of import wheat stocks.

The combined net imports of Belgium, Holland, Switzerland, and Greece were below average, but not strikingly so. Enough has been imported to bring August-March total supplies (estimated initial stocks plus new crops plus August-March net imports) above an average level and above 1931-32. Net imports have apparently run low, as in France and Italy, mainly because of large domestic crops coupled with import and milling regulations. Combined Austrian and Czecho-Slovakian net imports, however, were so small that total available supplies of August-March were the lowest in at least six years. Here, although restrictions on imports have presumably brought stocks to an exceptionally low level, it is also probable that wheat con-

sumption has declined, rye being exceptionally abundant. The large domestic wheat and rye crops of 1932 in the Baltic and Scandinavian countries, with import and milling restrictions as elsewhere in Europe, have kept imports into these countries below average.

Aug.-Mar. (34 weeks)	Total	China and Japan	Central America <sup>a</sup>	Brazil	India	Others <sup>b</sup>
1927-28....	80.8	21.2	30.4	18.0	1.5	9.7
1928-29....	157.8	52.0	44.1	19.3	23.0	19.4
1929-30....	95.5	26.6	36.4	19.5	5.3	7.7
1930-31....	114.2	40.2	39.1	17.1	7.3	10.5
1931-32....	134.5	64.1	40.5	21.7	0.0	8.2
1932-33....	116.4	66.5	23.3	18.5	1.6	6.5

<sup>a</sup> Includes Venezuela, West Indies, Dutch East Indies, etc.

<sup>b</sup> Egypt, North and South Africa, Chile, Syria, Peru, Palestine, New Zealand.

August-March shipments to major ex-European destinations are shown above, in million bushels. The total is relatively large, mainly because Chinese takings of low-priced wheat from Australia were very large—probably the largest on record, for Japanese net imports (Table VII) were strikingly small. China, for the first time in history, has thus far been and promises to be for the year the second largest wheat importer in the world, with takings smaller only than the British. Shipments to Brazil were of fair size, though lower than last year, when stabilization wheat from the United States enlarged the seasonal flow of wheat to Brazil. Practically all of the other important ex-European importing countries have taken notably small quantities: the West Indies on account of low purchasing power and import restrictions; Egypt and New Zealand mainly on account of large 1932 crops (New Zealand, indeed, may have an export surplus); South Africa on account of two good crops in succession and stringent import restrictions. India became a small net importer in February (Table VII). Chile and Peru, whose new crops proved small, have imported in recent months, though not to an extent significantly to swell the total.

#### VISIBLE SUPPLIES

World visible wheat supplies remained high in December-April (see Table III for

<sup>1</sup> The guaranteed price on domestic wheat is payable only on wheat marketed and certified to be of millable quality. This has probably diverted some domestic wheat from feed to food uses.

total and distribution in 1932-33 as compared with earlier years). The increase between December 1 and April 1 was smaller than in several of the five preceding years. It was large enough, however, to bring the April 1 total to 526 million bushels; and this figure, like that for December 1, is around 200 million bushels above normal. The statistics of world visible supplies thus afford clear evidence that solution of the world wheat-surplus problem was not significantly advanced during the period under review. Nevertheless world visibles on April 1 were lower, for the first time since 1926, than on April 1 of the year before.

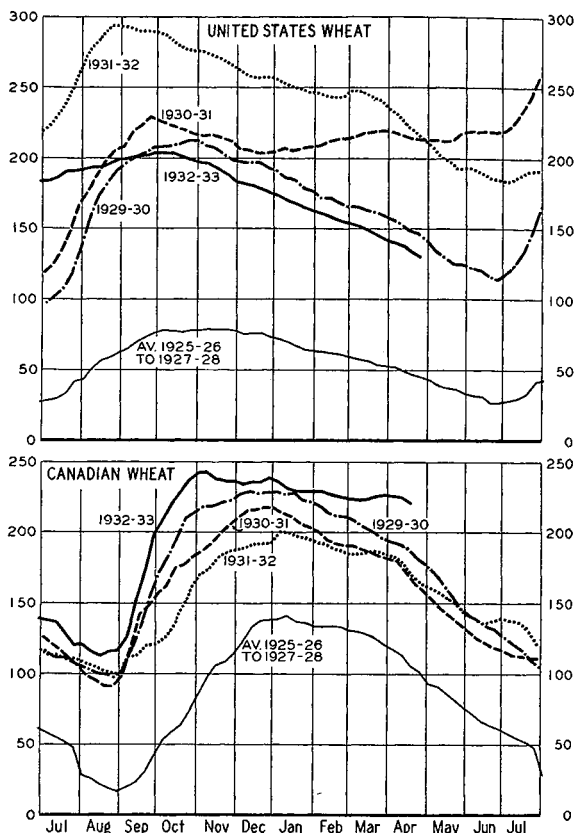
The stocks position in recent months has seemed less price-depressing than in the three preceding years; for visibles in positions nearest to the channels of consumption have tended to remain at or to drift toward normal rather than to stand at excessively high levels. It was Canadian and Australian visible supplies, both of which contain much wheat in country storage, that were strikingly large in December-April 1932-33.

In contrast, British port stocks remained below 8 million bushels until mid-March, and had risen only to 10 million by April 1. Stocks afloat to Europe were of moderate size both on December 1 and April 1; Argentine port stocks also have not run high. United States visibles (Chart 4, upper tier) remained far above a normal level, but were nevertheless lower than in any of the three preceding years. Despite small exports, their December-April decline was much larger than usual, on account of farm holding and of accumulation of stocks by mills. Low prices, poor prospects for 1933 winter wheat, and expectations of new farm relief legislation were the main factors in both farm holding and mill accumulation. Stocks of United States wheat stored in Canada, which were heavy in December-April 1931-32 on account of the storage policy of the Grain Stabilization Corporation, were reduced to approximately a normal level by December 1, 1932.

Canadian visibles were unprecedentedly high in December-April (Chart 4, lower tier). When the crop year opened, these stocks were about 90 million bushels above average, and

were around 105 above in early April. The excess was even larger early last November, on account of heavy August-October marketings without correspondingly heavy exports.

CHART 4.—NORTH AMERICAN VISIBLE SUPPLIES, 1932-33, WITH COMPARISONS\*  
(Million bushels)



\* Recent data for the series in Table III.

Sizable exports and moderate farm marketings caused visibles to decline rather than to show the usual seasonal increase in November-December. But the decrease was less than seasonal in January-March as Southern Hemisphere countries took a larger fraction of the export trade; in these months, especially March, farm marketings in Canada were of fair volume. With Canadian visibles maintained while those of the United States were declining rapidly, the Canadian in April exceeded United States visibles by the largest amount on record, roughly 85 million bushels. Less Canadian wheat was stored in the United States in December-April 1932-33

than in any of the past five years, a reflection of trade uncertainties regarding the payment of British import duties on wheat clearing from United States ports. With the opening of navigation late in April, Canadian visibles began to decline more rapidly.

Like Canadian visibles, the Australian were unusually high in most of December–March, following the big crop and prompt and heavy marketings. On April 1 the figure was a little larger than in any recent year except 1931, despite the heavy exports of January–March. But in April, as exports continued fairly heavy and some farmers in droughty areas began to market less freely, the decline in visibles was very large. Near the end of the month Australian visibles were lower than they had been in 1932 or 1931, though still well above average.

#### WORLD STOCKS, APRIL 1

Available data bearing on world total wheat stocks on or about April 1, 1933, support the inference drawn from statistics of visible supplies—that absorption of the world wheat surplus has not progressed significantly in recent months. The crop year opened with world wheat stocks of some 976 million bushels,<sup>1</sup> according to our best estimates. This figure represented stocks about 350 million bushels above a normal level. We infer that stocks on April 1, 1933, were above a normal level by about this amount.

Direct official estimates of United States and Canadian stocks summarized below, as of April 1,<sup>2</sup> show that the 1933 total exceeds the 1932 record total by about 20 million bushels.

April 1	Canadian wheat		United States wheat		Total
	In Canada	In U.S.	In U.S.	In Canada	
1932.....	246	12	542	28	828
1933.....	313	6	522	6	847

Only stocks of Canadian wheat in Canada were larger this year than last, and indeed of record size for April 1. In North America generally, stocks on farms and in country elevators were extraordinarily large, while terminal elevator stocks were smaller

than in several years; city mill stocks in the United States, however, were strikingly heavy.

In Argentina and Australia April 1 stocks available for export and carryover were probably about 25 million bushels larger in 1933 than in 1932,<sup>3</sup> though not so large as in 1929 or 1931.

In importing Europe, aggregate April 1 stocks in France, Germany, Spain, Italy, Greece, and Portugal must have been much larger in 1933 than in 1932. None of these countries carried large stocks into the crop year, and none imported much in August–March; but the crops of 1932 were so large in each that more wheat has been available for consumption in August–March 1932–33 than in the same months of 1931–32. The larger gross supplies this year than last, particularly in France and Germany, must mean either heavier domestic consumption in August–March this year than last, or heavier stocks on April 1, or both. Reported March stocks in Germany (on farms and in mills and warehouses) were about 30 million bushels larger this year than last—an increase so large as to be possible only through reduction of consumption, presumably stimulated by the cheapness and abundance of rye and the pressure of household economy among the unemployed. The strengthening of milling regulations in Italy and France in recent months points clearly to the existence of heavy April 1 stocks in those countries, especially France. In France there may also have been some increase of consumption due to the very abundance and cheapness of wheat supplies. In Spain especially, and also in Portugal and Greece, consumption may have increased, but presumably not enough to reduce April 1 stocks to the levels of 1932.

<sup>1</sup> See WHEAT STUDIES, February 1933, IX, 184. The estimates of end-year stocks there given represent revisions of estimates previously published and cover stocks in two additional positions, Japan and afloat to ex-Europe.

<sup>2</sup> See Table IV. For the first time this year, official estimates for the United States are available as of April 1 (March 31); henceforth quarterly reports will be published of stocks on farms, in country mills and elevators, in city mills, and in terminal elevators.

<sup>3</sup> Based on our calculations of available supplies less estimated food and seed requirements less August–March net exports; see Table X.

In contrast, available evidence points toward lower April 1 stocks in 1933 than in 1932 in the British Isles, Poland, Austria, Czecho-Slovakia, and the Scandinavian countries. Taken as a group, these countries had August-March supplies in 1932-33 (estimated August 1 stocks plus 1932 crops plus August-March net imports) around 60 million bushels, or 13 per cent, below the supplies in 1931-32. Direct estimates of British port stocks and of domestic farm stocks on April 1 show that the level of British stocks was lower this year than last. Of the position in the other countries, it seems reasonable to infer not only that April 1 stocks were lower in 1933 than in 1932 (particularly in Poland), but also that wheat consumption was smaller in August-March this year than last—largely on account of the greater abundance of rye.

Of European importing countries as a group,<sup>1</sup> it seems reasonable to infer that April 1 stocks in 1933 exceeded those of 1932, increases mainly in France, Germany, and Spain more than offsetting decreases mainly in the British Isles and Poland.

For most other areas and positions which need to be taken into consideration, the evidence points to smaller April 1 stocks in 1933 than in 1932. August-March supplies in the Danube basin were perhaps around 85 million bushels (over 20 per cent) smaller this year than last. Hence April 1 stocks were undoubtedly very low, although wheat consumption in this area has presumably declined substantially, with corn mainly supplying the wheat deficiency in Roumania and Jugo-Slavia. In India a reduction in the crop has not been compensated by increased imports, and April 1 stocks of old-crop wheat were presumably lower this year than last. Algeria, Morocco, and Tunis had a smaller total crop in 1932 than in 1931, and have apparently exported more heavily this year than last, leaving April 1 stocks at a lower level. Japanese stocks, heavy in 1932, were smaller this year. Stocks afloat to Europe also were smaller (Table III). Stocks afloat to ex-Eu-

rope, however, were probably larger this year, and perhaps also stocks in Egypt.

It seems probable that between April 1, 1932 and 1933, the net reduction of stocks in the areas and positions just discussed may almost have offset the indeterminate net increase in European importing countries and the increase of around 45 million bushels in North America, Argentina, and Australia.

#### CONSUMPTION IN 1932-33

In the preceding two sections we have indicated that available evidence regarding European wheat consumption points toward lower consumption thus far in 1932-33 than in 1931-32 in Roumania, Jugo-Slavia, Poland, Austria, Czecho-Slovakia, Germany, the Scandinavian countries, and the British Isles. Slightly heavier consumption, on the other hand, is indicated in Spain, France, Portugal, and Greece; and no significant change seems to have occurred in Belgium, Holland, Switzerland, the Baltic states, Bulgaria, and Hungary. In general, this classification reflects merely the size of August-March supplies in 1932-33 as compared with 1931-32. Where these supplies were much smaller in 1932-33 than in 1931-32, it is to be supposed in the absence of other evidence that consumption has declined; and where these supplies were much larger, that consumption has increased. Independent qualitative evidence points clearly toward reduction of consumption in all of the countries listed in the first group above. In Germany and the British Isles the March-April stocks statistics mentioned above provide additional evidence.

Since two-thirds of the crop year has passed, it is reasonable to suppose that at the end of the crop year a retrospective analysis of consumption in European countries will show about what is suggested by current analysis, with modifications dictated mainly by the size of reported net imports in April-July. Austria, Czecho-Slovakia, the Scandinavian countries, and the British Isles, for example, may conceivably import so much wheat in these months that after the close of the year the statistics will not point toward lower consumption in 1932-33 than in 1931-32, but we regard this development as im-

<sup>1</sup> Corresponding statistical and qualitative information for Belgium, Holland, Switzerland, and the Baltic states suggests no significant developments either in the stocks position or in consumption.

probable. In Germany, however, complete crop-year statistics may point toward slightly larger consumption this year than last, while current statistics do not; for the recent decree may divert as much as 11 million bushels of wheat to poultry feed (see p. 280).

All told, no cogent reason has appeared in the last four months to alter our expectations, expressed last December, that European importing countries as a group will consume a little less wheat this year than last, and the Danubian countries as a group a great deal less. Nor has evidence appeared recently to suggest that this year's levels of consumption in Argentina, Australia, northern Africa, India, and Japan will differ appreciably from those of 1931-32, though in northern Africa and India slight reductions now seem likely.

For Canada, official data published April 12 confirm earlier expectations of somewhat larger domestic disappearance in 1932-33 than in 1931-32, chiefly by reason of heavier feed use of wheat. Revised estimates of the several elements for 1931-32, and preliminary estimates for 1932-33, are as follows, in million bushels:

Aug.-July	Unmer- chant- able	Lost in clean- ing	Fed on farms	Seed use	Food use	Cur- rent total	Pre- vious total
1931-32....	3	5 <sup>a</sup>	27 <sup>b</sup>	37	42	114	119
1932-33....	2	7	37	36	41	123	130

<sup>a</sup> Unrevised; probably low.

<sup>b</sup> Revised downward from 33 million bushels.

For the United States, some indications of the course of wheat disappearance to the end of March are given by data summarized below in million bushels. The total this year

July-Mar.	Total disap- pearance <sup>a</sup>	Net exports <sup>b</sup>	Domestic disappearance		
			Total	Milled net <sup>c</sup>	Other
1929-30....	601	116	485	389	96
1930-31....	679	90	589	383	206
1931-32....	678	98	580	373	207
1932-33....	568	33	535	363	172

<sup>a</sup> Crop plus July 1 stocks minus subsequent April 1 stocks, including our rough estimate of country mill and elevator stocks on April 1, 1930.

<sup>b</sup> Wheat and flour, including shipments to possessions.

<sup>c</sup> Our estimates based on monthly reports of flour produced and exported; for 1932-33 including our approximation for March.

was 110 million bushels below the total for 1930-31 and 1931-32. While net exports have run 65 million bushels smaller this year than last, domestic disappearance has apparently declined by about 45 million bushels.

The principal items of domestic disappearance are use of wheat for seeding winter wheat, for mill grindings domestically retained, and for feed. For several months it has been clear that wheat used for winter-wheat sowings was 2 or 3 million bushels smaller this year than last.<sup>1</sup> Net mill grindings appear to have declined about 10 million bushels from the 1931-32 level. This probably does not imply a corresponding decline in flour consumption; in July-March 1931-32 net mill grindings were as high as 373 million bushels, largely because low flour stocks were being replenished (notably by heavy grindings in July), while in 1932-33 this does not seem to have occurred unless in some small degree during February-March. Still, we now see little prospect that net mill grindings in July-June 1932-33 will equal our December estimate of 490 million bushels, and we reduce the figure to 480 million, or 5 million bushels less than last year. We allow, however, for grindings of 117 million bushels in April-June (5 million more than last year) on the basis of milling reports in April and of some probable replenishment of flour stocks induced mainly by the March-April rise in wheat prices and present widespread anticipations of higher dollar prices.

Accumulating evidence points to heavier feed use of wheat than we anticipated last December (100 million bushels), though less than in 1931-32. If one accepts official estimates of crops and of July 1 and April 1 stocks and our estimates of net mill grindings, and assumes further that the April 1 stocks estimates include all of the wheat to be used for spring seeding, it appears that in July-March some 121 million bushels were used for feed this year as against 154 million last year. Murray interprets his estimates (based on reports of correspondents) as pointing toward crop-year feed use of 125

<sup>1</sup> Cromwell's figures are 51 and 54 million bushels, respectively. Lamson Brothers and Company, *Crop Report and Statistics*, March 1933.

million bushels as compared with the official estimate of 184 million for 1931-32; and Cromwell places the quantity fed, lost, and wasted in July-March at 115 million bushels as compared with 135 million in July-March 1931-32.<sup>1</sup> Although our calculation of July-March feed use possibly contains important errors in the basic data, we are now disposed to raise our estimate for the crop year to roughly 130 million bushels. We now expect total domestic use in the United States in 1932-33 to be some 20 million bushels larger than we thought probable last December (see Table X).

For the world (ex-Russia, China, and south-western Asia), the developments of the past four months call for a trifling reduction in our December appraisal of probable total disappearance in 1932-33. Our present figures,

	Aug.-July	Total supplies	End-year stocks	Disappearance
1927-28 .....		4,239	720	3,519
1928-29 .....		4,645	981	3,664
1929-30 .....		4,416	926	3,490
1930-31 .....		4,728	1,014	3,714
1931-32 .....		4,725	977	3,748
1932-33				
Dec. estimate.....		4,664	1,007	3,657
May estimate.....		4,652	1,007	3,645

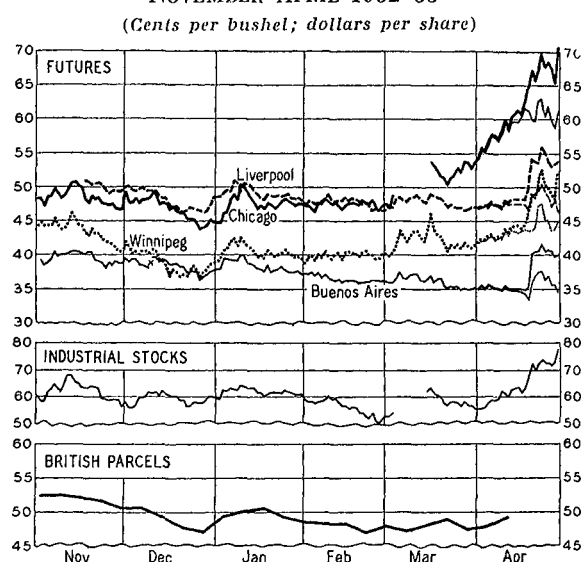
in which we include our revised estimates of "world" wheat stocks, are shown above in million bushels. As compared with 1931-32, decreased consumption of wheat in Europe (chiefly the Danube basin), in most ex-European countries except China, and in the United States as well, now promises to reduce this year's world wheat disappearance by around 100 million bushels from the record level of last year.

#### THE COURSE OF PRICES

As we anticipated in December,<sup>2</sup> wheat prices in leading futures markets moved within a narrow range from December 20 to the end of March (Chart 5). At no time during this period was the closing price of the May future at Liverpool over 4 cents (United States currency) above the price recorded on

December 19 (47 cents); at no time was it more than one cent below that price. From December 19 to April 1 the Liverpool May showed practically no net change whatever. There were net increases of somewhat less than 8 and 5 cents at Chicago and Winnipeg, respectively, and a net decline of about 4 cents at Buenos Aires. The more striking price developments since April 1 are discussed on page 288.

CHART 5.—PRICES OF WHEAT FUTURES, NEW YORK STOCKS, AND BRITISH WHEAT PARCELS, NOVEMBER-APRIL 1932-33\*



\* Daily closing prices of wheat futures mainly from *Daily Trade Bulletin*, Chicago; *Grain Trade News*, Winnipeg; and *London Grain, Seed and Oil Reporter*. May futures in Chicago, Winnipeg, and Liverpool; February and May futures successively in Buenos Aires; the light lines from April 1 show for each futures market the approximate course of wheat prices in terms of gold. Weekly British parcels prices from Table VIII. Stocks price series is the Dow-Jones index of closing prices of thirty industrial stocks in New York City.

The relative stability of world wheat prices through March was due on the one hand to continued large exportable supplies of wheat and a notably poor European import demand, and on the other hand to the near record low level of wheat prices, exceptionally large absorption of foreign wheat in China, and firm holding of wheat by farmers and speculators in the United States. In addition, world economic conditions changed little, and crop reports were not sensational except in the United States where wheat prices have been

<sup>1</sup> Clement, Curtis and Company, *Monthly Grain Report*, March 2, April 4, 1933; and Lamson Brothers and Company, *Crop Report and Statistics*, March 1933.

<sup>2</sup> See WHEAT STUDIES, January 1933, IX, 160.

above export parity since the beginning of the crop year.

Three significant price movements were reflected in all leading futures markets during December–March: (1) a continued decline in December which culminated in new all-time record low gold prices in Liverpool, Winnipeg, and Buenos Aires; (2) a bulge from the end of December to about the middle of January; and (3) a second bulge in the first three weeks of March.

The December decline occurred in spite of moderate firmness in securities prices, general stability of sterling and Canadian exchange rates, an official Argentine crop estimate that was below previous private estimates, and a decidedly bullish official report on the condition of the United States winter-wheat crop. These factors, however, appear to have been more than offset by increased selling competition on the part of Canada, Argentina, and Australia, coupled with continued uncertainty regarding world economic and political conditions. Forced liquidation and stop-loss selling appear to have played a part in the decline, especially at Winnipeg and Chicago.

New all-time record low gold prices were established in December in all leading futures markets except Chicago, where no future sold as low as the December on November 29 (41.9 cents). At Winnipeg the December future fell to 34.5 cents (United States currency) December 16; the Liverpool March (old-contract) set a new low of 42.9 cents December 20, again dropping to that figure December 29; and at Buenos Aires the February future sold as low as 34.9 cents on December 27. For Winnipeg and Chicago futures the low prices just cited remain the lowest on record. In Liverpool, the March future (old-contract) sold lower on February 28—43 cents; and in Buenos Aires the May future touched new lows in terms of gold during April, the lowest being 33.4 cents.

During the last few days of December and the first week of January wheat futures prices rose sharply, partly in reaction from the preceding decline, but apparently more in response to reports that China and India were buying large quantities of wheat, that the

American winter-wheat crop had deteriorated further since December 1, and that special legislation designed to raise wheat prices was definitely in prospect in the United States. These factors naturally exerted more influence at Chicago and Winnipeg than at Liverpool or Buenos Aires (Chart 5). In none of the futures markets, however, was the price advance of early January fully maintained. For about a week following January 10 futures prices declined almost as rapidly as they had risen. In the United States, speculators were inclined to take profits rather than to hold for higher prices in view of the numerous uncertainties facing them. Prices in other futures markets were affected indirectly by the weakness evident at Chicago, and more directly by increased selling competition between Argentine and Canadian exporters.

The March bulge was scarcely noticeable at Liverpool and Buenos Aires, but in North American markets it was quite as marked as the one in December–January. No trading in wheat futures was permitted by the Chicago Board of Trade during March 4–15—March 4 because of a bank holiday in Illinois, March 6–14 because of the national bank holiday, and March 15 by ruling of the Board of Trade. The New York foreign exchange market was closed March 4–11, increasing the uncertainties regarding wheat values and influencing both exporters and importers of wheat to deal cautiously. For two days after the Chicago wheat exchange closed, Winnipeg futures rose sharply, and during the following week were well supported (in spite of a poor export business in Canadian wheat), mainly as a result of extensive buying by United States speculators who anticipated improvement in the financial situation, and some general price inflation, in the United States. Continued bad reports of the United States winter-wheat crop were probably responsible for part of the buying.

When the Chicago exchange reopened on March 16, with fixed limits on grain price changes, Chicago futures rapidly rose to the upper price limit allowed (i.e., 5 cents above the closing price on the preceding business day), mainly because many wheat traders

and small outside speculators were convinced that general price inflation was imminent. Prices would probably have gone higher in the absence of price restrictions. Winnipeg was stimulated by and in turn stimulated the trading at Chicago; but Liverpool and Buenos Aires reflected the advance only feebly.

During the following week market sentiment at Chicago was less bullish; the prospect of marked inflation seemed more doubtful, and traders were uncertain how to interpret, and were somewhat afraid of, the unusual provisions of the new administration's farm relief bill. Other depressing influences were weakness in New York stocks prices, and weakness in foreign wheat markets—particularly Winnipeg, where traders were centering their attention upon the recent decline in export demand and upon continued large country marketings. Finally, selling of wheat futures by the Grain Stabilization Corporation was thought to be a factor in the Chicago decline; this belief later found support in the fact that the Corporation's futures holdings were reduced by over 18 million bushels between March 16 and April 1.

Since March 23 Chicago futures have shown independent strength mainly as a result of speculative buying induced by further deterioration of the United States winter-wheat crop, by increased conviction that inflationary measures were in prospect, and in consequence of the official announcement of an embargo on gold exports. Private crop estimates, published April 1, suggested a winter-wheat outturn of only 371 million bushels; the official report, issued nine days later, indicated a still smaller crop, 334 million bushels. Up to about April 20, crop conditions in the Southwest grew worse; and wet weather in the spring-wheat belt delayed the planting of spring wheat. Official reports of stabilization stocks (issued April 3, 18, 20, and 29) were probably minor bullish factors; by the end of April the Stabilization Corporation had sold all of its wheat, both cash and futures, and had on hand less than 7½ million bushels of Red Cross wheat.<sup>1</sup> On the other hand, the official estimate of farm stocks as of April 1 was higher than generally expected; this presumably would have had a

greater effect upon Chicago wheat prices if the accompanying official crop forecast had been less bullish.

Though crop and stocks news played a part in the Chicago price advance after March 23, speculation based on the growing prospect of systematic credit and currency inflation was the dominant market influence. This was encouraged by various reports and rumors issuing from Washington; by pending farm relief, employment relief, and financial legislation; by the President's order of April 5 that gold privately held should be returned to the banks; by the departure of the United States from the gold standard on April 18; and by increased Congressional support gained by the advocates of inflation.

Such speculation seems to have become more important in its effect upon Chicago wheat prices after April 13, when the United States dollar began to depreciate significantly in the foreign exchanges; and it assumed great importance after April 19, when the dollar depreciated further. The light lines on Chart 5 from April 1 to 30 show the approximate gold prices of wheat futures during these weeks.<sup>2</sup> The sharp price increases (in terms of United States currency) at Liverpool, Winnipeg, and Buenos Aires on April 19, and the higher price-levels shown for these markets after that date, were due primarily to depreciation of the United States dollar. In terms of gold, Liverpool, Buenos Aires, and even Winnipeg wheat prices were relatively stable throughout April, except for short minor bulges late in the month; on May 1 Liverpool and Buenos Aires prices (gold) were at approximately the same levels as on April 1, while Winnipeg prices were only about 2 cents higher. Chicago prices in

<sup>1</sup> A report issued by the Red Cross April 24 indicated that up to April 8 that organization had received from the Grain Stabilization Corporation 77.5 million bushels of wheat. By April 26, according to a news item in the *Daily Trade Bulletin*, the Red Cross had made application for the delivery of the remaining 7.5 million bushels.

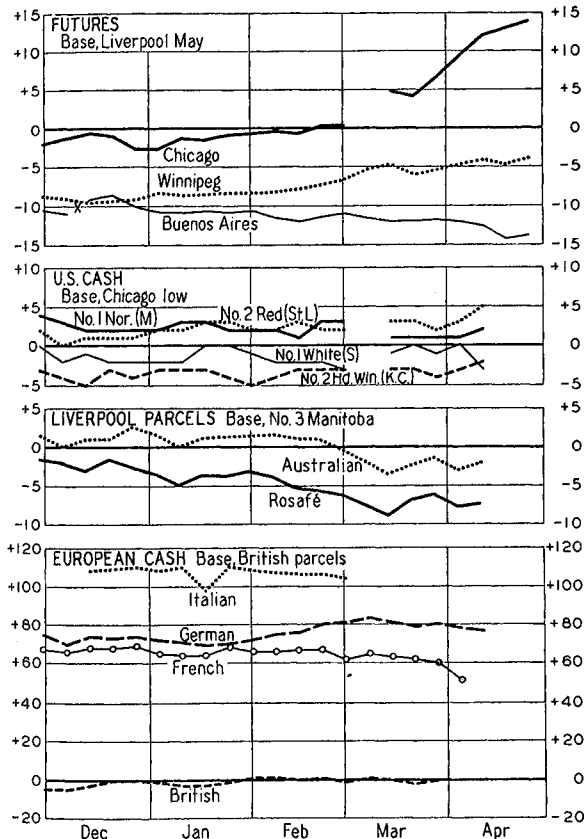
<sup>2</sup> Prices in foreign markets were first converted to United States dollars; then, together with the Chicago wheat prices, to French francs (basis, noon telegraphic cables in New York); finally, to approximate United States gold dollars by multiplying by the par value of the French franc in New York.

terms of gold declined, as did prices in other markets, during the last week of April, but on May 1 stood some 7 cents above the closing price on April 1.

### PRICE SPREADS

Changes in spreads among May futures in the four leading futures markets were of moderate size until April, when Chicago prices rose sharply relative to prices in foreign markets (Chart 6, top tier). Futures

CHART 6.—SIGNIFICANT PRICE SPREADS, WEEKLY, DECEMBER–APRIL 1932–33\*  
(Cents per bushel)



\* Futures price spreads are weekly average spreads of prices described in footnote to Chart 5. United States cash (except No. 1 White, quotations for which are from the same official source), Liverpool parcels, and British parcels prices from Table VIII. Continental European domestic prices (at Milan, Berlin, and Paris) from *Foreign Crops and Markets*; British domestic prices from *The Economist* (London).

at Chicago and Winnipeg were relatively stronger, those at Buenos Aires relatively weaker, than corresponding futures at Liver-

pool. These changes in relationship were probably partly seasonal in nature. In addition, continued bad reports of the United States winter crop, evidence that more wheat was being fed on farms in the United States than earlier estimates had indicated, anticipation that legislation designed to raise wheat prices would be enacted in this country, and, in April, depreciation of United States exchange were firming factors at Chicago and to a less extent at Winnipeg.<sup>1</sup> The latter market was doubtless also aided by firm holding by the Canadian government of futures purchased to stabilize prices last fall.<sup>2</sup> At no time were Chicago prices on an export basis; indeed, since late in February Chicago futures have stood above rather than below corresponding futures at Liverpool. The Winnipeg–Liverpool spread, on the other hand, was positive, and moderately wide throughout the period—except in March–April about as wide as at the height of the Canadian export movement in October–November.

In each of the leading futures markets, distant futures stood consistently above nearer futures after mid-January. Prior to that time the December future at Liverpool sold above the March (old-contract), and the May future at Chicago temporarily above the July.

At Liverpool, anticipation of increased offerings of wheat at lower prices after Southern Hemisphere crops should become available was mainly responsible for the discount of the March (old-contract) under the December future in November–December, a relationship common at that season of the year.

Of more interest, however, is the price relationship which prevailed at Liverpool between old-style and new-style March contracts during December–March. Early in December new-style March contracts (duty to be paid by the seller) commanded a premium of only 2½–3 cents (United States currency) per bushel over old-style March contracts (duty, if any, to be paid by the buyer); but by the end of February the premium had in-

<sup>1</sup> Winnipeg prices were also affected by some weakening of the Canadian exchange in terms of gold.

<sup>2</sup> See budget speech of Canadian Minister of Finance, reported in part in *Winnipeg Grain Trade News*, March 22, 1933.

creased to approximately 4 cents, the full amount of the duty. Some commentators have interpreted this change in spread to indicate that English consumers now pay the full equivalent of the recently imposed British tariff on wheat, while sellers of wheat in Canada and Australia benefit by receiving prices which are approximately 4 cents per bushel higher than the prices they would have received in the absence of the British tariff. One commentator remarked: "Economists are indebted to the Liverpool wheat futures market for providing a practical test as to the incidence of tariffs as between buyer and seller."<sup>1</sup> We cannot read the evidence so clearly. No answer has been given to this pertinent question: Did the Liverpool March old-style contract sell as high in March as it would have sold if Great Britain had not imposed a tariff on wheat? So long as this question is unanswered, no one can prove that wheat growers in Canada and Australia are getting 4 cents more than they would have received for each bushel of wheat in the absence of a preferential tariff. Doubtless Canadian and Australian wheats are commanding higher prices relative to Argentine wheats than would have been the case if Great Britain had not agreed to a preferential tariff; but there is no certain basis for determining whether Argentine wheats have been selling at, above, or below the price they otherwise would have brought. In our opinion, based purely on theoretical considerations, Argentine wheats have sold lower during the last few months than they would have sold if Britain had not adopted a wheat tariff. This is probably not true, however, of most other non-Empire wheats (e.g., United States and Danubian); nor do we assume that in every year Argentine sellers will have to accept lower prices on account of the British tariff. Our inference applies only to the present situation which includes a notably poor Continental demand for wheat, with some preference shown on the Continent for strong wheats, and large exportable supplies in Argentina as well as in Canada and Australia.

<sup>1</sup> *The Economist* (London), March 4, 11, 1933, pp. 457, 531.

At Chicago the firmness of the May relative to the July future in December and early January was coincident with an unusually rapid narrowing of the December-May spread and higher premiums for cash wheat. These changes in relationship were associated with light cash marketings and a good milling demand, both of which were based upon the prospect of enactment of the domestic allotment plan with proposed amendments designed to raise wheat prices in the immediate future. Another factor influencing farm marketings was the unfavorable outlook for the new United States winter-wheat crop. The condition of the crop became worse rather than better during January-March; and cash premiums remained relatively firm despite waning enthusiasm for the domestic allotment plan and uncertainty about the type of farm relief measure that would eventually be enacted. Late in March cash premiums and near futures again strengthened under the influence of a more active milling demand and moderate farm marketings. As in late December and early January, pending farm relief legislation was probably also a factor.

Price relationships among cash wheats in various United States markets (Chart 6, second tier) were notable chiefly for their stability during the period under review. No. 2 Red Wheat at St. Louis, however, showed a slight tendency to advance in relation to the cheapest deliverable wheat at Chicago and to No. 1 Northern at Minneapolis, as a result of increasing relative shortage of soft red wheat.

On the British import market (Chart 6, third tier), Australian and particularly Rosafé parcels weakened in relation to Manitobas as Southern Hemisphere shipments increased. Until late in February, Australian wheat (f.a.q.) sold at a slight premium over No. 3 Manitoba, mainly as the result of a good Oriental demand which prevented Australian wheat from being pressed on European markets. During March-April, however, Canadian cash and futures prices firmed under the influence of financial and political developments in the United States, while Australian and Argentine prices showed a tendency to decline (see Table VIII).

Prices of western European domestic

wheats, affected by various milling, storage, import, and other regulations, were maintained at fairly steady premiums over British parcels prices during December–March (Chart 6, bottom tier). In absolute terms, and also relative to British parcels, the price of German wheat rose slightly during the period, while the price of French wheat declined. The strength shown in German markets in February–March was presumably due, first, to the appointment of Hitler as head of the government and, later, to the new price-raising measures adopted under his dictatorship. Large farm supplies and heavy farm marketings were important weakening factors in France and probably also in Italy; these more than offset the effect of increases in domestic milling quotas and other governmental attempts to maintain prices. The course of British domestic wheat prices in December–March is noteworthy mainly because these prices were maintained at approximately the same level as British parcels prices for a longer period than in any of the ten preceding years.

#### OUTLOOK FOR 1933 CROPS

The present outlook for the world wheat crop of 1933 may be summarized briefly as follows, on the assumption that weather conditions from May 1 to harvest will be neither exceptionally favorable nor exceptionally unfavorable.

The new Indian crop, the only 1933 crop yet harvested, is officially estimated at 340 million bushels, a trifle larger than the moderate-sized crop of 1932. This crop will have little influence upon international trade or prices during May–July.

In North America the United States winter-wheat outturn now promises to be the smallest since 1904. The official forecast as of May 1 indicated a crop of only 337 million bushels, 125 million below the standing estimate of last year's small crop. Acreage abandonment was unprecedentedly high (over 32 per cent), leaving the smallest area for harvest since 1912. Crop condition was the lowest on record, mainly because of prolonged drought in the Southwest.

Reports of farmers' intentions to plant

spring wheat suggest that the acreage sown this spring in North America may be 4 or 5 per cent smaller than the area planted in 1932. If these expectations are realized, if abandonment of spring wheat is slight and the yield per acre about average (17.5 bushels per acre in Canada, 13 bushels in the United States), the North American spring-wheat crop will approximate 710 million bushels (around 445 million in Canada and 265 million in the United States), as against 678 million last year. The outcome will depend mainly on weather in the growing season. The spring-wheat crop was sown later than usual this year, with top-soil moisture ample for germination and to give the crop a good start, but with subsoil moisture reserves still so low that frequent rains in May–July will be necessary for satisfactory crop development. With only average amount and timing of this rainfall, a North American spring-wheat crop below rather than equal to or above 710 million bushels is in prospect as of May 10.

European importing countries will probably harvest in 1933 an aggregate wheat area about as large as, if not larger than, the big area harvested last year. Though growing conditions have been generally favorable (with the notable exception of drought in France and several other countries in recent weeks), it seems unlikely that the unusually high yields per acre secured in 1932 by the big producing countries in this group will be repeated in 1933. The momentary outlook, based on ordinary weather conditions in May–August, is for an aggregate crop smaller than that of 1932 by perhaps 100 to 150 million bushels.

The Danubian exporting countries, on the other hand, will probably harvest this year as much as 80 to 100 million bushels more than was harvested last year, when the crops of Roumania and Jugo-Slavia were virtual failures. Up to May 1, conditions this year have been more favorable; and average weather conditions from May 1 until harvest would be more favorable than conditions in the corresponding period of 1932.

In Russia the area sown to winter wheat was more than 4 million acres smaller this year than last; and spring-wheat plantings will probably be no larger than last year.

However, as of May 1 the condition of the winter crop was apparently better this year, and spring sowings were farther advanced. Average weather conditions in May–August are likely to insure a larger crop than was harvested in 1932. But even if a large crop is harvested in Russia this year, exports probably will not become sizable until September or October, since the near-famine conditions in parts of Russia will probably first be relieved.

Other Northern Hemisphere wheat crops, which totaled 167 million bushels in 1932, do not in the aggregate vary much from year to year. Among these, the most important are those of northern Africa. Egypt is likely to secure a smaller crop this year than last, mainly on account of a substantially smaller planted area; but the aggregate crop of the three French dependencies may equal or slightly exceed the moderate crop of 1932.

Southern Hemisphere crop prospects seldom have much significance for world wheat prices during May–August, and we assume that this will be true this year. At present, dry weather in Australia threatens to reduce wheat sowings in that country; but reports from Argentina suggest that the wheat acreage there may be increased under favorable planting conditions. At present there is no reason to anticipate that the aggregate wheat area and crop of these two countries will vary much from last year's. The dry weather in Australia perhaps foreshadows a below-average yield per acre there, while an average yield is now suggested in Argentina.

This summary of present prospects points to a 1933 wheat crop in the world ex-Russia, China, and southwestern Asia around 100–200 million bushels smaller than the crop of 1932, though indications as of May 1 are too uncertain to provide a reliable forecast. We believe that the probable *amount* of change between the 1932 and 1933 crops is fairly well indicated only for India and the United States winter-wheat crop. The *direction* of change is probably well enough indicated for European importing countries and the Danube basin. But data now available provide only a slender indication even of the direction of change in the North American spring-wheat

crop and in the crops of northern Africa, Russia, and the Southern Hemisphere.

#### OUTLOOK FOR EXPORTS

Writing last December, we indicated the probability that world shipments of wheat and flour in August–July 1932–33 would approximate 645 million bushels, of which 465 million would go to Europe and 180 million to ex-Europe. At that date Broomhall's estimates were respectively 704, 504, and 200 million bushels; but on March 8, 1933, these figures were revised to 664, 480, and 184 million bushels, respectively.

Since reported shipments in August–March 1932–33 (34 weeks) were 426 million bushels in total, 309 million to Europe, and 117 million to ex-Europe, the forecasts given above imply April–July (18 weeks) shipments in 1933 as follows in million bushels, as compared with reported April–July shipments last year:

Report and forecasts	Total	To Europe	To ex-Europe
1932 (reported) . . . . .	249	195	54
1933 (Broomhall, Mar. 1933) . . . . .	238	171	67
1933 (F.R.I., Dec. 1932) . . . . .	219	156	63

Common to these forecasts is the view that total shipments and shipments to Europe in April–July 1933 will fall below those of 1932, while shipments to ex-Europe will prove larger. Our December forecast, however, implies prospective total April–July shipments 19 million bushels smaller than Broomhall's March forecast.

We find no convincing evidence that our December forecast requires revision. Shipments to Europe in April–July 1933 seem practically certain to fall below those of 1932, and a decline of about 40 million bushels does not seem unreasonable. We have indicated above (p. 283) that wheat stocks on April 1 were larger in 1933 than in 1932 in France, Germany, Spain, Italy, Greece, and Portugal; smaller in the British Isles, Poland, Austria, Czecho-Slovakia, and the Scandinavian countries; and probably about of equal size in Belgium, Holland, Switzerland, and the Baltic states. If restrictions on wheat imports are maintained to the fullest possible extent (and this is reasonably in prospect), the coun-

tries of the first and third groups are certain to import considerably less wheat in April-July this year than last. Larger April-July imports this year than last are practically certain only in Austria and Poland, and the increase will be kept to a minimum; Czecho-Slovakia may need to import a trifle more this year than last, though the evidence is not clear; and Roumania and Jugo-Slavia, net exporters in 1932, may need to join the ranks of the net-importing countries this year. If British importers choose to carry heavy stocks into the next crop year, British net imports in April-July 1933 may substantially exceed those in 1932; but if (as we assume) June and July crop developments are not particularly unfavorable in Canada and Europe, there will be little incentive to do this.

All told, our calculations with respect to European trade in April-July 1933 as compared with the same months of 1932 yield the following, in million bushels:

Apr.-July	Shipments		Net imports
	Unadjusted	Adjusted <sup>a</sup>	
1932, reported . . . . .	195	222	229
1933, forecast . . . . .	156	170	170
Change . . . . .	-39	-52	-59

<sup>a</sup> By adding to reported shipments the actual reduction (27 million bushels) in stocks afloat to Europe between April 1 and August 1, 1932; and the prospective reduction (14 million bushels) between these dates of 1933.

The above forecast of "unadjusted" shipments to Europe implies that April-July shipments in 1933 are likely to fall 10 million bushels below the shipments to Europe reported in December-March 1932-33. Last year the April-July shipments exceeded those of December-March by 21 million bushels. Our expectation of a decline rather than an increase this year rests on the facts that April 1 stocks in importing Europe were much larger this year than last; that import restrictions have not been relaxed as early or as much this year as last; and that reported shipments to Europe declined more between March and April this year than last.

The volume of April-July shipments to ex-Europe, which we reckon at 63 million bushels, will depend mainly on Chinese purchases. Last year shipments to ex-Europe fell from 72 million bushels in December-March to

54 million in April-July, 15 million bushels of the total reduction of 18 million being in the shipments to China and Japan. This year total shipments to ex-Europe in December-March were 74 million bushels, of which 46 million—a record quantity—went to China and Japan, mainly China. Since on the average in recent years shipments to the Orient have declined between December-March and April-July, and since these shipments were extraordinarily large last December-March, we anticipate that April-July shipments both to the Orient and to all of ex-Europe will be smaller than December-March shipments. But since April trade reports mention continued heavy Oriental purchases, and since large supplies remain in Australia and Argentina, the decline between December-March and April-July total shipments to ex-Europe seems unlikely to be as large this year as last. Continued low wheat prices in Australia and Argentina would tend to maintain Chinese purchases, while substantially higher prices would tend to restrict them.

Although the relationship between total shipments and total net exports in April-July is erratic, the shipments always exceed the net exports. We take it that the excess may be around 10 million bushels this year; if so, and if shipments in April-July run to 219 million bushels, net exports may reach roundly 210 million bushels. This quantity will be supplied almost entirely by Australia, Argentina, and Canada. The new Indian crop is too small to provide exports from that country; and only a trickle can come from the Danube countries and Russia. A little new-crop wheat will doubtless go from northern Africa in June and July. The United States will probably not export net more than 6 million bushels in April-July; through April and into May United States prices were held far out of line for export, and with a poor winter-wheat crop definitely in prospect a downward readjustment of United States prices probably cannot come soon enough or go far enough to raise the level of exports in May-July. Probably only a little more than 10 million bushels will be exported net from the United States, Russia, India, the Danube countries, and northern Africa. Of the

roughly 200 million which seems likely to be exported from Canada, Argentina, and Australia, we anticipate that about 95 million may go from Canada, 60 million from Argentina, and 45 million from Australia.

With regard to net exports for the crop year August–July 1932–33, the foregoing estimates of probable net exports in April–July 1933, taken in relation to reported trade in August–March, involve certain changes in our forecasts. Comparisons are as follows, in million bushels:

Country	December forecast	May forecast	Change
United States .....	50	35	–15
Canada .....	285	290	+ 5
Argentina .....	120	135	+15
Australia .....	160	155	– 5
Russia .....	18	20	+ 2
Hungary and Bulgaria..	15	10	– 5
Others .....	17	20	+ 3
Total .....	665	665	0

Reduction in the United States forecasts rests upon reported trade in August–March and prevailing and prospective Chicago–Liverpool price relationships. The Australian forecast is reduced because in recent weeks there has been some tendency to hold wheat domestically, and this resulted in April exports disproportionately small in relation to the April 1 stocks. Trade statistics for August–March prompt the revisions of other forecasts except the Canadian and Argentine. An increase in the Argentine forecast was indicated by upward revision of stocks as of August 1, 1932, and of the crop estimate for 1932. The change in the Canadian forecast represents the residual effect of other changes in relation to an unchanged world total.

#### OUTLOOK FOR END-YEAR STOCKS

In December 1932 we published forecasts of “world” wheat stocks on August 1, 1933, which suggested a probable increase of around 35 million bushels in the course of the current crop year. Since December, we have prepared revised estimates of “world” stocks as of about August 1 annually, 1922–32; these revised estimates include wheat in two positions (Japan and afloat to ex-Europe)

not covered by the earlier estimates, and provide for larger allowances for “minimum” end-year stocks in Europe, northern Africa, and India.<sup>1</sup> The following tabulation, in million bushels, shows our revised estimates of stocks on August 1, 1932; our December forecasts of probable stocks on August 1, 1933, as they would have been if our new methods of estimation had been used; and our present revisions of these adjusted December forecasts:

Region	Revised 1932	Forecasts, 1933	
		December	May
United States grain			
In United States.....	363	370	360
In Canada .....	16	5	5
Canadian grain			
In Canada .....	131	150	160
In United States .....	5	3	3
Argentina .....	65	80	75
Australia .....	40	40	50
Danube basin .....	51	28	23
Importing Europe .....	195	235	235
Afloat to Europe.....	31	38	38
India .....	52	39	{ 31 8 }
Northern Africa .....	8		
Japan and afloat to ex-			
Europe .....	19	19*	19
Total .....	976	1,007	1,007

\* Not forecast in December.

Except as regards the four major exporting countries and the Danube basin, the developments during the past four months do not seem to warrant changes in our December forecasts. The new official Australian crop estimate points to the propriety of a higher forecast of end-year stocks. We maintain our estimate of end-year stocks in European importing countries on the basis of reported and estimated net imports and despite a small reduction in the 1932 crop estimates; the figure, however, is likely to require revision when further data on imports become available. The large reduction in the Roumanian crop estimate, together with reports of negligible importation into Roumania and Jugoslavia thus far in the crop year, indicate the propriety of a reduction in the forecast of Danubian end-year stocks; it now appears probable that stocks will be at bare minimum

<sup>1</sup> See WHEAT STUDIES, February 1933, IX, No. 5.

in all of the Danube countries except Hungary. The Argentine forecast requires reduction in the light of net exports thus far reported, and estimated for April–July. Details of changes in the basic Argentine and Australian data upon which the present forecasts depend are given in Table X.

Since official estimates of April 1 stocks in Canada have now appeared, and also official estimates of domestic consumption and data on August–March net exports, the outlook for the Canadian carryover can be based on information not available last December. April 1 stocks totaled 313 million bushels. Of this amount, about 36 million bushels (the official figure) may be used for seed; about 95 million (our estimate, p. 294) may be exported in April–July; and something less than a third of the official estimates of crop-year disappearance for food, feed, unmerchantable grain, and loss in cleaning (which total 87 million bushels) may disappear in these categories. The probable carryover on August 1, as indicated by this method of calculation, is roundly 160 million bushels, or 10 million more than our December forecast.

For the United States, official data on April 1 stocks are also available. These totaled 522 million bushels. Of this amount, 117 million bushels will probably be milled net in April–June (see p. 285), and only about 5 million bushels will probably be exported. The official report on farm stocks as of April 1 specifically stated that “something upward of 25,000,000 bushels of the farm stocks of wheat remaining in the spring wheat states, will be used for seed.” Hence it may properly be estimated that April–June utilization of April 1 stocks for mill grindings, net exports, and spring-wheat seed will approximate 147 million bushels; and if these were the only avenues of disappearance, the total carryover on July 1 would be 375 million bushels. But more or less wheat will certainly be used for feed in April–June. If a fourth of Murray’s estimate of the year’s total use for feed (125 million bushels) should be used in the closing three months of the crop year, the outward carryover might be only 344 million bushels. But with seasonal reduction in the feed use of grain and higher wheat prices, a

fourth of the year’s wheat feeding can hardly occur in April–June. Nevertheless poultrymen will doubtless continue to feed some wheat, and wheat will continue to be fed to other livestock in some regions. Perhaps 15 million bushels is about as low an estimate as can reasonably be formulated. If April–June feed use should not exceed 15 million bushels, the outward carryover (net mill grindings, net exports, and seed use taken as above, 147 million bushels) would be 360 million bushels—a figure 10 million below our December forecast. Last year’s record carryover was 363 million.

The foregoing method of calculation, however, proceeds on the assumption that April 1 stocks were correctly estimated. Private estimates (four in number) of farm stocks as of March 1 indicated a *reduction* of about 40 million bushels from the level of March 1, 1932; the official estimate of April 1 farm stocks, however, indicated an *increase* of 12 million bushels from the level of April 1, 1932. This discrepancy is much too large to explain by reference to the possibility that farm stocks were reduced less in March this year than last; it points toward error in either the private or the official estimates either of this year or last year or both. We are not in position to ascertain where the error may lie. Here it is necessary only to say that *if* the official estimate as of April 1, 1933, is too high the probable carryover as calculated above would fall below 360 million bushels.

Again, it is possible that a better method of forecasting the outward carryover could be devised. Alternatively, one could appraise the probabilities by reference to official statistics for the two preceding years. The pertinent data are as follows, in million bushels:

Apr.– June	Apr. 1 stocks	July 1 stocks	April–June disappearance			
			Total	Net exports	Milled net	Residual
1931.....	469	319	150	26	109	15
1932.....	542	363	179	28	112	39
1933.....	522	?	?	5	117	?

The residual items represent the quantities

of wheat apparently available for feed use and spring-wheat seeding after allowance for net exports and net mill grindings, both of which can be appraised rather accurately (though net exports are possibly understated, which would reduce the residuals further).

These residual items look unbelievably low, particularly if spring-wheat seed was included in the April 1 estimates of farm stocks. Some 25 million bushels must actually have been used for spring seeding both in 1931 and 1932. The residual item for 1931, 15 million bushels, would not suffice for spring-wheat seed alone; and in addition it ought to allow for substantial feed use, since the official estimate for feed use in the crop year 1930-31 was 159 million bushels. And if from the residual item for 1932 we subtract the spring seedings, only 14 million bushels is indicated as probable feed use in April-June 1932; this figure does not seem to bear a reasonable relationship to the official 1931-32 crop-year estimate of 184 million bushels of wheat fed on farms. Accordingly there are discrepancies in the various kinds of statistics. We know of no reasonable explanation.

Nevertheless, since the residual item presumably covering April-June spring-wheat seed use and feed use turned out to be only 39 million bushels in 1932, it could be supposed that the residual item for 1933 will be even smaller, on account of lower feed use this year. Calculating the probable outward carryover on this basis, one would deduct from the April 1 stocks of 1933 some 132-147 million bushels (net mill grindings of 117 million, net exports of 5 million, and an expected residual of around 10-25 million). This calculation would point to a probable outward carryover of 375-390 million bushels, representing a level substantially higher than that calculated by the method first discussed. We employ the first rather than the second method because the second involves the assumption that the April 1 stocks estimates, both for 1931, 1932, and 1933, do not include wheat used for spring seeding; and this assumption is contrary to the official statement describing the 1933 farm stocks as well as to evidence regarding the dates of spring-wheat seeding in 1931 and 1932.

All told, in spite of changes in the components of the total, our present forecast of "world" end-year stocks on about August 1, 1933, is the same as our December forecast. Stocks still seem likely to prove somewhat larger at the end of the year than at the beginning, and above normal by more than 350 million bushels.

#### OUTLOOK FOR PRICES

Wheat price movements and relationships in the next three or four months will be affected not only by developments within the wheat situation itself, but also by important prospective or actual changes in other fields. In the United States, inflation of currency and credit appears to be in prospect, and perhaps also reduction in the gold content of the dollar and governmental action to raise the prices of farm products. Steps toward devaluation of currencies in other countries, downward adjustments of tariffs, and international agreement looking toward restriction of wheat acreage or some control of the world wheat surplus may eventuate as a result of the World Economic Conference scheduled to open on June 12; a preliminary accord between the governments of the four major wheat-exporting countries may conceivably be announced even earlier. Independent of governmental actions, business conditions and wholesale prices may improve or worsen; improvement has occurred in recent weeks, but it is too early to appraise the trend.

Within the wheat situation, it is clear that actual stocks of wheat must remain very heavy for months to come, and that import demand will continue light; these will continue as factors tending to restrain advances of wheat prices. An increasing proportion of exportable surpluses of old-crop wheat will be held in the United States and Canada—a potential bullish factor in the Liverpool market, since these countries are relatively strong holders. Pressure of new-crop export offers from Russia<sup>1</sup> and the Danube countries seems improbable within three months; and the remaining supplies in the Southern Hemisphere presumably will not be strongly pressed for

<sup>1</sup> Little Russian wheat can go to the United Kingdom, its principal outlet, while the embargo imposed by the British on April 26 is enforced.

sale at current price levels. There is little doubt that the Northern Hemisphere—and probably the world—wheat crop of 1933 will fall somewhat below that of 1932; but how small or how large the reduction will be, and what countries will be most affected, will depend mainly on weather conditions during the next few months in the North American spring-wheat belt and in Europe. Of crop developments in these months, those in Canada will presumably exert most influence upon world wheat prices.

The commodity situation itself is such that the price of the Liverpool October future, which was 53 gold cents on the average in the week ending May 6, is unlikely to undergo a sustained decline of more than 5 gold cents up to the end of July, or to average 15 gold cents higher for more than about a week, if at all.

We place a small limit upon the possible decline. The May 1–6 gold (or sterling) price was already very low, close to the very stable level maintained throughout January–April in the face of the new-crop movement from the Southern Hemisphere. With tariff duty (if any) included, this price leaves very little room for further sustained reduction. Severe decline is not to be anticipated, in our judgment, either from exceptionally favorable new-crop prospects in Europe or in the United States spring-wheat belt or from serious pressure of export offers unless those of Canada, where the significant surplus now lies. Good growing weather in Canada seems to be the important potential price-depressing factor of May–July; this would find reflection in futures prices at both Winnipeg and Liverpool, and in Canadian export offers. But because of the very low level of the Liverpool October future and the presumption that around 125 million bushels of Winnipeg futures are and will be held with governmental sanction, we judge it highly improbable that a sustained decline of the Liverpool future should exceed 5 gold cents.

On the other hand we regard a sustained advance of more than 15 gold cents as improbable, even if growing conditions should prove distinctly unfavorable for the Canadian and western European crops. Import demand

could not be greatly stimulated in such important countries as Italy, France, and Germany, where domestic supplies will for some months remain too abundant to permit (international agreements aside) substantial relaxation of import restrictions. Rising prices would tend to curtail Chinese purchases, and to stimulate export sales from the liberal stocks remaining in Argentina, Australia, and Canada. The old-crop stocks, in short, are in our judgment too heavy to permit Liverpool futures to rise as they did between mid-June and mid-July 1929, when the October advanced 38 gold cents a bushel. In that year stocks believed to be available for export were much smaller than now, with the quantity in Argentina generally underestimated; and the rise in prices came while the world trade cycle seemed to many to be still in its upward phase.

The gold price of wheat at Liverpool may also be affected by news of international accord, prospective or actual, regarding concerted action to reduce wheat acreage, to control the wheat surplus, to improve international financial conditions, or to reduce tariffs generally. It can be said with some assurance that the present prospect for inauguration of governmental policies directed toward these ends is stronger than at any time in the past. Consequently we anticipate that Liverpool wheat futures prices in coming weeks will be strengthened rather than weakened by developments outside of the immediate wheat position—gold prices perhaps less than sterling prices. But accurate appraisal of probable non-wheat developments is impossible at this time, either as to steps taken, their timing, or their effectiveness.

In depreciated United States dollars, the Chicago September future averaged 74 cents in the week of May 1–6, or about 11 cents above the Liverpool October; it reached this position after a sharp advance in which the Liverpool future, expressed in sterling or in gold, shared very little. A wheat price increase in Chicago of such swiftness and magnitude as the recent one tends strongly to be followed by a sharp reaction. In past years when the advance has come in the spring, the reaction has proceeded rapidly and has car-

ried prices down about to the level from which the advance started, except when unfavorable developments of the winter-wheat crop were followed by serious deterioration of the spring-wheat crop. It is by no means certain that the peak of the upward price movement at Chicago was reached in the first week of May. But from either the level of the first week of May or from a higher level that may well be reached later in the month, a substantial decline is to be anticipated in the absence of distinctly bullish developments either in the form of crop news or of further reports suggesting currency or credit inflation. Such developments, distributed through May-July, could readily prevent more than temporary recession of Chicago prices.

If during May the important developments are only those related to the inflation program, we feel warranted in hazarding the opinion that they are likely to be of a character to encourage maintenance of about the price levels of early May. Deterioration of the spring-wheat crop in June and July might then lead to well-sustained price advances into new high ground. If crop news during May should prove distinctly bullish, however, Chicago prices might easily be carried so high that only very improbable subsequent developments could prevent a severe price reaction. In any case Chicago wheat prices are likely to fluctuate widely on account of the many important uncertainties in and outside of the wheat situation.

With stocks of old wheat in the United States so heavy, Chicago wheat prices can

scarcely remain through the coming crop year as far above Liverpool as in early May. Nevertheless, the abnormal price spread may be temporarily widened if Chicago prices rise further on domestic crop news. Favorable crop developments, especially of spring wheat, would tend to narrow the Chicago-Liverpool spread, but it is unlikely to be reversed during May-July, and its return to a level permitting normal exports will be much longer delayed.

The price spread between Chicago July and September wheat, on the basis of total supplies of wheat in the United States, which might be expected to average about  $2\frac{3}{4}$  cents for the first three weeks of June and to rise to 3 or  $3\frac{1}{4}$  cents in late June, may remain somewhat below these figures in consequence of the abnormal proportion of the supplies which is located in the spring-wheat states. In 1923 a similar distribution of stocks resulted in July wheat selling more than one cent higher, relative to September, than might have been expected from the magnitude of total stocks.<sup>1</sup> Although no comparable situation is to be found in the past, we consider it likely that the geographical distribution of supplies will prove less important with stocks as liberal as they are this year than it did in 1923. To the extent that higher prices result in more liberal movement from farms, some tendency to depression of the July future relative to the September may be expected.

<sup>1</sup> See WHEAT STUDIES, March 1933, IX, 215-17, 227-29.

*This issue was written by M. K. Bennett and Helen C. Farnsworth, with the advice of Joseph S. Davis and Holbrook Working*

# APPENDIX

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS AND COUNTRIES, 1927-32\*

(Million bushels)

Year	World ex-Russia <sup>a</sup>	Northern Hemisphere ex-Russia <sup>a</sup>	Four chief exporters	United States			Canada	Australia	Argentina	USSR	Lower Danube <sup>b</sup>	Other Europe	Northern Africa <sup>c</sup>	India
				Total	Winter	Spring								
1927....	3,588	3,118	1,755	875	548	327	480	118	282	785	272	1,002	60	335
1928....	3,925	3,350	2,002	926	591	335	567	160	349	807	367	1,043	69	291
1929....	3,425	3,060	1,408	813	577	236	305	127	163	694	303	1,147	77	321
1930....	3,688	3,184	1,728	857	599	258	421	214	236	989	353	1,009	64	391
1931....	3,646	3,174	1,631	900	787	113	321	190	220	...	368	1,065	69	347
1932 <sup>d</sup> ...	3,677	3,166	1,599	727	462	265	431	210 <sup>e</sup>	231	...	236	1,263	70	337
1932 <sup>f</sup> ...	3,652	3,140	1,607	727	462	265	429	216	235	...	224	1,256	66	337

Year	Hungary	Jugo-Slavia	Roumania	Bulgaria	Morocco	Algeria	Tunisi	Egypt	British Isles	France	Germany	Italy	Belgium <sup>g</sup>	Netherlands
1927....	76.9	56.6	96.7	42.1	23.5	28.3	8.1	44.3	57.2	276.1	120.5	195.8	17.0	6.2
1928....	99.2	103.3	115.5	49.2	24.7	30.3	13.7	37.3	50.9	281.3	141.6	228.6	17.9	7.3
1929....	75.0	95.0	99.8	33.2	31.8	33.3	12.3	45.2	50.9	337.3	123.1	260.1	13.5	5.5
1930....	84.3	80.3	130.8	57.3	21.3	32.2	10.4	39.8	43.4	228.1	139.2	210.1	13.7	6.1
1931....	72.6	98.8	135.3	61.2	29.7	25.6	14.0	46.1	38.6	264.1	155.5	244.8	14.2	6.8
1932 <sup>d</sup> ...	58.6	53.5	73.5	50.6	22.0	32.9	14.7	52.6	40.8 <sup>h</sup>	331.4	183.8	276.1	15.6	13.3
1932 <sup>f</sup> ...	64.4	53.5	55.5	50.6	22.0	29.2	14.7	52.6	43.7	331.4	183.8	276.1	15.6	13.7

Year	Scandinavia <sup>i</sup>	Baltic States <sup>j</sup>	Spain	Portugal	Switzerland	Austria	Czechoslovakia	Poland	Greece	Mexico	Japan, Chosen	South Africa	Chile, Uruguay	New Zealand
1927....	25.3	10.0	144.8	11.4	4.34	12.0	47.2	61.1	13.0	11.9	38.3	5.7	46.0	9.54
1928....	31.3	10.9	122.6	7.5	4.47	12.9	52.9	59.2	13.1	11.0	39.4	7.2	42.0	8.83
1929....	31.5	13.7	154.2	10.6	4.37	11.6	52.9	65.9	11.4	11.3	38.8	10.6	46.7	7.24
1930....	31.8	15.8	146.7	13.8	5.77	12.0	50.6	82.3	9.7	11.4	38.5	9.3	28.6	7.58
1931....	28.7	13.1	134.4	13.0	5.48	11.0	41.2	83.2	11.2	16.2	39.8	13.7	33.2	6.66
1932 <sup>d</sup> ...	....	17.8	180.7	18.1	4.18	12.8	53.8	55.9	18.4	8.9	40.8	...	....	....
1932 <sup>f</sup> ...	37.9	17.8	178.5	18.1	5.65	13.0	53.8	49.5	17.0	8.9	40.8	9.3	21.8 <sup>k</sup>	....

\* Data of U.S. Department of Agriculture and International Institute. Dots (...) indicate no data available.

<sup>a</sup> Excluding also China and southwestern Asia. Totals for 1932 include some rough estimates.

<sup>b</sup> Hungary, Jugo-Slavia, Roumania, Bulgaria.

<sup>c</sup> Morocco, Algeria, Tunis.

<sup>d</sup> Data available about December 23, 1932.

<sup>e</sup> Unofficial.

<sup>f</sup> Data available about May 10, 1933.

<sup>g</sup> Including Luxemburg.

<sup>h</sup> England and Wales only.

<sup>i</sup> Denmark, Norway, Sweden.

<sup>j</sup> Finland, Latvia, Estonia, Lithuania.

<sup>k</sup> Chile only.

TABLE II.—WHEAT RECEIPTS IN NORTH AMERICA, OCTOBER-MARCH 1932-33, WITH COMPARISONS\*

(Million bushels)

Year	United States (14 primary markets)							Canada (4 leading terminal markets)						
	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	July-Mar.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Aug.-Mar.
1927-28.....	73.2	44.8	26.5	23.5	22.5	26.3	436.9	57.6	81.7	52.8	37.6	22.1	13.7	276.9
1928-29.....	84.4	43.5	33.0	22.5	28.7	27.2	469.4	94.1	87.5	65.2	24.7	12.2	20.7	350.7
1929-30.....	36.3	20.6	22.9	17.5	19.9	16.7	376.8	36.2	23.2	10.9	7.0	8.1	8.5	129.6
1930-31.....	28.9	24.6	21.5	29.5	30.7	30.8	413.1	36.7	24.8	20.2	12.7	12.9	10.5	189.1
1931-32.....	32.7	26.4	13.8	17.1	25.0	13.4	332.8	34.5	38.4	17.4	9.8	9.2	11.5	148.6
1932-33.....	27.2	17.6	13.9	12.8	9.9	12.7	214.2	39.7	28.5	18.7	10.7	9.6	18.0	204.0

\* United States data unofficial, from *Survey of Current Business*; Canadian data compiled from official figures given in *Canadian Grain Statistics*. For a list of the markets in each country, see WHEAT STUDIES, January 1933, IX, 163.

TABLE III.—WHEAT VISIBLE SUPPLIES, DECEMBER–APRIL 1932–33, WITH COMPARISONS\*

(Million bushels)

Date	Total	United States grain		Canadian grain		Total North America	Afloat to Europe	U.K. ports	Total U.K. and afloat	Australia	Argentina
		United States	Canada	Canada	United States						
Dec. 1, 1927.....	290.8	91.6	5.2	91.7	31.3	219.8	57.1	9.6	66.7	0.7	3.6
1928.....	419.3	140.2	8.3	154.0	35.2	337.7	63.5	5.7	69.2	8.0	4.4
1929.....	480.5	189.9	9.1	188.1	35.1	422.2	28.6	20.6	49.2	1.8	7.3
1930.....	485.3	206.6	4.8	174.9	30.4	416.7	45.7	13.9	59.6	5.0	4.0
1931.....	527.6	236.6	29.7	169.2	16.7	452.2	35.7	29.5	65.2	5.8	4.4
1932.....	480.5	176.4	7.0	221.1	15.2	419.7	39.6	7.6	47.2	7.0	6.6
Apr. 1, 1928.....	344.0	68.8	1.0	133.6	16.1	219.4	68.4	7.7	76.1	36.0	12.5
1929.....	462.9	124.8	1.6	166.0	23.7	316.1	71.0	8.0	79.0	53.0	14.8
1930.....	469.0	153.1	5.8	171.9	24.4	355.2	34.2	13.0	47.2	56.0	10.6
1931.....	554.3	213.6	5.3	170.3	11.1	400.3	48.0	12.6	60.6	84.2	9.2
1932.....	583.9	207.2	27.6	172.9	11.7	419.4	58.7	15.4	74.1	75.0	15.4
1933.....	525.9	135.6	6.4	220.8	6.0	368.8	52.4	10.0	62.4	81.5	13.2
1932–33											
Dec. 3.....	480.5	176.4	7.0	221.1	15.2	419.7	39.6	7.6	47.2	7.0	6.6
10.....	496.8	175.3	6.9	219.2	16.6	418.0	41.6	6.8	48.4	23.0	7.4
17.....	514.8	173.3	6.9	221.5	14.9	416.6	38.1	7.0	45.1	45.0	8.1
24.....	529.3	171.5	7.0	221.6	14.5	414.6	35.6	7.2	42.8	63.0	8.8
31.....	549.7	168.5	6.9	224.2	13.6	413.2	36.4	7.5	43.9	83.0	9.6
Jan. 7.....	561.4	166.1	6.9	223.0	13.3	409.3	34.8	7.2	42.0	100.0	10.1
14.....	574.8	163.7	6.7	219.2	12.0	401.6	39.7	6.8	46.5	116.0	10.7
21.....	584.9	160.1	6.7	218.2	11.2	396.2	43.5	6.8	50.3	127.0	11.4
28.....	588.1	158.0	6.8	218.4	11.1	394.3	46.1	7.0	53.1	128.5	12.2
Feb. 4.....	586.5	155.6	6.7	219.1	11.0	392.4	48.9	6.8	55.7	127.0	11.4
11.....	584.1	153.5	6.7	219.7	9.8	389.7	52.5	6.6	59.1	123.5	11.8
18.....	580.7	151.0	6.7	217.1	9.4	384.2	59.0	6.0	65.0	119.0	12.5
25.....	568.8	148.2	6.6	216.3	8.7	379.8	59.1	6.4	65.5	111.0	12.5
Mar. 4.....	561.8	147.1	6.6	216.2	7.8	377.7	60.4	7.2	67.6	104.0	12.5
11.....	557.2	146.0	6.5	216.0	7.5	376.0	63.8	7.2	71.0	98.0	12.2
18.....	547.8	142.6	6.5	217.4	6.9	373.4	60.7	8.2	68.9	93.0	12.5
25.....	535.0	138.9	6.4	218.9	6.7	370.9	56.0	9.2	65.2	86.0	12.9
Apr. 1.....	525.9	135.6	6.4	220.8	6.0	368.8	52.4	10.0	62.4	81.5	13.2
8.....	512.5	133.2	6.4	220.2	5.7	365.5	47.6	10.6	58.2	75.2	13.6
15.....	501.3	131.0	6.3	219.9	4.9	362.1	45.4	10.7	56.1	70.2	12.9
22.....	482.7	127.7	5.8	217.5	3.1	354.1	41.5	9.6	51.1	63.5	14.0

\* Commercial Stocks of Grain in Store in Principal U.S. Markets; Canadian Grain Statistics; and Corn Trade News.

TABLE IV.—WHEAT STOCKS IN THE UNITED STATES AND CANADA, ABOUT APRIL 1, 1928–33\*

(Million bushels)

Year	United States (March 31 and April 1)						Canada (March 31)						
	On farms	In country mills and elevators	Commercial stocks	In city mills <sup>a</sup>	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators	In terminal elevators	In transit	In flour mills	Total in five positions	Canadian grain in U.S. <sup>b</sup>
1928 ...	.....	....	68.8	68.5	.....	1.0	69.8	38.7	91.4	19.0	7.4	226.3	16.1
1929 ...	117.7	....	124.8	83.0	.....	1.6	64.2	54.8	109.3	12.6	8.7	249.6	23.7
1930 ...	129.5	90.0 <sup>c</sup>	153.1	77.2	449.8	5.8	46.3	87.2	92.7	4.4	8.0	238.6	24.4
1931 ...	116.4	71.6	213.6	64.6	466.2	5.3	93.9	82.8	86.4	7.3	9.6	280.0	11.1
1932 ...	165.9	69.3	207.2	94.2	536.6	27.6	61.8	89.8	82.5	8.4	4.0 <sup>d</sup>	246.5	11.7
1933 ...	178.4	98.8	135.6	103.9	516.7	6.4	80.0	113.8	105.7	9.8	3.5 <sup>d</sup>	312.8	6.0

\* Official data, mainly from press releases and *Canada Year Books*. Previously, United States data were for March 1.<sup>a</sup> In and in transit to mills. About 5 per cent must be added to make these figures comparable with official carry-over data as of July 1.<sup>b</sup> In bond for export as wheat; excludes some bonded wheat in transit by rail.<sup>c</sup> Our interpolation between March 1 and July 1 official estimates.<sup>d</sup> In Eastern Division only. Stocks in Western Division mills included with stocks in country mills.

TABLE V.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY, DECEMBER–APRIL 1932–33\*  
(Million bushels)

Week ending	Total	Shipments from							Shipments to Europe				Shipments to ex-Europe		
		North America	Argentina <sup>a</sup>	Australia	South Russia	Danube	India	Other countries <sup>b</sup>	Total	United Kingdom	Orders	Continent	Total	China, Japan	Others
Dec. 3....	16.51	12.90	0.81	1.86	0.46	0.30	...	0.18	12.92	5.28	2.29	5.35	3.59	1.49	2.10
10....	10.27	7.20	0.87	0.89	0.95	0.18	...	0.18	8.32	2.83	1.80	3.69	1.95	0.86	1.09
17....	11.38	6.47	1.31	2.70	0.50	0.28	...	0.12	7.85	3.23	1.23	3.39	3.53	1.94	1.59
24....	11.41	5.28	2.16	2.74	0.74	0.34	...	0.15	8.86	4.26	1.27	3.33	2.55	0.90	1.65
31....	9.77	4.95	1.51	2.59	0.26	0.27	...	0.19	5.86	2.55	1.13	2.18	3.91	2.17	1.74
Jan. 7....	11.05	3.90	1.94	4.37	0.55	0.17	...	0.12	6.94	2.58	1.32	3.04	4.11	2.35	1.76
14....	16.50	6.76	2.38	6.46	0.51	0.18	...	0.21	12.24	4.96	3.30	3.98	4.26	2.84	1.42
21....	16.26	5.23	4.28	6.39	....	0.16	...	0.20	12.75	4.29	4.24	4.22	3.51	2.09	1.42
28....	13.94	4.32	3.61	5.09	0.13	0.18	...	0.61	9.35	3.18	3.57	2.60	4.59	2.66	1.93
Feb. 4....	13.94	4.68	3.45	5.20	0.07	0.09	...	0.45	10.11	4.14	3.34	2.63	3.83	2.10	1.73
11....	15.23	3.06	4.44	7.16	0.33	0.06	...	0.18	10.12	3.37	3.85	2.90	5.11	3.66	1.45
18....	17.66	5.50	5.18	6.58	....	0.04	...	0.36	11.90	4.22	5.25	2.43	5.76	4.24	1.52
25....	16.06	3.53	4.32	7.89	0.05	0.09	...	0.18	10.90	4.16	5.10	1.64	5.16	3.58	1.58
Mar. 4....	15.46	5.17	3.36	6.62	....	0.10	...	0.21	11.01	2.78	3.98	4.25	4.45	2.43	2.02
11....	18.53	5.86	4.55	7.57	0.37	0.07	...	0.11	12.34	3.73	4.36	4.25	6.19	4.99	1.20
18....	12.53	3.42	4.28	4.53	0.06	0.09	...	0.15	7.24	2.23	2.87	2.14	5.29	3.75	1.54
25....	13.04	2.98	4.18	5.65	0.04	0.06	...	0.13	7.05	2.51	3.03	1.51	5.99	3.98	2.01
Apr. 1....	11.55	4.79	2.67	3.88	....	0.12	...	0.09	7.98	1.96	3.16	2.86	3.57	2.29	1.28
8....	9.91	2.61	4.67	2.42	....	0.09	...	0.12	6.64	1.04	4.19	1.41	3.27	2.14	1.13
15....	9.42	3.58	2.79	2.71	0.10	0.10	...	0.14	5.94	1.73	2.44	1.77	3.48	2.18	1.30
22....	10.14	2.63	3.15	4.14	....	0.07	...	0.15	5.38	2.60	1.76	1.02	4.75	3.18	1.57

\* Here converted from data in Broomhall's *Corn Trade News*. Dots (...) indicate no shipments reported.

<sup>a</sup> Including Uruguay.

<sup>b</sup> Mainly northern Africa and Germany.

TABLE VI.—SHIPMENTS OF WHEAT AND FLOUR, AUGUST–MARCH 1932–33, WITH COMPARISONS\*  
(Million bushels)

Period and year	Total	Shipments from						Shipments to Europe				Shipments to ex-Europe		
		North Amer- ica	Argen- tina*	Aus- tralia	South Russia	Danube	Others	Total <sup>b</sup>	United King- dom	Orders	Conti- nent	Total	China, Japan	Others
Aug.-Nov. (17 weeks)														
1927 .....	252.0	195.2	20.8	13.6	4.0	12.0	6.4	220.8	60.1	30.7	130.0	31.2	6.6	24.6
1928 .....	296.0	220.0	38.4	16.4	...	15.6	5.6	240.4	60.1	26.6	153.2	55.6	12.7	42.9
1929 .....	219.2	106.8	71.6	14.4	...	20.4	6.0	172.0	52.2	48.7	71.2	47.2	11.9	35.3
1930 .....	270.4	143.2	14.4	22.4	62.8	17.2	10.4	228.0	45.7	74.3	108.3	42.4	16.0	26.4
1931 .....	274.4	119.2	23.6	28.4	61.2	34.4	7.6	212.4	43.7	76.8	92.0	62.0	24.8	37.2
1932 .....	186.4	118.8	13.2	26.8	12.4	3.2	12.0	143.6	54.1	28.6	60.9	42.8	20.5	22.3
Dec.-Mar. (17 weeks)														
1927-28 .....	272.8	149.6	82.4	27.6	0.8	10.0	2.4	223.2	49.6	60.6	112.7	49.6	14.6	35.0
1928-29 .....	341.3	169.1	95.0	62.3	...	12.8	2.0	239.4	46.1	71.4	121.8	101.9	39.3	62.6
1929-30 .....	188.4	90.8	45.6	28.0	2.5	16.3	5.2	140.0	32.0	41.0	67.8	48.4	14.7	33.7
1930-31 .....	241.6	92.0	45.6	64.4	26.0	10.0	3.6	169.6	32.1	63.9	73.4	72.0	24.2	47.8
1931-32 .....	246.4	88.8	62.4	67.6	8.8	16.0	2.8	174.0	41.2	65.0	67.7	72.4	39.3	33.1
1932-33 .....	239.2	91.2	52.8	84.4	4.8	2.4	3.6	165.6	60.3	52.0	53.5	73.6	46.0	27.6
Aug.-Mar. (34 weeks)														
1927-28 .....	524.8	344.8	103.2	41.2	4.8	22.0	8.8	444.0	109.7	91.3	242.8	80.8	21.2	59.6
1928-29 .....	637.3	389.1	133.4	78.7	...	28.4	7.6	479.8	106.2	98.1	275.0	157.5	52.0	105.5
1929-30 .....	407.6	197.6	117.2	42.4	2.5	36.7	11.2	312.0	84.1	89.6	139.0	95.6	26.6	69.0
1930-31 .....	512.0	235.2	60.0	86.8	88.8	27.2	14.0	397.6	77.8	138.2	181.7	114.4	40.2	74.2
1931-32 .....	520.8	208.0	86.0	96.0	70.0	50.4	10.4	386.4	85.0	141.8	159.6	134.4	64.1	70.3
1932-33 .....	425.6	210.0	66.0	111.2	17.2	5.6	15.6	309.2	114.4	80.6	114.4	116.4	66.5	49.9

\* Converted from data in Broomhall's *Corn Trade News*. Dots (...) indicate no shipments reported.

<sup>a</sup> Including Uruguay.

<sup>b</sup> Not direct summations of items in the three following columns.

TABLE VII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1932, WITH SUMMATIONS AND COMPARISONS\*

(Million bushels)

## A. NET EXPORTS

Month or period	United States <sup>a</sup>	Canada	Argentina	Australia	Four exporters	USSR	Hungary	Jugoslavia	Rumania	Bulgaria	Poland	Algeria	Tunisia	India
Aug. ....	5.57	19.76	3.94	3.85	33.12	(0.87)	0.81	0.22	0.08	0.31	0.05	2.27	1.22	0.10
Sept. ....	3.86	27.60	3.46	6.24	41.16	4.89	1.36	0.13	0.03	0.17	(0.04)	1.16	0.79	0.13
Oct. ....	4.23	42.55	3.22	8.14	58.14	3.30	0.85	0.08	0.00	0.36	(0.02)	4.92	0.78	0.08
Nov. ....	5.73	29.88	4.10	7.50	47.21	4.73	0.35	0.14	0.01	0.70	(0.03)	0.12	0.09	0.09
Dec. ....	3.79	29.94	8.30	12.46	54.49	2.55	0.43	0.21	0.00	0.46	(0.02)	2.25	0.44	0.11
Jan. ....	2.84	16.48	16.04	21.64	57.00	1.22	0.33	0.13	0.00	0.06	(0.13)	....	0.14	0.06
Feb. ....	1.91	12.41	16.75	27.13	58.20	0.33	0.51	0.00	0.00	0.01	0.11	0.52	0.18	(0.56)
Mar. ....	1.06	17.00	....	....	....	....	....	....	....	....	....	....	....	....
Aug.-Mar.														
1931-32.....	82.32	140.54	93.93	102.72	419.51	60.61	15.21	12.22	36.39	9.05	1.64	2.75	2.68	1.47
1932-33 <sup>b</sup> ....	28.99	195.62	72.00	111.00	407.61	17.00	5.00	1.00	0.00	2.10	(0.18)	12.50	3.75	(1.00)
Average <sup>c</sup> ..	105.76	196.71	104.90	69.19	476.56	81.17	17.50	8.81	11.57	....	0.06	4.03	2.35	(3.50)

## B. NET IMPORTS

Month or period	United Kingdom	Irish Free State	British Isles total	Three variable importers				Belgium	Netherlands	Denmark	Norway	Sweden	Scandinavia total	Switzerland
				Total	Italy	Germany	France <sup>d</sup>							
Aug. ....	17.76	1.64	19.40	11.77	0.02	2.15	9.60	2.94	2.24	1.62	0.40	0.85	2.87	1.82
Sept. ....	16.00	1.68	17.68	1.09	(0.15)	(2.40)	3.64	2.61	1.82	1.27	0.71	0.43	2.41	1.64
Oct. ....	20.15	1.32	21.47	0.59	0.44	(1.61)	1.76	4.33	3.09	1.21	0.73	0.41	2.35	1.82
Nov. ....	16.89	1.29	18.18	2.14	0.91	(0.74)	1.97	2.46	1.99	0.89	0.74	0.23	1.86	2.19
Dec. ....	15.46	1.72	17.18	5.38	1.29	0.75	3.34	4.52	2.28	1.06	1.00	0.21	2.27	1.42
Jan. ....	16.04	0.90	16.94	1.57	1.70	(1.45)	1.30	3.09	2.75	0.78	0.58	0.21	1.56	1.42
Feb. ....	15.03	1.26	16.29	2.86	1.42	(0.52)	1.96	2.33	1.97	1.10	0.61	0.01	1.72	1.24
Mar. ....	23.35	....	....	....	....	....	....	3.83	2.07	....	....	....	....	....
Aug.-Mar.														
1931-32.....	168.50	13.31	181.81	57.68	11.05	7.14	39.49	28.51	21.52	13.45	6.57	4.33	24.35	14.62
1932-33 <sup>b</sup> ....	140.68	11.30	151.98	27.50	7.50	(4.00)	24.00	26.11	18.21	9.00	5.40	2.50	16.90	13.00
Average <sup>c</sup> ..	147.47	12.65	160.12	98.27	35.23	32.57	30.47	28.65	21.69	8.44	5.60	4.90	18.94	12.35

## B. NET IMPORTS (Continued)

Month or period	Austria	Czechoslovakia	Greece	Spain	Portugal	Finland	Latvia	Estonia	Lithuania	Four Baltic states	Egypt	Japan	New Zealand	South Africa
Aug. ....	0.69	0.49	1.70	0.84	0.23	0.41	0.02	0.00	(0.01)	0.42	0.01	0.09	0.44	0.16
Sept. ....	0.76	0.29	1.54	5.38	0.26	0.41	0.00	0.00	0.00	0.41	0.20	0.12	0.25	0.04
Oct. ....	0.95	0.16	1.73	0.15	0.03	0.40	0.00	0.00	(0.01)	0.39	....	0.24	0.07	0.04
Nov. ....	0.95	0.03	1.75	0.35	0.23	0.50	0.00	0.00	0.00	0.50	0.03	0.03	0.13	0.02
Dec. ....	1.24	0.24	1.69	0.00	0.07	0.44	0.00	0.00	(0.01)	0.43	....	0.43	....	....
Jan. ....	1.11	0.93	1.55	0.00	0.07	0.20	0.00	0.00	0.00	0.19	....	(0.07)	....	....
Feb. ....	....	0.75	....	0.00	0.01	0.22	0.00	0.00	(0.00)	0.22	....	0.60	....	....
Mar. ....	....	....	....	....	....	....	....	....	....	....	....	....	....	....
Aug.-Mar.														
1931-32.....	9.55	17.05	15.94	0.01	1.07	3.22	0.58	0.33	(0.03)	4.10	5.53	13.08	0.46	1.43
1932-33 <sup>b</sup> ....	8.00	4.00	13.75	6.72	0.90	3.00	0.02	0.00	(0.03)	2.99	2.00	2.00	1.00	1.00
Average <sup>c</sup> ..	10.22	13.48	14.83	....	1.28	3.90	1.20	0.68	....	....	....	10.10	....	....

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

<sup>a</sup> Includes shipments to possessions.

<sup>b</sup> Including our approximations to data missing in the monthly figures.

<sup>c</sup> Five-year averages, 1927-28 to 1931-32, except: USSR, 1930-31 and 1931-32; Greece, 1928-29 to 1931-32; Portugal,

1929-30 to 1931-32; Latvia, 1927-28 to 1928-29 and 1930-31 to 1931-32.

<sup>d</sup> Net imports in "commerce général," except February 1933, which are "commerce spécial."

TABLE VIII.—PRICES OF REPRESENTATIVE WHEATS IN BRITISH MARKETS AND PRINCIPAL EXPORTING COUNTRIES, WEEKLY, FROM DECEMBER 1932\*

(U.S. cents per bushel)

Week ending	British parcels	Liverpool (Tuesday prices)				United States <sup>a</sup>						Winnipeg		Buenos Aires 78-kilo <sup>b</sup>
		No. 1 Manitoba	No. 3 Manitoba <sup>c</sup>	Argentine Rosafé	Australian f.a.q.	Lowest contract cash (Chicago)	All classes	No. 2 Hard Winter (Kansas City)	No. 2 Red Winter (St. Louis)	No. 1 Northern Spring (Minneapolis)	No. 2 Amber Durum (Minneapolis)	Weighted average	No. 3 Manitoba	
Dec. 3....	51	51	49	48	51	45	47	42	47	49	51	38	35	40
10....	51	52	50	48	50	47	48	43	47	50	51	37	34	39
17....	49	51 <sup>d</sup>	50	46	50	47	47	42	48	49	51	35	32	39
24....	48	50	47	46	48	45	45	42	46	47	50	34	31	38
31....	47	49 <sup>e</sup>	47	44	49	44	44	40	45	46	47	35	32	34
Jan. 7....	49	51 <sup>e</sup>	49 <sup>d</sup>	46	51	46	46	43	48	48	49	38	35	35
14....	50	54 <sup>e</sup>	52	47	52	48	50	45	50	51	55	39	36	36
21....	51	52	50	46	51	46	48	43	49	49	52	37	34	35
28....	49	53	50	46	51	47	49	43	50	49	52	37	35	35
Feb. 4....	48	52	49	46	51	47	47	42	49	49	50	36	34	35
11....	48	52	49	46	51	47	48	43	49	49	50	37	35	35
18....	48	53	49 <sup>d</sup>	44	50	47	48	44	50	48	51	38	36	34
25....	47	52	49 <sup>d</sup>	43	50	47	48	44	49	50	50	38	36	34
Mar. 4....	48 <sup>e</sup>	53	48	42	48	47 <sup>f</sup>	48 <sup>f</sup>	44 <sup>f</sup>	49 <sup>f</sup>	50 <sup>f</sup>	51 <sup>f</sup>	38 <sup>e</sup>	36 <sup>e</sup>	34 <sup>e</sup>
11....	47 <sup>e</sup>	57 <sup>e</sup>	52 <sup>e</sup>	44 <sup>e</sup>	50 <sup>e</sup>	.. <sup>f</sup>	.. <sup>f</sup>	.. <sup>f</sup>	.. <sup>f</sup>	.. <sup>f</sup>	.. <sup>f</sup>	41 <sup>e</sup>	39 <sup>e</sup>	34 <sup>e</sup>
18....	48 <sup>e</sup>	58	52	44	49	53 <sup>f</sup>	55 <sup>f</sup>	50 <sup>f</sup>	56 <sup>f</sup>	54 <sup>f</sup>	57 <sup>f</sup>	42 <sup>e</sup>	40 <sup>e</sup>	34 <sup>e</sup>
25....	49	56	51	44	48	52	53	49	55	53	57	40	38	34
Apr. 1....	47	53	49	43	48	54	55	50	56	55	59	40	38	34
8....	48	53	50	43	48	57	58	54	60	58	62	41	39	35
15....	49	54	51	43	48	60	62	58	65	62	67	42	41	..
22....	52	56	53	44	50	65	67	63	71	68	68	46	45	..
29....	..	66	62	51	57	69	71	66	75	72	75	..	..	..

\* For source and methods of computation, see WHEAT STUDIES, December 1932, Table XXXIV. The United States series headed "Lowest contract cash" is here published in WHEAT STUDIES for the first time: these prices are weekly averages of daily prices of the cheapest wheat deliverable on Chicago contracts, obtained by applying daily premiums or discounts (as quoted by the Chicago Daily Trade Bulletin) to closing prices of the future.

<sup>a</sup> Averages for weeks ending Friday through December 1932; thereafter weeks ending Saturday.

<sup>b</sup> Prior to December 31, prices are for 80-kilo wheat.

<sup>c</sup> Wheat shipped from Vancouver.

<sup>d</sup> Parcels to London.

<sup>e</sup> In converting prices to United States currency, exchange rates for March 2 were used for March 2-13.

<sup>f</sup> No quotations for March 4-15 because of bank holidays.

TABLE IX.—MONTHLY PRICES OF DOMESTIC WHEAT IN EUROPE, SEPTEMBER-MARCH, FROM 1927-28\*

(U.S. cents per bushel)

Year	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.
GERMANY (BERLIN)								FRANCE (PARIS)						
1927-28.....	168	162	157	153	152	149	159	168	160	158	165	164	163	172
1928-29.....	136	138	137	133	135	140	144	164	167	166	163	165	169	172
1929-30.....	147	150	151	157	160	152	155	152	153	150	147	144	137	141
1930-31.....	155	147	160	161	168	177	186	175	173	176	177	179	187	190
1931-32.....	136	136	146	138	146	158	161	163	165	162	164	168	173	178
1932-33.....	135	129	128	122	120	125	129	123	120	119	116	115	114	110
ITALY (MILAN)								GREAT BRITAIN						
1927-28.....	173	177	190	180	193	194	200	143	137	132	129	129	126	127
1928-29.....	181	188	187	187	192	196	195	119	124	128	125	125	127	127
1929-30.....	175	184	185	190	194	189	186	129	124	122	124	124	116	108
1930-31.....	177	170	163	146	149	154	149	95	91	87	80	73	67	67
1931-32.....	133	133	140	143	150	163	167	58	59	67	57	54	53	59
1932-33.....	145	146	152	153	156	150 <sup>a</sup>	148 <sup>a</sup>	53	51	48	47	48	49	47

\* For sources and methods of computations, see WHEAT STUDIES, December 1932, Table XXXV.

<sup>a</sup> Three-week average.

TABLE X.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1927-28\*  
(Million bushels)

Year	Domestic supplies			Domestic disappearance				Surplus over domestic use <sup>c</sup>	Net exports wheat and flour			End-year stocks
	Initial stocks	New crop	Total	Milled (net)	Seed use	Balancing item <sup>a</sup>	Total <sup>b</sup>		Total	To Mar. 31	From Apr. 1	
	A. UNITED STATES (JULY-JUNE)											
1927-28.....	118	875	993	503	93	80	676	317	193	172	21	124
1928-29.....	124	926	1,050	510	85	68	663	387	145	114	31	242
1929-30.....	242	813	1,055	508	85	28	621	434	143	116	27	291
1930-31.....	291	857	1,148	492	81	141	714	434 <sup>d</sup>	115 <sup>d</sup>	90	25	319
1931-32.....	319	900	1,219	485	79	165	729	490 <sup>d</sup>	127 <sup>d</sup>	98	29	363
1932-33 <sup>e</sup> .....	363	727	1,090	490	75	105	670	420	50	...	..	370
1932-33 <sup>f</sup> .....	363	727	1,090	480	76	136	692	398	38	33	5	360
	B. CANADA (AUGUST-JULY)											
1927-28.....	48	480	528	42	42	33	117	411	333	226	107	78
1928-29.....	78	567	645	44	44	47	135	510	406	314	92	104
1929-30.....	104	305	409	43	44	26	113	296	185	119	66	111
1930-31.....	111	421	532	43	36 <sup>e</sup>	61	140	392	258	184	74	134
1931-32.....	134	321	455	42	37 <sup>e</sup>	38	117	338	207	141	66	131
1932-33 <sup>e</sup> .....	131	431	562	42	36 <sup>e</sup>	49	127	435	285	...	..	150
1932-33 <sup>f</sup> .....	131	429	560	41	36 <sup>e</sup>	32 <sup>h</sup>	110	450	290	196	94	160
	C. AUSTRALIA (AUGUST-JULY)											
1927-28.....	23	118	141	32	15	- 7	43	98	71	39	32	27
1928-29.....	27	160	187	29	15	+ 7	51	136	109	78	31	27
1929-30.....	27	127	154	32	18	+ 4	54	100	63	41	22	37
1930-31.....	37	214	251	32	14	+ 7	53	198	152	85	67	46
1931-32.....	46	190	236	32	15	- 7	40	196	156	103	53	40
1932-33 <sup>e</sup> .....	40	210	250	32	15	+ 3	50	200	160	...	..	40
1932-33 <sup>f</sup> .....	40	216	256	32	15	+ 4	51	205	155	111 <sup>i</sup>	44	50
	D. ARGENTINA (AUGUST-JULY)											
1927-28.....	69	282	351	60	25	- 8	77	274	179	116	63	95
1928-29.....	95	349	444	61	23	+ 8	92	352	222	136	86	130
1929-30.....	130	163	293	60	26	-11	77	216	151	118	33	65
1930-31.....	65	236	301	60	21	+16	97	204	124	61	63	80
1931-32.....	80	220	300	60	24	+11	95	205	140	94	46	65
1932-33 <sup>e</sup> .....	60	231	291	61	24	+ 6	91	200	120	...	..	80
1932-33 <sup>f</sup> .....	65	235	300	61	24	+ 5	90	210	135	72 <sup>i</sup>	63	75

\* Based on official data so far as possible; see WHEAT STUDIES, December 1932, Table XXXI.

<sup>a</sup> Total domestic disappearance minus quantities milled for food and used for seed.<sup>b</sup> Total domestic supplies less surplus over domestic use.<sup>c</sup> Summation of net exports and end-year stocks.<sup>d</sup> Too low; does not include some wheat shipped to Canada and eventually exported from there.<sup>e</sup> Estimates as of December 1932.<sup>f</sup> Estimates as of May 1932.<sup>g</sup> Probably too low for comparison with earlier years.<sup>h</sup> Since this item is 14 million bushels less than the official estimates of wheat fed on farms, unmerchable, and lost in cleaning, some underestimate of the 1932 crop is indicated.<sup>i</sup> Partially estimated.

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