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# W H E A T   S T U D I E S

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### FOOD RESEARCH INSTITUTE

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SEPTEMBER 1936

## WORLD WHEAT SURVEY AND OUTLOOK

### SEPTEMBER 1936

**W**HEAT futures rose sharply, from late in May to early August, to the highest sustained levels since 1929-30. The advance reflected serious reversal of crop prospects in the North American spring-wheat belt and a reduced surplus of old-crop wheat. In Canada, the chief source of world wheat exports in May-July, the carryover was down to 109 million bushels. "World" stocks about August 1 totaled some 730 million bushels—185 million less than last year and only 125 million above the 1923-27 average.

Standing estimates suggest that total wheat supplies available to the world ex-Russia in 1936-37 are 285 million bushels less than last year and the smallest since 1926-27. Even with allowance for some upward revision of current estimates, and for reduced world consumption, the margin between total supplies and consumption requirements is likely to prove the smallest in over a decade.

World net exports in 1936-37 now seem likely to total only 520 million bushels, practically the same as in 1935-36. European imports may be around 35 million bushels larger than last year, ex-European imports a little smaller. Stocks of Canadian wheat in the United States may be reduced without reflection in net-export data. With the small margin now indicated between world supplies and prospective demand, wheat futures prices through December are not likely to recede much from their mid-September levels; nor is there ground now for anticipating an important advance. Unexpectedly favorable crop developments in the Southern Hemisphere should cause only a moderate decline; but serious adverse developments might induce a sharp price advance.

STANFORD UNIVERSITY, CALIFORNIA

September 1936

# **WHEAT STUDIES**

**OF THE**

## **FOOD RESEARCH INSTITUTE**

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# WORLD WHEAT SURVEY AND OUTLOOK

## SEPTEMBER 1936

Changes in the wheat situation during May–August carried prices in principal markets to the highest sustained levels since 1929–30. During May prices at Winnipeg and Liverpool declined under pressure of Canadian wheat on European markets. But in June–July persisting drought and record-breaking high temperatures in the North American spring-wheat belt radically changed the world crop outlook, focused attention upon the diminished stocks of old-crop wheat in Canada and other exporting countries, and resulted in a sensational price advance of 25–30 cents in leading futures markets.

This sharp rise seems not to have reflected such excessive bullish sentiment as is usually associated with advances of like magnitude and short duration. Chicago prices, already close to an import basis, could not advance much more rapidly than prices at Winnipeg; and the latter were held in check by the position and policy of the Canadian Wheat Board and by failure of European import purchases to expand significantly. These and other considerations suggest that the price advance of June–August may not have been excessive and indeed may have been smaller than the change in supply prospects warranted.

Standing crop estimates and our present appraisal of year-end stocks suggest that wheat supplies in the world ex-Russia may total only 4,029 million bushels in 1936–37, roughly 285 million less than last year and the smallest since 1926–27. These figures alone, however, probably exaggerate the tightness of the wheat position of 1936–37. On the basis of historical precedent, it seems reasonable to expect some upward revision of Northern Hemisphere crop estimates now standing. Moreover, the distribution of wheat supplies this year and the prevailing higher level of wheat

prices on free markets suggest moderate reduction in wheat consumption as compared with the two preceding years. But even with allowance for these factors, the margin between world wheat supplies and world consumption requirements appears to be the smallest in over a decade. Consequently, price and trade developments will depend more

largely this year than in any other recent year upon the actual outturn of the wheat crops in Argentina and Australia.

World net exports of wheat in 1936–37 now seem likely to total 520 million bushels, or practically the same as last year. The outlook would be for substantially larger net exports in 1936–37 were it not for the sizable stocks of Canadian

wheat in the United States, which can be reduced without reflection in net-export statistics. Net imports of European net-importing countries may total 390 million bushels this year, as compared with 355 million in 1935–36. The United States will perhaps import net around 25 million bushels in July–June, much the same as in the past year. Hard winter wheat will be substituted in larger quantity for hard spring wheat this year, and soft wheats will be mixed more freely with hard wheats in the production of bread flour. Some commercial exports of Pacific white wheat have already been reported; but it is doubtful if such exports will total as much as 10 million bushels during 1936–37. Ex-European countries other than the United States seem likely to take a little less wheat this year than last, when their aggregate net imports were the smallest in more than a decade.

With the existing narrow margin between world wheat supplies and prospective demand in 1936–37, wheat prices would rise sharply if developments should indicate that this margin will be much narrower than is now antici-

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pated. Possibilities of serious damage to the growing Southern Hemisphere wheat crops or appearance of a stronger disposition to accumulate stocks of wheat in European countries than is now evident offer the chief potential threats of such a change before mid-winter; but such a turn of events cannot now be considered probable. Emergence of notable price-depressing influences appears even less likely. Some recession may occur in Liverpool wheat prices from the level of \$1.16 per bushel for the December future on September 14, but in the absence of conspicuous new developments, price fluctuations to the middle or end of December are likely to be moderate, on a horizontal or slightly declining trend.

#### CROPS OF 1936

Scorching heat and intensive drought in the North American spring-wheat belt in June-July changed early prospects for a moderate world wheat crop into clear indications of a distinctly short crop (Chart 1). The apparent shortness—in itself deserving emphasis—is the more noteworthy because this is the third successive year in which the world crop ex-Russia has fallen around 7 per cent below the average for 1929–33. In our world production series, which begins in 1885, there is but one other instance (1916–18) of three successive crops so far below the average for the five preceding years.

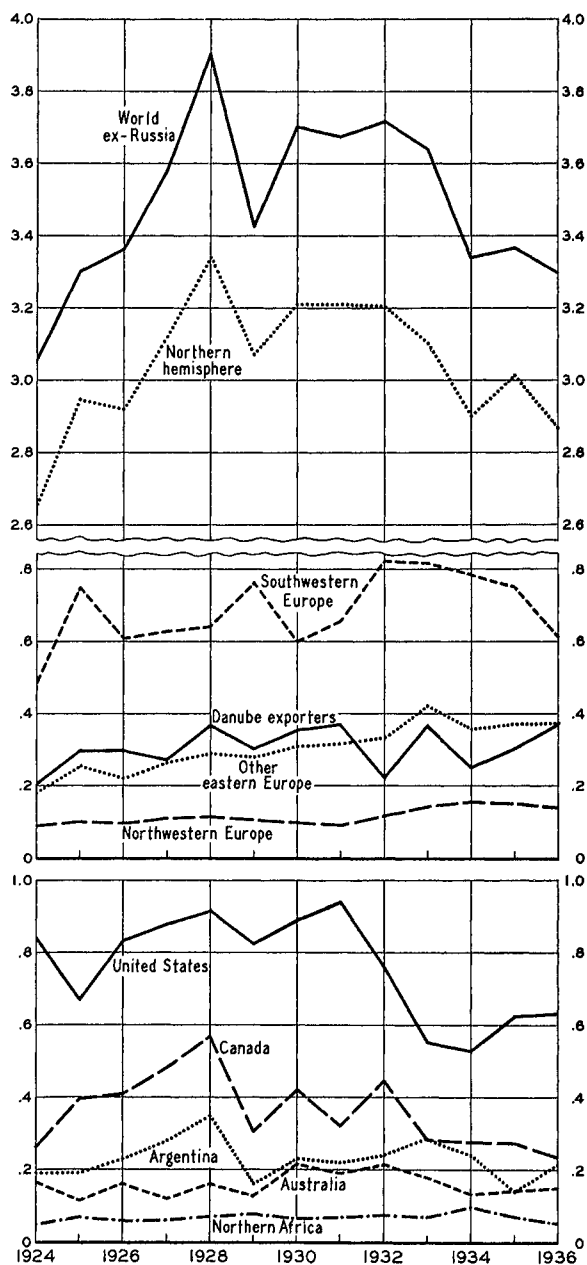
This year, while spring-wheat crops in North America and also Russia were suffering from drought, wheat crops in southwestern Europe and in the three French dependencies of northern Africa were deteriorating mainly under the influence of excessive rainfall, accompanied in the later stages by rust and lodging. In Argentina, too, precipitation was excessive, curtailing sowings and encouraging the growth of weeds. Indeed, only in central and eastern Europe, particularly the Danube basin, and in Egypt were weather conditions exceptionally favorable for wheat yields in 1935–36; and even in parts of this general area, rains and storms caused some damage at harvesting time.

Low yields per acre of wheat on harvested acreage tell only part of the story. Unfa-

vorable weather had also curtailed the planting of wheat in some countries, and had resulted in heavy abandonment of sown acre-

CHART 1.—PRINCIPAL WHEAT CROPS, 1924–36\*

(Billion bushels)



\* See Table I.

age in North America and southwestern Europe. Current figures suggest that the total acreage sown to wheat in the world ex-Russia

was about 2 per cent *above* the 1929-33 average, whereas production was about 9 per cent *below*.

The 1936 world crop ex-Russia, which present estimates suggest may be a little smaller than the two preceding crops, differs from them mainly in its geographical distribution. This year the importing countries of the world have a smaller aggregate crop, the exporting countries a larger total crop, than in either 1934 or 1935.

In quality, the United States and Canadian crops are generally better this year than last, though part of the United States spring-wheat crop appears to be characterized by protein of low quality. The Danube wheats and the wheats of most eastern and central European countries are also of reasonably good quality this year; but in southwestern Europe and northern Africa wheat is considerably lower in quality than last year and, indeed, is below average.

Outside of the "world ex-Russia" as here defined, only the crops of China, Russia, and Turkey are important. The Chinese crop is apparently of good size and substantially larger than in 1935. Russia, on the other hand, apparently harvested a crop smaller than that of 1935 and somewhat below average in size. Conflicting estimates of the Turkish crop leave us in doubt as to its real size.

*United States winter wheat.*—In the fall of 1935 farmers in the United States planted around 50 million acres to winter wheat. Except for the area seeded in 1918, this was the largest acreage ever planted. But dry soil conditions in the southern Great Plains in the fall and winter, extremely low winter temperatures in important wheat states, and drought in the hard winter-wheat belt (particularly in Oklahoma and Texas) in April-June resulted in exceptionally heavy abandonment of winter-wheat acreage and in a low average yield per acre. The area harvested is now estimated at only 37.9 million acres, a figure slightly below the 1929-33 average but over 3 million acres larger than the standing estimate for either 1934 or 1935.

The month-to-month progress of the winter-wheat crop is indicated by the following official forecasts of production and yield per acre,

in million bushels and bushels per acre respectively:

Forecast	Apr. 1	May 1	June 1	July 1	Aug. 1
Production ..	493	464	482	512	519
Yield per acre ...	12.9	13.4	13.5	13.7	

These figures clearly suggest that most of the damage to the winter-wheat crop occurred before May 1, and that crop prospects improved somewhat thereafter. The production forecasts, however, tend to exaggerate the improvement during May-July, for the indicated increase of 30 million bushels between June 1 and July 1 was due almost wholly to general revision in the acreage estimates for recent years—a revision based on information made available through the census of 1935. At 519 million bushels, the United States winter-wheat crop is the largest since 1931, but is smaller than most earlier postwar crops.

*North American spring wheat.*—A cold wet spring delayed sowings of spring wheat in both the United States and Canada. Although soil moisture conditions were not ideal at the end of April, they were regarded as at least reasonably satisfactory, and in Canada as the best since 1932.<sup>1</sup> In May, however, precipitation was below normal, particularly in the United States; in June, continued deficiency of rainfall led to recognition that the crop situation had become critical; and in July, high temperatures and persisting dry weather resulted in the emergence of a large drought area within which crop acreage was extensively abandoned and record or near-record low yields were indicated.

Within the present century the only weather conditions at all comparable with this year's drought in the North American spring-wheat belt were in 1931 and 1934. In all three years precipitation was far below normal and temperatures were exceptionally high. The following tabulation of official percentage condition figures and estimated yields shows the course of development of the spring-wheat crops of the United States and Canada in the three years indicated.

<sup>1</sup> Dominion Bureau of Statistics, *Crop Report*, May 8, 1936, p. 2.

Country and year	June 1	July 1	Aug. 1	Estimated yield per acre
United States				
1931 .....	68	55	40	8.2
1934 .....	41	38	30	10.1
1936 .....	67	46	33	8.4 <sup>a</sup>
Canada				
1931 .....	80	56	54	12.2
1934 .....	79	82	63	11.5
1936 .....	95	82	45	9.2 <sup>a</sup>

<sup>a</sup> Indicated September 1.

At the end of May 1936 the Canadian crop was about of an average condition, but much better than at the same time in either 1931 or 1934. In the United States, on the other hand, spring wheat had already suffered severely from drought and heat, though less severely than early in 1934. The condition of both crops declined sharply during June; but whereas at the end of that month a fair yield of Canadian wheat was still expected, it was clear that the average yield of spring wheat in the United States would be low.

The month of July was disastrous, particularly to Canadian grain crops. In western Saskatchewan and in most of Alberta, drought conditions were the worst on record. Largely because of the severe loss in Alberta (where in 1931 and 1934 crop condition was fairly well maintained) the condition figure for the Canadian spring-wheat crop on July 31 was the lowest ever recorded—about 9 points lower than even in 1931. The United States spring-wheat crop also deteriorated during July, and as of August 1 the condition was reported close to the record-low figure of 1934. Continued drought and heat in early August took still further toll of these crops. As of September 1, the indicated average yield per acre of spring wheat in Canada was the lowest reported in 29 years of continuous annual records; that in the United States was near the record-low figure for 1931.

The data on sown and harvested acreage now available for the United States suggest that abandonment of spring-wheat acreage was this year absolutely larger, but proportionally smaller, than in 1934. According to the latest official estimate, approximately 11 out of the 24 million acres planted to spring wheat this year were not harvested. Com-

parable data are not available for Canada, but we judge that they would indicate heavier abandonment in 1936 than ever before.

The total Canadian wheat crop (including 12.1 million bushels of winter wheat) is now officially estimated at 233 million bushels. This is the lowest crop figure reported since 1920, and it suggests the lowest yield per acre ever recorded. At 111 million bushels, the United States spring-wheat crop is practically the same size as in 1931 and 23 million bushels larger than the 1934 crop. In both Canada and the United States, durum wheat is particularly short in relation to customary requirements, and is of strikingly poor quality. Hard red spring wheat in Canada is reported to be of much higher quality than last year. It is grading higher, is high in protein, and has good baking characteristics. Although in the United States, too, hard red spring wheat is of higher grade and protein content this year, its baking characteristics are not uniformly good.

The combined outturn of winter and spring wheat in the United States was estimated as of September 1 at 630 million bushels: this suggests a crop considerably larger than those of 1933 and 1934 but smaller than any earlier postwar outturn. In composition, it is notably short in durum and hard red spring wheat, moderately short in hard red winter wheat, but with soft red and Pacific white wheats relatively abundant.

*European countries.* — Preliminary crop estimates suggest that the outturn of wheat in Europe ex-Russia is approximately 80 million bushels smaller this year than last, with crop increases in the Danube basin and other countries of eastern Europe not fully offsetting reductions in western Europe (Chart 1). If one may judge by other recent years, however, the total of final European crop estimates for 1936 is likely to be higher than that now indicated, and the net reduction from 1935 may prove less than standing estimates suggest.

The principal decreases in European crops this year occurred in France, Spain, Portugal, and Italy. In these countries crops were reduced mainly by continued excessive rainfall, which curtailed sowings of wheat, lowered

yields per acre, and reduced crop quality. Preliminary estimates of these crops are shown below, in million bushels, with comparisons: .

Country	Average 1930-34	1935	1936
France .....	305	279	240 <sup>a</sup>
Spain .....	158	158	122
Portugal .....	18	23	8
Italy .....	253	284	239
	—	—	—
Total .....	734	744	609

<sup>a</sup> A semi-official estimate. Private estimates range as high as 256 million bushels, and we are inclined to credit the higher figures.

In northwestern Europe weather conditions were generally more seasonable. However, even there unfavorable weather interfered to some extent with seeding; and yields per acre, though about average or a little better, are apparently lower than those reported for 1935. Preliminary estimates indicate that the aggregate outturn of wheat in the British Isles, Belgium, Netherlands, Switzerland, and the Scandinavian countries is roughly 10 million bushels smaller this year than last, though 20 million larger than on the average in 1930-34.

Throughout most of central and eastern Europe, excluding Russia, weather conditions were exceptionally favorable for wheat this year. However, in several countries (notably Rumania and Greece) drought prevented the seeding of a full acreage, and, in several, rains at harvest reduced the final outturn. Yields per acre appear to be generally good and in many countries higher than last year. The Danube exporting countries, in particular, harvested large crops this year, as may be seen from the following tabulation of current estimates, in million bushels. Czechoslovakia, with a good crop and a carryover of record size, may join the ranks of net exporters in 1936-37 (see p. 20).

Country	1930-34	1935	1936
Hungary .....	77	84	88
Yugoslavia .....	79	73	106
Rumania .....	103	96	121
Bulgaria .....	53	48	56
	—	—	—
Danube exporters	312	301	371

*Other Northern Hemisphere.*—In the three exporting countries of northern Africa wheat suffered first from drought (particularly prominent in the south) and later from excessive rains and rust in the north. Current estimates suggest that the aggregate crop of these countries is the smallest since 1924, and even with allowance for possible later upward revisions the crop bids fair to prove the smallest within a decade.

In contrast, Egypt's wheat crop is unusually large, reflecting a record-high yield per acre. Turkey (not included in the "world ex-Russia") may also have a good-sized crop. Two estimates of the Turkish crop have been widely circulated: 80 and 110 million bushels. The first suggests a small crop, the latter an outturn of record size.

In the Orient, India's crop is about of average size, though a little smaller than in 1935; the Japanese crop, planted on a record-large area, is smaller than either of the two preceding crops; and there is also some reduction as compared with last year in Chosen. China, not included in the "world ex-Russia" as here defined, apparently secured a larger outturn of wheat this year than last; and Manchukuo's crop may also be larger than last year.

In Russia, the planted acreage is said to be about 5 per cent above 1935, but the crop seems to be smaller. Spring wheat was sown late because of a delayed spring, and in the Volga and other eastern regions, it was sown on land generally deficient in soil moisture. On the basis of these conditions alone, lower yields were to be expected. But, in addition, severe and persistent drought in the late spring and early summer took heavy toll of the crop. Although no official estimate of the crop is available, we judge that spring-wheat yields were substantially below average, while yields of winter wheat in the Ukraine, Crimea, and North Caucasus were satisfactory. The greater importance of spring wheat, however, suggests that the total wheat crop of the Soviet Union is smaller this year than last and probably below average. This inference is strengthened by the fact that Russia has as yet made no move to export wheat this year.

*The Southern Hemisphere.*—Dry weather in Australia and excessive rainfall in Argen-



tina interfered with early wheat plantings in these countries. In Australia, the situation was relieved by general rains early in June and by adequate precipitation thereafter; but in Argentina wet weather continued to hamper field operations in the provinces of Buenos Aires, Entre Rios, and Santa Fe up to early August. The first official estimate of the area seeded in Australia is 12.4 million acres, over half a million more than last year. In Argentina, too, the wheat acreage is reported to be larger than last year, when wheat prices were lower and persistent drought drastically curtailed plantings. But whereas the official estimate for Argentina suggests an increase of only 2 million acres, practically all private estimates indicate an increase of 3 million acres or more. This, together with the fact that final official estimates of sown acreage have usually been higher than corresponding first estimates, suggests that the standing official acreage estimate for Argentina is too low.

At this time of the year, there is great uncertainty about the probable yields per acre of wheat in the Southern Hemisphere countries. But in view of the importance of weather conditions after mid-September, it seems reasonable in arriving at an approximate world total for 1936 to allow for average yields in these countries. For Australia this would point to a crop of roughly 150 million bushels—a figure identical with that suggested in July by the United States Department of Agriculture.<sup>1</sup> For Argentina, the 1926–35 average yield per acre sown was 12.2 bushels. If the area seeded is only 16.8 million acres (as suggested by the official estimate) such a yield would result in a crop of about 205 million bushels; if the area is 19.7 million acres (as some private estimates indicate) the crop would approximate 240 million bushels. We are inclined to accept 215 million bushels as a reasonable present indication of the Argentine crop, and to anticipate that it will turn out within 30 million bushels of this figure.

Our estimate of world wheat production ex-Russia in 1936 (Table I) also includes an allowance of 65 million bushels for the crops

of other Southern Hemisphere countries. This is somewhat less than the output of these countries in 1935, but slightly more than in 1934.

#### PRICES AND SPREADS

The sensational price developments of the summer of 1936 require little discussion. The bare record of the price advance is so striking as to call for no verbal emphasis; and the main price changes were so simply and directly related to crop news that the price movements exhibited in Chart 2 may be set against the story of crop developments recorded above (see pages 3–5) and readily interpreted. It is some of the less conspicuous aspects of price movements during May–August that require most critical consideration for a sound interpretation of price developments during the period and of the current market situation to which they have led.

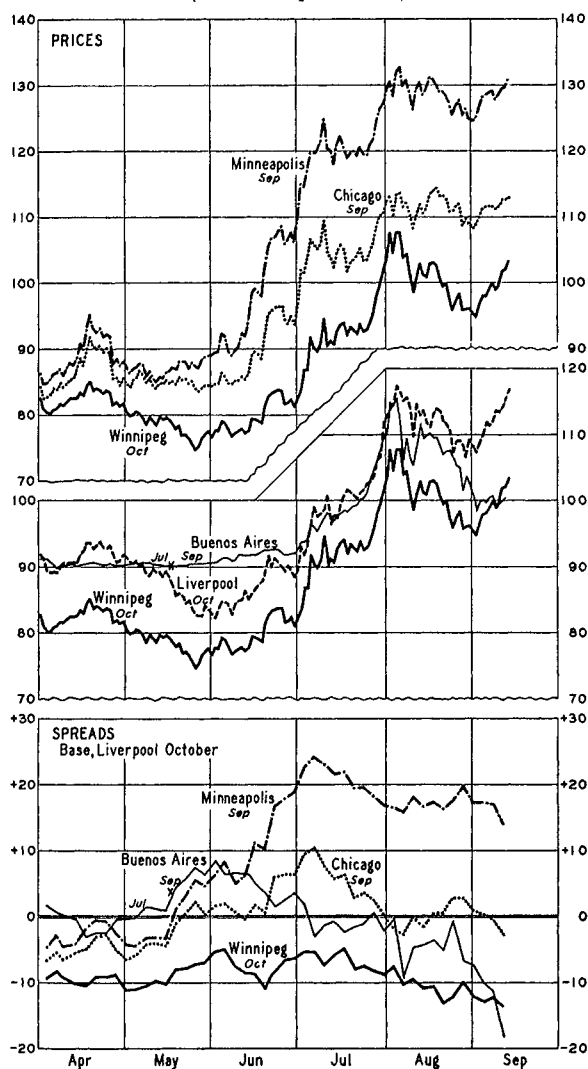
*The May price decline.*—The steady decline of futures prices in Liverpool and Winnipeg (Chart 2) to near the end of May, amounting to 8 and 6 cents per bushel respectively, reflected primarily pressure of Canadian wheat on import markets. Buenos Aires futures remained throughout May just over the official fixed price. Chicago September wheat meanwhile fluctuated through only a narrow range and Minneapolis September showed strength after a slight decline early in the month. In the Liverpool market itself, quotations on deferred shipments of Australian wheat and on French and Indian wheats remained firm, and these were therefore quoted at steadily increasing premiums over the Liverpool October future (Chart 3). Shipments of Australian wheat already afloat fell into distress and were forced to follow the price decline of Canadian wheat; but as long as the Liverpool October future remained below 89 cents, from the middle of May to about the 20th of June, shipments of wheat from Australia to British and continental ports were virtually suspended.

The price decline in Liverpool during May was generally attributed to the pressure of Canadian wheat. This view is supported by the fact that only prices of Canadian wheat, the related futures, and other cash wheats in a

<sup>1</sup> Based on weather conditions, presumably through June. See *World Wheat Prospects*, July 31, 1936, p. 6.

particularly vulnerable position declined significantly. Detailed examination of the price changes during May reveals the fact that the declines in Liverpool futures prices occurred almost wholly during the sessions there.

CHART 2.—WHEAT FUTURES PRICES AND SPREADS,  
FROM APRIL 1936\*  
(U.S. cents per bushel)



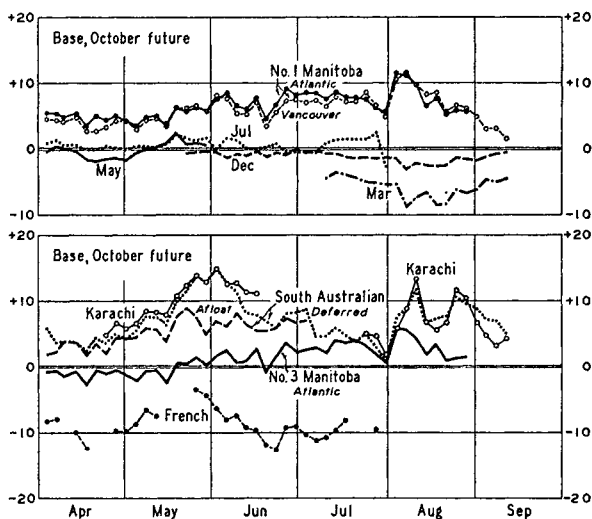
\* Closing prices from *Daily Trade Bulletin*, Chicago; *Grain Trade News*, Winnipeg; *London Grain, Seed and Oil Reporter*; and *Revista Oficial*, Buenos Aires. Conversions at noon cable transfer rates of exchange in New York. Spreads on Tuesdays and Fridays; for North American markets, based on opening prices.

Prices at the opening in Winnipeg tended to follow these declines, but to recover somewhat during the session. Noteworthy also is the

fact that after the middle of May Winnipeg did not fully follow the price decline at Liverpool, as appears most clearly from the narrowing spread between the two markets, shown in the lower section of Chart 2.

From these circumstances it appears that wheat price declines during May were attributable less to urgent selling in Canada at the time, either by the Wheat Board or by commercial interests, than to pressure of wheat that had been sold for export earlier in the season and held for shipment after the open-

CHART 3.—LIVERPOOL WHEAT PRICE SPREADS,  
FROM APRIL 1936\*  
(U.S. cents per bushel)



\* Closing prices of futures and sellers' quotations of parcels (cargoes for Australian and Karachi wheat), Tuesdays and Fridays, from *London Grain, Seed and Oil Reporter*.

ing of navigation. North American shipments of wheat showed an extraordinary increase in late April (Chart 6, p. 13).

Light demand by millers and bakers contributed to the weakness in wheat prices. Although our appraisal in mid-May of prospective world wheat supplies for 1936-37, from carryover and crop, suggested that they would be about the same as for 1935-36,<sup>1</sup> Broomhall on June 2 spoke of "general expectation of larger supplies in the coming season . . .

<sup>1</sup> WHEAT STUDIES, May 1936, XII, 330-31.

entertained in the Orient and on the Continent, as well as in our country.”<sup>1</sup>

*The June–August price advance.*—During June and July the dominant influence affecting wheat prices in all markets was news of the severe damage suffered by the spring-wheat crops in North America. Drought and successive heat waves, especially in July, did damage that was recognized as largely irreparable, and forced radical revisions in appraisals of the prospective supply situation. During late June and early July it became apparent that the United States could provide no net exports, as previously anticipated, but would be a substantial net importer. During July prospective Canadian exports for 1936–37 were cut in half.

Some features of the price developments of June–August appear most clearly in the inter-market price spreads, shown graphically in the lower part of Chart 2. During three weeks from the end of May the discount of Winnipeg under Liverpool October wheat widened again to about 10 cents a bushel as prices at Liverpool recovered from their extreme low point. In late June and early July the Winnipeg price, more sensitive to the evidence of damage to the Canadian crop, again rose relative to Liverpool; but in subsequent weeks the spread gradually widened and after early August fluctuated mostly between 10 and 13 cents.

Chicago price movements corresponded closely with those at Winnipeg, but with a gradual relative strengthening, most conspicuous after the middle of June, as severe deterioration of United States spring wheat made it clear that large imports from Canada would be required again. Prices at Minneapolis naturally showed a greater relative rise than those at Chicago. After the sharp price rise of early July comparative weakness

appeared in United States markets, especially Chicago. This may be attributable partly to anticipation by speculative traders in the United States that price reaction would follow the attainment of what was approximately maximum deterioration of the domestic spring wheat crop; but it was in large part a consequence of readjustments, discussed below, in price relationships among wheats of different classes and qualities, coupled with the fact that United States and foreign prices made direct connection through cash prices of United States and Canadian spring wheats.

The final steep price advance, July 25–August 3, shared by all markets, differed notably from earlier advances in the absence of wheat crop news sufficiently bullish to account for a striking price rise. This was the only part of the major price advance from June that appeared to rest on more or less intangible factors of sentiment. The concurrent reports of severe damage to the corn crop in the United States and the accompanying sensational increases in prices of feed grains in all important markets were doubtless the major influences behind this portion of the price advance in wheat. The rise in prices of feed grains carried the implication of increased feed use of wheat and had an additional “sentimental” effect on wheat prices.

*Subsequent decline and recovery.*—In United States futures markets only small recessions followed attainment of peak closing prices on August 5 and 6. Chicago September wheat indeed reached a new high on August 19. Elsewhere wheat prices reacted substantially. At Liverpool and Winnipeg closing prices on September 2, at their minimum on this decline, were about 10 and 12 cents, respectively, below those of August 5; while at Buenos Aires the decline amounted to 17 cents. A sharp recovery ensued in which Liverpool futures advanced 10 cents during September 2–14, about to their peaks of early August. Other principal futures markets advanced somewhat less—Buenos Aires very little—and only in the United States came close to their high points of August.<sup>2</sup>

Heavy country marketing of wheat in both the Danube basin and Canada and liberal offerings for export from both regions during

<sup>1</sup> *Corn Trade News*, June 3, 1936. There had been some improvement in indicated crop prospects during the latter half of May, but not enough to account for this difference between appraisals. The trade opinion may have given little weight to the reduced prospective carryover into 1936–37. Broomhall's own comments at various times during May and early June suggest a somewhat less bearish view of the supply situation than the one he found prevalent in the trade.

<sup>2</sup> This paragraph was written on September 14.

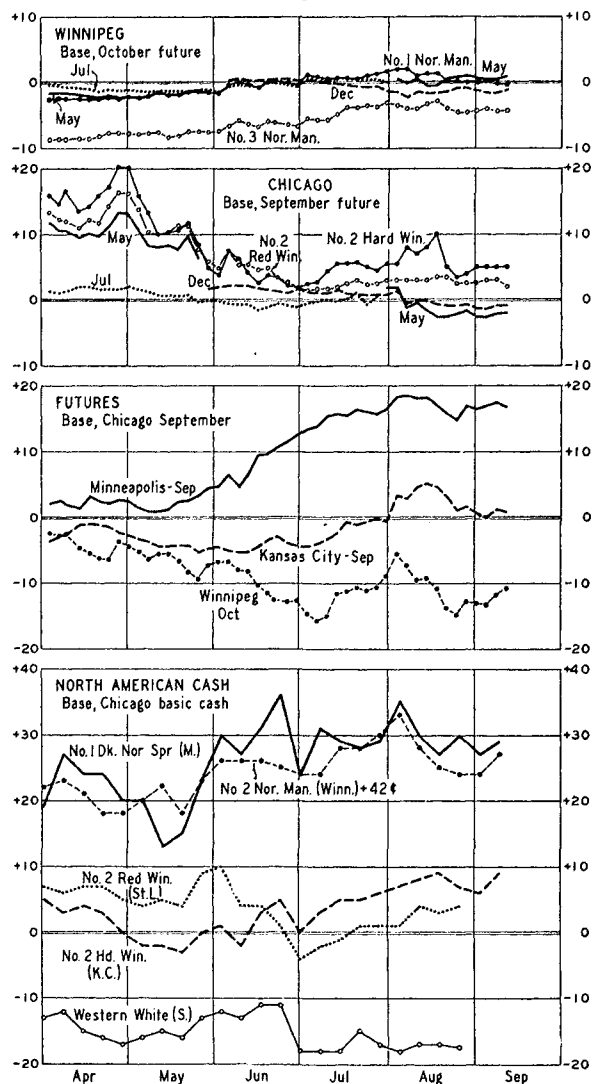
August and a disposition of importers to delay purchases were prominent factors in the price decline to September 2. Independent weakness in the Buenos Aires market, although not sufficient to put Argentine wheat on a basis for export to Europe, doubtless encouraged importers to restrict purchases. In the subsequent price recovery, advances occurred chiefly during the sessions at Liverpool and in overnight changes in North American markets, following the lead of Liverpool. At the advancing prices, heavy export sales of Canadian wheat were reported. Market commentators stressed the unfavorable character of European crop news during the advance, but the current news in fact differed little in character from that of the previous three weeks. We venture the suggestion that when viewed at longer range the price decline and the subsequent recovery of August 3–September 14 may appear most significantly interpreted as features of a price dip occasioned by temporary slackening of purchases while importers held off in mistaken anticipation of establishment of a lower level of prices.

*Price spreads.*—Changes in relationships among wheat prices in Liverpool during May–June (Chart 3) have been discussed above in connection with the price movements. In early August prices of cash wheats temporarily showed greater strength than the futures, most notable in prices of Australian and Indian wheats. These relatively high prices of soft wheats temporarily permitted commercial exportation of competitive Pacific white wheats from the United States to Europe for the first time in three or four years. Late in August the soft wheats again went to substantial premiums in Liverpool and further exports were made from the Pacific Coast, but on a small scale.

Prices of No. 1 Dark Northern Spring wheat at Minneapolis fell for a time in May below the price of No. 2 Manitoba at Winnipeg plus the 42-cent duty, as is conveniently observable from the spreads shown in the lowest section of Chart 4. By early June, however, with increasing concern for United States spring-wheat prospects, the Minneapolis price had resumed its premium over No. 2 Manitoba plus 42 cents. Between Minneapolis and Winnipeg

futures, a price spread of about 27 cents continued to be necessary, as last season, to maintain imports. A spread of about this amount has recently been maintained between the December futures in the two markets as well as

CHART 4.—NORTH AMERICAN WHEAT PRICE SPREADS, FROM APRIL 1936\*  
(U.S. cents per bushel)



\* See notes to Chart 2 and Table VIII. Tuesday and Friday prices, except North American cash, which are weekly averages.

between the nearer futures, but throughout August and early September the spread on the May futures has been only about 20 cents or less. Unless the spread between these deferred futures widens before May, cessation of full-duty imports is to be expected.

In Chicago, premiums on cash wheat declined relative to the deferred futures in the final days of trading in the May future and for several days thereafter, and the July future went to a discount of about 1 cent under the September (Chart 4), as we anticipated last May. For a time during late May and June No. 2 Hard Winter was the cheapest deliverable grade at Chicago. About the first of July the near futures at Winnipeg went to premiums over the December future, and in early August the premium of the October future over the December widened. In early August also the near future went to a premium over both the December and the May. Such "inverse carrying charges" as were thus established were common enough in Canada before the recent years of persistent wheat surplus, but in the United States they reflect quite unusual relative strength in cash wheat, associated with heavy accumulation by mills.

Among prices of other cash wheats in the United States, the most important change in relationships during May-August was the 14-cent decline during June in the soft red winter wheat relative to both the hard winter- and spring-wheat price averages. For a time in late June and early July the weighted average price of No. 2 Red Winter wheat at St. Louis was below the price of minimum qualities of the same grade at Chicago (which had again become the "basic" cash wheat); but after about the 1st of July red winter wheat at St. Louis shared the gradual rise relative to Chicago reflected in prices of all principal cash wheats except western (and soft) white.

*The level of prices in August.*—After an extreme rise in wheat prices it becomes especially pertinent to attempt an appraisal of the soundness of the level to which prices have been carried. One basis of appraisal is suggested by the fact that price increases of such rapidity and magnitude as that witnessed this summer have usually been followed quite promptly by major price declines. Historically, the fact that a price increase has been so large raises a general presumption that it has been excessive.

To this general rule of experience, however, there is one major exception: four times out of six, extreme price increases that culminated

in August or early September have resulted in the establishment of price levels that were well maintained through most of the remainder of the season, or were succeeded by still higher prices. These four instances of price advance occurred in 1897, 1904, 1914, and 1916. In only two other previous years during the past half-century has an extreme bull market in wheat culminated in August, namely, in 1890 and in 1891. In these two instances prices were well maintained for about two months and then declined—moderately and with subsequent recovery in 1890–91, but severely and without recovery in 1891–92.<sup>1</sup>

This tendency for extreme price increases culminating in August to be well maintained, contrary to the general tendency toward reaction after extreme increases, rests partly on the fact that the crop news stimulating a major price rise in late July and August deals not with threats of crop damage but with actual and largely irreparable crop losses. At other seasons crop scares may rest chiefly on fears generated in active imaginations, or on actual damage which may be offset by subsequent favorable crop developments.

Delay of a major price advance until late July or August, moreover, is indicative of a market sentiment unfavorable to exaggerated and ill-founded price increases. Severe crop damage rarely occurs except under conditions that warranted earlier fears that such damage might occur. Thus, it was apparent fairly early in the present crop season that moisture supplies in the spring-wheat area of North America, though adequate for the time being, were insufficient to give much protection against periods of drought.<sup>2</sup> Failure of the price to respond to such early indications of potential crop damage reflects conservative market sentiment in the presence of which

<sup>1</sup> The historical facts here summarized are presented in detail in Holbrook Working, "Cycles in Wheat Prices," *WHEAT STUDIES*, November 1931, VIII, 18–27.

<sup>2</sup> We commented on this situation in May (*WHEAT STUDIES*, May 1936, XII, 331–32). On June 23, after a substantial price advance had occurred on severe damage in the United States, Broomhall remarked: "It seems to be agreed that present crop prospects in Canada are the best in recent years, but we must not fail to remember that Spring Wheat is a crop that requires rather frequent rain during the growing period."

price advances on actual crop damage are likely to be held within conservative limits.

During the summer of 1936 three major circumstances operated to check excessive bullish enthusiasm. Prices in the United States were able to rise little before reaching an import basis, and the frequently volatile Chicago market could thereafter advance no more rapidly than Winnipeg. In Winnipeg the attitude and dominating position of the Canadian Wheat Board tended powerfully to prevent price advances not clearly warranted; and this was reinforced by general acceptance of the view that Winnipeg prices must remain sufficiently in line with Liverpool to permit continued reduction of the Canadian wheat surplus. In Liverpool, the usual disposition of that market to postpone price advances until evidence of actual crop losses became clear was supported by the security afforded by current abundant supplies of Canadian wheat arriving in the market.<sup>1</sup>

The presence of these circumstances tending to check or restrain bullish speculative enthusiasm in the wheat market did not necessarily prevent excesses in the price advance which occurred, but it clearly had a strong tendency to keep the price advance within reasonable bounds. It raises a presumption that the price rise may not have been excessive, and indeed may have been smaller than the change in supply prospects warranted.

Another basis for appraising the soundness of recent wheat price levels may be found in relations of supply to price in previous years. Statistics of supplies have never been found a very reliable basis for predicting the average wheat price level for a season, but they afford some light on a question which otherwise would be left almost wholly in the dark.

Statistically, the supply position is conveniently summarized in terms of prospective carryover at the end of the Northern Hemisphere crop year about August 1. Even as-

suming that wheat consumption in a number of countries will be substantially reduced, as it would by high prices,<sup>2</sup> the supplies available from production and stocks, as indicated by current statistics and estimates, allow for a world wheat carryover as of about August 1, 1937, of only 550 million bushels or somewhat less (see p. 21). Corresponding figures for carryover about August 1, 1925, 1926, and 1936, were 528, 612, and 730 million bushels respectively.

These figures indicate an unquestionably tighter supply position for 1936-37 than for 1935-36. Considering only the wheat situation, we judge price levels of August 1936 to rest on a much more secure foundation than the price levels of October 1935. The improvement in the general economic situation and the rise in the main body of wholesale prices over the interval would warrant somewhat higher wheat prices than last year, even apart from any change in the wheat situation itself. British parcels prices, like the Liverpool October future, averaged about \$1.12 during August 1936. At this price level the average was only 9 cents above that of October 1935, but 21 cents above the average British parcels price (\$.91) for the crop year 1935-36.

In 1924-25 and 1925-26, the postwar years in which the balance of supplies and requirements corresponded most nearly with the balance indicated by information now available for 1936-37, the average price of British parcels during August-July was \$1.82 and \$1.70 respectively. These prices were recorded when prices of most commodities were considerably higher than now. The Bureau of Labor Statistics index number indicates that the wholesale-price level in August 1936 was about 80 per cent of the average level for 1924-26. British wholesale-price index numbers, when converted to United States dollars, show a similar relationship. On the assumption of a proportionate relation between wheat prices and the general wholesale-price level—an assumption which seems appropriate for this purpose, though not for some others—it may be calculated that, if the August 1936 level of wholesale prices had prevailed in 1924-25 and 1925-26, the averages of British

<sup>1</sup> In surveying the wheat price situation in mid-May we did not foresee the severe pressure of Canadian wheat on the Liverpool market which developed immediately afterward, but called attention to the other features of the situation as here summarized.

<sup>2</sup> The estimates of consumption entering into this calculation are based on the supposition of prices at the average for August or moderately higher.

parcels prices for August–July of those years might have been about \$1.45 and \$1.35 respectively.

In a subsequent section on the wheat price outlook, attention is drawn to similarities between the present situation and that at the same date in 1897. This comparison is more useful as an indication of possible future price trends than for appraisal of relations of supply to wheat price levels, since close comparison of the supply positions in the two years is impossible. Wholesale prices in general are some 70 per cent higher now, in United States dollars, than they were in the same month of 1897; but in the interval there has been a marked downward drift of world wheat prices relative to wholesale prices as a group, which may be judged roughly to have amounted to some 20 per cent.<sup>1</sup> On this basis, prices of the Liverpool September future at \$1.16 per bushel in September 1897 may be calculated very roughly to have represented a level equivalent to what would be represented by a price of \$1.50–1.60 now. It is doubtful whether the supply position for 1936–37 is as tight as was that of 1897–98, but inadequacy of data and differences in circumstances prevent accurate comparison.

#### INTERNATIONAL TRADE

Trade developments in the last quarter of 1935–36 were about in line with our May forecast. In the crop year as a whole, world net exports of wheat and flour totaled about 520 million bushels—16 million less than the previous postwar low record of 1934–35. Large domestic wheat supplies in a number of European importing countries, and the continuation and in some cases strengthening of measures restrictive of wheat imports, were primarily responsible for the low volume of trade. Shipments to ex-European countries were smaller in 1935–36 than in 1934–35; and if the sizable wheat shipments into the United States be excluded, the remainder was smaller than in any year since 1924–25.

*May–July developments.* — International

shipments of wheat and flour in May–July were practically the same size as a year earlier and only about 5 million bushels below our May forecast. Ex-European countries (mainly the United States) took somewhat more wheat than we had anticipated, European countries somewhat less.

The poor European demand was probably in part a cause, in part a result, of the pressure of Canadian wheat on European markets in May and early June. Even the drastic reductions in 1936 crop forecasts and the sharp increase in international wheat prices in late June and July were but feebly reflected in the record of shipments to Europe (Chart 5). And although it may be surmised that sales of wheat for future shipment to Europe were increased proportionally more than immediate shipments, the total import buying of European countries at this time was distinctly moderate in view of the attendant circumstances. There was little tendency to build up import wheat stocks, such as might have been expected under similar circumstances of crop damage in predepression years.

Shipments to ex-European countries in May–July were slightly above the 1924–34 average and large in relation to those of the preceding quarter (Chart 5). This was in spite of the fact that shipments to “China and Japan” remained at a strikingly low level and that shipments to “Central America” were of moderate size. It reflected primarily the unusual heavy movement of Canadian wheat to the United States, and, in lesser degree, enlarged takings of Argentine wheat by Brazil and Peru.

On the price advance after mid-June, shipments to ex-European countries expanded more than did shipments to Europe. In the main, this represented increased buying of Canadian wheat by merchants and millers in the United States who were impressed with the startling reports of crop damage in the spring-wheat region. Partially reflecting these purchases, bonded stocks of Canadian wheat in United States markets increased by about 6 million bushels between June 20 and August 1 (Table III). In addition, Canadian wheat was taken freely by eastern mills in the United States, and a small but significant

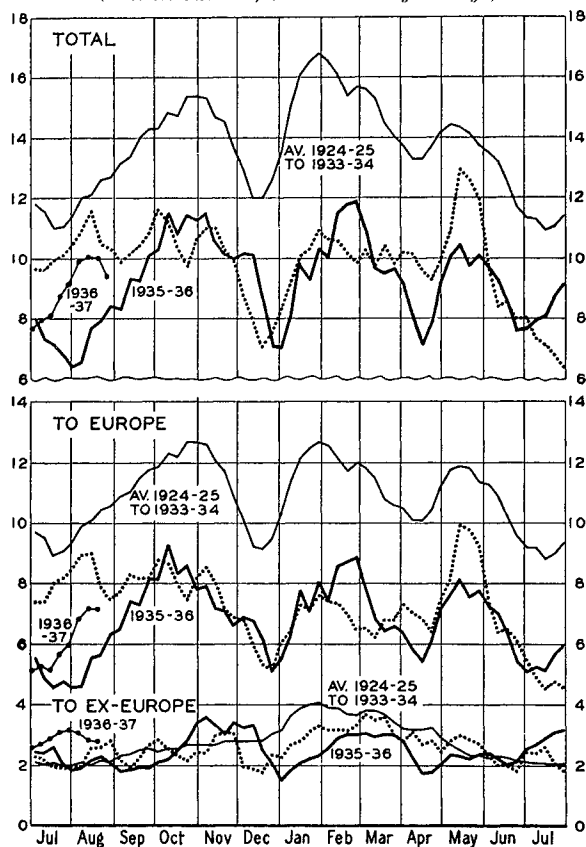
<sup>1</sup> See the chart in *WHEAT STUDIES*, December 1935, XII, 146.

quantity of hard Alberta wheat was absorbed by Pacific Coast mills.<sup>1</sup>

On the supply side, international trade in wheat in May–July was dominated by Canada. Not only were May–July exports from Canada the largest since 1929, but they repre-

CHART 5.—SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM JULY 1935, WITH COMPARISONS\*

(Million bushels; 3-week moving average)



\* See Table VI.

sented practically 60 per cent—probably an unprecedentedly large proportion—of total world wheat exports.

Argentine shipments in May–July were the smallest in postwar years, both in absolute quantity and in relation to the world total.

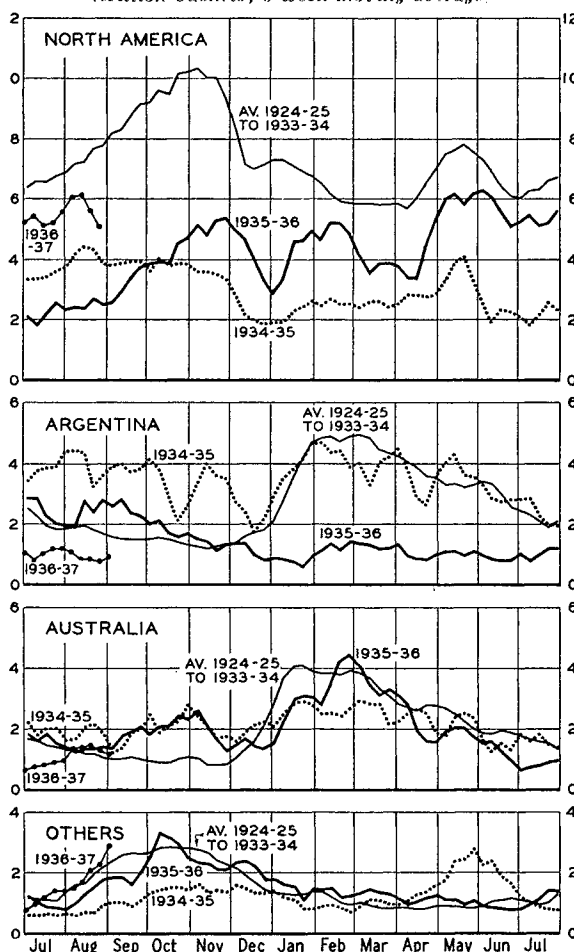
<sup>1</sup> In mid-July the Canadian Wheat Board stated that 100,000 bushels had been moved to Pacific Coast mills. Subsequently other small shipments were reported.

<sup>2</sup> Australian exports might have been somewhat larger than they were if Japan had not virtually placed a retaliatory embargo on imports of Australian wheat.

Moreover, exports from Australia, though less strikingly reduced, were considerably below average (Chart 6). These small shipments, which reflected the reduced wheat supplies of the two Southern Hemisphere exporting countries, were about in line with our forecast of mid-May. However, Australian net exports were about 7 million less than anticipated,<sup>2</sup> presumably reflecting resistance of Australians to the decline in world prices

CHART 6.—SHIPMENTS BY SOURCES, WEEKLY FROM JULY 1935, WITH COMPARISONS\*

(Million bushels; 3-week moving average)



\* See Table VI.

after early May, a resistance that was strengthened by concurrent drought which interfered with wheat plantings and made farmers unwilling to reduce stocks as sharply as they otherwise might have.



Except in June, shipments from minor exporting countries were slightly above the 1924-34 average (Chart 6), and in the aggregate were about as large as shipments from Argentina (Table VI). Hungary, Poland, and Portugal were the principal minor exporters during this period, but there were a number of other countries which added to the net-export total of May-July (Table VII).

*Summary of 1935-36.*—For the third successive year, world net exports of wheat fell to a new postwar low level which was substantially below that indicated by early-season forecasts. Final crop-year figures will apparently approximate 520 million bushels in terms of net exports, 494 million in terms of shipments. Such figures are about 40-45 million bushels below preliminary trade forecasts current in August-September 1935, and 20-25 million below forecasts of the International Institute of Agriculture and the Food Research Institute in October-March and January respectively, but approximately equal to our forecast of mid-May. We summarize below the principal features of international trade in wheat in 1935-36, with comparisons, in million bushels:

Crop year	Net exports				Shipments			European net imports <sup>a</sup>
	World	Canada	Argentina, Australia	Others	Total	To Europe	To ex-Europe	
1931-32.....	794	207	296	291	770	582	188	609
1932-33.....	630	264	282	84	615	449	166	442
1933-34.....	554	194	233	127	524	402	122	394
1934-35.....	536	165	291	80	516 <sup>b</sup>	373 <sup>b</sup>	143 <sup>b</sup>	376
1935-36:								
Forecast <sup>c</sup> ..	520	260	175	85	500	370	130	359
Reported <sup>d</sup> ..	520	254	173	93	494	358	136	355

<sup>a</sup> Net imports of European net-importing countries.

<sup>b</sup> Shipments during the last 52 of the 53 weeks reported by Broomhall.

<sup>c</sup> As of mid-May.

<sup>d</sup> Our estimates included for missing trade data. See Table VII.

Early-season forecasts tended to overstate the import demand of both European and ex-European countries. This was due partly to the fact that crop estimates then standing were too low (since September 1935, the aggregate wheat crop of Europe ex-Danube has been revised upward by 26 million bushels);

and partly to underestimation of the effect upon wheat imports of the various governmental import, milling, and exchange restrictions, of the higher level of international wheat prices, and of the tendency in certain countries for per capita food consumption of wheat to decline.<sup>1</sup>

At 355 million bushels,<sup>2</sup> the net imports of European *net-importing* countries were only 7 million bushels below our January forecast, 4 million below our May forecast. On the other hand, several European countries outside of the Danube basin exported considerably more than had been anticipated. Portugal, almost invariably a small net importer in the past, had net exports of 4 million bushels; and Poland exported net about 7 million—almost twice as much as in any preceding year. The result was that the net imports of Europe ex-Danube were only 338 million bushels or 13 million less than even in 1934-35.

Although shipments to non-European countries were swelled in 1935-36 by imports into the United States for domestic consumption of over 35 million bushels, the total to ex-Europe was substantially below the 1924-34 average. With the United States excluded, shipments to ex-European countries were the smallest since 1924-25, largely on account of reduced imports into China and Manchukuo, and, as compared with some of the earlier years, into Japan.

With heavy losses suffered by the 1935 crops of Argentina and Australia, Southern Hemisphere exports of wheat declined from above an average seasonal level in August-November to below average in January. At no time in the crop year did Russia threaten to become an important competitor: her net exports, which totaled 29 million bushels, were in line with early forecasts. After the

<sup>1</sup> See M. K. Bennett, "World Wheat Utilization since 1885-86," WHEAT STUDIES, June 1936, Vol. XII, No. 10.

<sup>2</sup> This includes an allowance of 6 million bushels for Italian net imports. This year Italian trade figures have not been published. However, Broomhall reported shipments of about 14 million bushels to Italy in 1935-36; and if these bear the same relationship to Italian net imports as on the average in the three preceding years, the net imports must have approximated 6 million bushels. We accept this figure in the absence of a better one.

peak of Australian shipments was passed in February–March, Canada practically dominated the world wheat trade. At this time the Canadian Wheat Board, the largest holder of wheat in the world, made no attempt to force wheat prices upward nor, indeed, even to sustain prices. Rather, we interpret the unexpressed policy of the Board to have been that of selling wheat for export at a rate that would bring the Canadian carryover down to somewhere near 125 million bushels as of July 31, 1936.<sup>1</sup>

### YEAR-END STOCKS

Since the beginning of 1935–36 it has been clear that the world wheat carryover as of about August 1, 1936, would be considerably lower than a year earlier. Forecasts of the probable reduction varied with the number of stocks positions covered and with the different allowances that the various estimators made for consumption in individual countries. But current summaries of year-end stocks indicate that practically all of the early estimates erred in overstating the reduction to be expected. This was due in large part to the fact that many of the official crop estimates then standing were too low. But it was also due in part to general overestimation of the amount of wheat that would be shipped to China and other countries not included in the

“world ex-Russia,” and the amount that would be used for food and feed in the United States, Denmark, and several other European countries.

Only gradually were these estimates corrected. Even in the spring and early summer of 1936 generally accepted forecasts of the world carryover of 1936 appear to have been too low. We summarize below, in million bushels, our present estimate of “world” stocks about August 1, 1936, with comparisons which include our May forecast:

Position	1923–27 average	1935 re- vised	1936	
			Fore- cast	Esti- mate
United States <sup>a</sup> .....	125	155 <sup>b</sup>	145	150
U.S. in Canada <sup>a</sup> .....	1	0	0	0
Canada .....	38	203	105	109
Canada in U.S. ....	3	12	10	19
Argentina .....	65	85 <sup>b</sup>	60	60
Australia .....	31	57	35	42
Afloat to Europe .....	40	17	20	21
Total above .....	303	529	375	401
Europe ex-Danube .....	187	298 <sup>b</sup>	205	240
Danube basin <sup>c</sup> .....	37	20	20	25
Northern Africa <sup>d</sup> .....	19	24	15	18
India and Japan .....	53	34 <sup>e</sup>	40	35
Afloat to ex-Europe .....	7	11	10	11
Total above .....	303	387	290	329
Grand total .....	606	916	665	730

<sup>a</sup> As of July 1.

<sup>b</sup> Revised upward by 3, 5, and 8 million bushels respectively.

<sup>c</sup> Hungary, Rumania, Yugoslavia, Bulgaria.

<sup>d</sup> Algeria, Tunis, Morocco, Egypt.

<sup>e</sup> Revised downward by 4 million bushels.

<sup>1</sup> The closest to an expression of this policy is found in the prepared statement that J. R. Murray read to the Special Committee on the Marketing of Wheat and Other Grains on April 22:

“Our Board cannot forget the fact that in order to reduce the Canadian carry-over at July 31 next even to 125 million bushels, Canada would have to export about 5¼ million bushels per week for the last eight months (December 1, 1935 to July 31, 1936) of this crop year. Such a figure of exports from Canada during the last eight months of the crop year has not been reached since the 1928 crop and in that year international trade in wheat and flour (world shipments) was 917½ million bushels. Such exports from Canada during the similar period have only been exceeded in five years out of the last fifteen and in those five years international wheat and flour trade (world shipments) averaged 793 million bushels per annum, compared to 528 million bushels now estimated for this year. In view of such a situation our Board believed it was no use deluding ourselves with the idea that the statistical position was such that the world would have to take the burdensome part of our surplus no matter how high we held the price.”—*Minutes of Proceedings and Evidence*, No. 2, p. 36.

In May it still seemed likely that world wheat stocks would be reduced during 1935–36 almost as much as in the preceding crop year, or by about 240 million bushels. Now the reduction during 1935–36 appears to have been only around 185 million. As a result, the indicated world carryover of 1936 is about 125 million bushels above the 1923–27 average, though it is the smallest since 1928.

Our May forecast of year-end stocks proved too low, particularly for Europe ex-Danube, and within this area especially for Czechoslovakia, France, and Spain. For France and Czechoslovakia, recent official statements on carryovers and official crop and trade figures

suggest that wheat consumption fell in 1935-36 to levels lower than appeared probable in May when our forecasts of carryovers were made—levels lower than can even now be easily explained. The increase in our estimate of Spanish stocks reflects not a reduction in estimated consumption but recent upward revision of the official crop estimate for 1935. European carryovers of wheat on August 1, 1936, were large or moderately large only in these three countries, Portugal, Germany, and Hungary. Outside of the six countries mentioned, and the British Isles and Italy where stocks were probably of about average size, carryovers were close to postwar low levels.

Aggregate stocks of Canadian wheat in North America were reduced by around 90 million bushels during the course of 1935-36, as compared with an increase of 11 million and a decrease of 14 million in the two preceding years of strikingly heavy Canadian surplus. Most of the reduction was reflected in the weekly course of visible supplies (Chart 7). It occurred mainly in the second half of the crop year and was associated with the large Canadian shipments of that period, especially of May-July. By August 1 the Canadian Wheat Board was rumored to have reduced its holdings to about 60 million bushels of futures and a small amount of cash wheat.

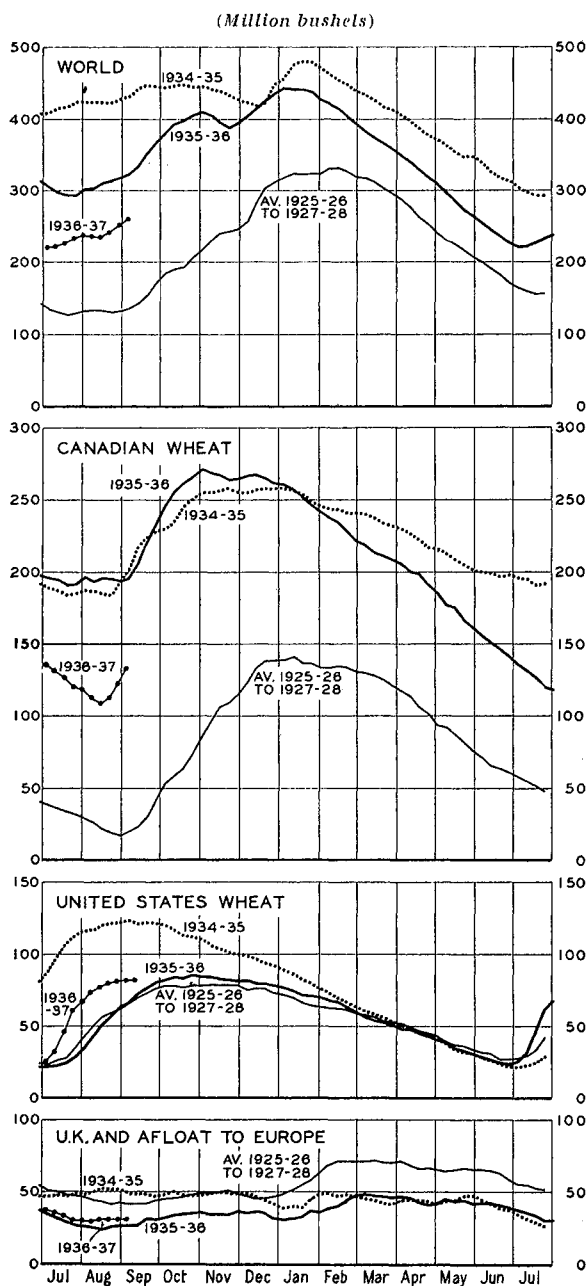
The carryover of Canadian wheat in Canada as of July 31, 1936, was only 4 million bushels above the figure we indicated in May and was substantially below most commercial estimates widely circulated at that time and even later. Stocks of Canadian grain in the United States, however, were 9 million bushels higher than we anticipated, reflecting heavy accumulations of Canadian wheat in the United States, particularly in June-July in response to reports of damage suffered by the spring-wheat crop. These stocks, which totaled 19 million bushels on July 31, 1936, have an important place in calculations of the statistical position for 1936-37 (see p. 21).

At 150 million bushels, the United States carryover on July 1, 1936, was 5 million above our forecast of mid-May, and 25 million above that of the United States Department of Agri-

culture. This was at least partly attributable to inclusion in the reported carryover of somewhat more new-crop wheat than usual.<sup>1</sup>

Reported stocks on farms and in interior mills and elevators on July 1 have for years included only old-crop wheat. Moreover, this

CHART 7.—VISIBLE WHEAT SUPPLIES, WEEKLY FROM JULY 1935, WITH COMPARISONS\*



<sup>1</sup> See *World Wheat Prospects*, July 31, 1936, p. 6.

\* See Table III.

year for the first time, stocks in commercial elevators were adjusted to exclude 4.5 million bushels of new-crop wheat that special inquiry indicated were included in the original reports. This leaves only two categories under which new wheat may have appeared in the carryover record of July 1, 1936: (1) in merchant mills and (2) in transit to mills (including wheat bought to arrive). How much more new-crop wheat than usual was included under these two heads in 1936 is impossible to say. With allowance for the elimination of new-crop wheat from commercial stocks this year, the net excess of new-crop wheat in the total carryover figure of 1936 was presumably no less than 5 million bushels and was perhaps considerably more than that.

The reported distribution of the United States carryover of 1936 was similar to last year, except that stocks in country mills and elevators were considerably smaller this year, whereas stocks in city mills were substantially larger (Table IV). Commercial stocks increased more than seasonably in July (Chart 7), reflecting extraordinarily heavy marketings and negligible exports.

The supplies of wheat remaining in Australia and Argentina on August 1 were the smallest in 7 and 11 years respectively. With Australian exports somewhat lighter in May-July than we had anticipated, stocks as of August 1 appear correspondingly larger. The figure of 60 million bushels now indicated for Argentine stocks is several million above that suggested by the official statement on exportable surpluses as of July 25, but several million below the stocks figure suggested by incomplete reports on wheat supplies near the end of April<sup>1</sup> with allowance for domestic use and shipments in May-July. Of the wheat supplies remaining in Argentina on August 1, about 16.5 million bushels were in the hands of the Grain Regulating Board.

Stocks of wheat afloat to Europe and to ex-Europe on August 1 were about as anticipated in May. The total quantity afloat to Europe and in ports of the United Kingdom was about the same as last year and substantially below average (Chart 7).

<sup>1</sup> See *Times of Argentina*, May 4, 1936.

## SUMMARY OF SUPPLIES FOR 1936-37

Below we present current data bearing on the amount of wheat available to the world ex-Russia in 1936-37, with comparisons, in million bushels:

Aug.-July	Crop	Initial stocks	USSR exports	Total supplies	Disappearance
1924-25 .....	3,056	687	..	3,743	3,215
1925-26 .....	3,302	528	27	3,857	3,245
1926-27 .....	3,363	612	50	4,025	3,371
1927-28 .....	3,580	654	2	4,236	3,529
1928-29 .....	3,905	707	..	4,612	3,636
1929-30 .....	3,425	976	9	4,410	3,489
1930-31 .....	3,702	921	114	4,737	3,727
1931-32 .....	3,674	1,010	65	4,749	3,747
1932-33 .....	3,715	1,002	17	4,734	3,628
1933-34 .....	3,638	1,106	34	4,778	3,619
1934-35 .....	3,338	1,159	2	4,499	3,583
1935-36 .....	3,367 <sup>a</sup>	916	29	4,312 <sup>a</sup>	3,582 <sup>a</sup>
1936-37 .....	3,297	730	2 <sup>b</sup>	4,029	.....

<sup>a</sup> Presumably too low by 5-13 million bushels, reflecting underestimation of the Canadian crop.

<sup>b</sup> Exports from Turkey, which amounted to over 4 million bushels in 1934-35, may be equally large or larger in 1936-37.

Not since 1926-27 have *total* wheat supplies in the world ex-Russia been so small as the supplies now indicated for 1936-37; and not even in 1924-25 or 1925-26 were *per capita* wheat supplies so low.

If the figures above give a true picture of the amount of wheat available for 1936-37 as compared with the twelve preceding years, there can be no question that the world wheat statistical position is quite tight this year. Indeed, supplies will continue to appear small, even if standing estimates of the 1936 crop are revised upward moderately, as were early estimates of the short crops of 1934 and 1935 (by 40 and 75 million bushels respectively). In the light of experience in recent years, upward revision of the standing total estimate of the 1936 crop seems more probable than maintenance of the present figure or than downward revision.

However, neither the direction nor magnitude of subsequent revision of the current estimate is yet clear. The Southern Hemisphere countries may harvest crops 75 million bushels larger or smaller than now appear in prospect; and European estimates may be revised upward by more than 100 million bushels as

in 1933 and 1934, or, contrary to recent precedent, they may be revised downward. If the crop of 1936 should later prove to be 3,400 million bushels or more instead of 3,300–3,350 million, the wheat statistical position would be somewhat less tight than we now envisage it, and the prospect of a substantially higher level of prices in 1936–37 than in 1935–36 would be less clear. But in any case, world supplies would still appear short as compared with other recent years, and there would still be the certainty that world wheat stocks would be reduced to about a normal level, if not a distinctly low one, by August 1937.

#### OUTLOOK FOR TRADE

More important than aggregate wheat supplies for evaluation of the world wheat position are the net-import requirements and the exportable supplies of the various countries. At the beginning of a crop year forecasts of these requirements and supplies must rest not only upon standing estimates and approximations of the different crops (often seriously inaccurate), but also upon some assumption as to the relative level of wheat prices that will probably prevail.

We have already observed that in August 1936 weekly prices of wheat parcels at Liverpool averaged around \$1.12 as compared with an average of \$.91 for the crop year 1935–36 and \$.80 for 1934–35. If the level of prices prevailing in August should be approximately maintained throughout 1936–37, what would European and non-European countries require in the way of net imports, and what quantities of wheat would the various net-exporting countries probably supply?

At such a level of prices, or at a level of prices moderately higher, we anticipate that the import requirements of European net-importing countries would approximate 390 million bushels, as compared with 355 million in 1935–36. On the basis of *standing* crop estimates for 1936 (still unofficial for a number of important countries such as France and Italy), we should place European import requirements for 1936–37 somewhat higher—perhaps at 405 million bushels; but in recent years, early September crop estimates of European importing countries have so con-

sistently been revised upward that it seems reasonable to make allowance for some increase in the standing estimates for 1936. The allowance in net imports here suggested—15 million bushels—would take care of an upward revision in crops of substantially more than 15 million bushels, the exact amount depending primarily on what countries were involved.

A forecast of 390 million bushels for the net imports of European net-importing countries in 1936–37 implies some further reduction of feed use of wheat in western Europe as compared with 1935–36, the drawing down of stocks to extremely low levels in most countries, and contraction in food use of wheat in several—mainly Spain and Portugal, but perhaps also France and Italy. The import figure we suggest is considerably smaller than it would be under the same conditions of crops and inward carryovers if economic conditions in general, and international trade and exchange relationships in particular, were more nearly normal. Moreover, this figure specifically does not allow for the possibility of increasing tension in international political relationships, which might perhaps lead some governments to maintain wheat stocks at a higher level than we have indicated. Nor does our forecast provide for material decrease in direct and indirect governmental restrictions on wheat imports which some might expect to follow the maintenance of British wheat parcels prices at or above 12 gold francs per quintal (63 pre-devaluation gold cents per bushel) for 16 consecutive weeks.<sup>1</sup> At present we do not feel justified in assuming that European governments will significantly modify their wheat policies in 1936–37 except to take care of temporary deficiencies in their domestic wheat supplies.<sup>2</sup>

<sup>1</sup> It will be recalled that under the terms of the International Wheat Agreement of 1933 importing countries undertook to begin to lower customs barriers and to modify "the general regime of quantitative restriction of wheat imports" as soon as British wheat parcels prices should have been maintained at or above an average of 63.02 pre-devaluation gold cents per bushel for 16 weeks. This price was reached for the first time since then in early August 1936.

<sup>2</sup> The various wheat measures that have been announced for 1936–37 suggest further tightening rather than relaxing of governmental controls. In France,

The increase in European net imports of wheat in 1936-37 as compared with 1935-36 will presumably reflect larger imports into France, Italy, and Greece, not offset by small decreases in the net imports of the British Isles and probably Denmark.

Among non-European net-importing countries, the United States will again rank close to Brazil as most important. But whereas Brazil's imports can be accurately forecast within a narrow range, those of the United States cannot. In 1936-37, as was true in 1935-36, supplies of domestic wheat in the United States are statistically adequate to cover normal domestic requirements including carryover. But this year, as in 1935-36, there is a deficiency of hard red spring and durum wheats. Since the deficiency is about 55 million bushels greater this year, some commentators suggest that the United States must import at least 20-30 million bushels more Canadian wheat in 1936-37 than in 1935-36. But such calculations seem to give insufficient weight to the following facts: (1) hard red winter wheat, the supplies of which are about 45 million bushels larger this year, can and will be substituted for hard red spring wheat on an extensive scale; (2) the quality (including protein) of the hard winter crop and part of the hard spring crop is better this year than last; (3) soft red and Pacific white wheats can and presumably will be mixed in larger proportion than usual with hard winter and hard spring wheats in the production of bread flour. These considerations suggest that, while gross imports of Canadian wheat for consumption may be about as large in 1936-37 as in 1935-36, they probably will not be significantly larger.

As regards the *net*-import trade of the United States, commercial exports of Pacific white wheat may be more of a factor in 1936-37 than in any of the past few years. At pres-

a national wheat office has recently been created with monopoly powers over imports and exports of wheat and flour and with authority to fix domestic prices (the price of domestic wheat for late August 1936 has been fixed at \$2.49 per bushel, \$1.20 higher than the free market price of August 1935). Italy and Germany, both of which had government grain monopolies in 1935-36, have strengthened these through increased grants of power for 1936-37. The grain monopoly in Czechoslovakia has been continued until 1940.

ent, however, it appears doubtful that such exports will exceed, if indeed they approach, 10 million bushels. Tentatively, we place the prospective *net* wheat imports of the United States in July-June 1936-37 at 25 million bushels, or about the same as last year. August-July net imports can be expected to be slightly smaller—say 22 million bushels.

At the level of wheat prices prevailing in August, non-European countries other than the United States might take 5-10 million bushels less wheat in 1936-37 than in 1935-36, when their aggregate net imports were apparently the smallest in over a decade. Improved economic conditions in most of these countries, and smaller crops in several, would only partly offset the usual tendency to reduce purchases in reflection of a higher level of world wheat prices. China and Manchukuo, probably the most variable non-European importers of wheat, imported net only about 22 million bushels last year as compared with 52 million in 1934-35 and 45 million in 1933-34. Some further reduction in these imports may occur in 1936-37, but a reduction of as much as 10 million bushels does not appear likely even with wheat prices at a somewhat higher level than that of August 1936.

We summarize below, for the past four years, net-import data for European net-importing countries, the United States, and other non-European countries for which we have crop-year trade figures; net changes in "stocks afloat"; and the relation of the sum of these items to world net exports of wheat and flour—all in terms of million bushels of wheat:

Aug.- July	Net Imports			Change in "stocks afloat" <sup>b</sup>	Calcu- lable de- mand <sup>c</sup>	Total net ex- ports	Dif- fer- ence
	Europe	U.S.	Other non- Europe <sup>d</sup>				
1932-33..	442	..	121	— 9	554	630	76
1933-34..	394	..	111	+ 3	508	554	46
1934-35..	376	4	116	-16	480	536	56
1935-36..	355	31	88 <sup>d</sup>	+11	485	520	35

<sup>a</sup> Including the net imports of a large number of countries (including China, Manchukuo, Brazil, Japan, Egypt, Palestine, Java and Maduras, British Malaya, Netherlands Indies, Union of South Africa, and Tripoli) and exports from North America to the West Indies and to U.S. possessions.

<sup>b</sup> Including Canadian wheat in the United States and United States wheat in Canada.

<sup>c</sup> Total of the four preceding columns, including changes in stocks.

<sup>d</sup> Partly estimated.

We have suggested that at price levels current in August, or even at levels moderately higher, European net-importing countries might take 390 million bushels in 1936-37, the United States might import net 22 million bushels, and other itemized non-European countries might take 5-10 million less than last year, or roughly 80 million bushels. The total of these prospective net imports is 492 million bushels. On August 1, 1936, Canadian stocks of wheat in United States ports totaled 19 million bushels; these may be reduced to about 5 million as of August 1, 1937. Aggregate stocks afloat to Europe and to ex-Europe may be about the same on August 1, 1937, as a year earlier. The net reduction forecast for these stocks, 14 million bushels, brings the "calculable import" demand to 478 million bushels. If to this figure we add 42 million bushels as the estimated difference in 1936-37 between the "calculable demand" and total net exports, we arrive at a net-export figure of 520 million bushels for the current crop year.

Will net-exporting countries be willing to supply 520 million bushels of net exports at the prices current in August? Much will depend upon the crops actually harvested by the net-exporting countries and upon psychological factors and governmental policies which are difficult to evaluate. If Australia and Argentina have crops of 150 and 215 million bushels respectively, and if the crops of other exporting countries are about as now indicated, there will doubtless be more than enough wheat physically available in exporting countries to fill the calculated import demand. At prices sufficiently attractive, for example, Canada and Australia *could* export 215 and 115 million bushels of wheat respectively, without reducing stocks any lower than in one or two earlier postwar years; Czechoslovakia could export net 15 million bushels and still keep stocks above a minimum level; India could contract consumption as she has often done before and export as much as 10-20 million bushels of her current wheat supplies; Russia, even with a poor crop, could draw upon her large government stocks for substantial exports, if the Soviet authorities deemed this course advisable; and the Danube

countries could export around 85 million bushels and still retain more wheat for domestic consumption and stocks than in either of the two preceding years.

Such extreme developments, however, cannot be anticipated unless prices rise considerably above the levels current in August. Nor do net exports of 520 million bushels at present imply the necessity of such drastic reduction of stocks in exporting countries. On the basis of crops as now indicated, net exports of this size might reasonably be expected to be distributed about as follows, in million bushels:

Canada .....	190
Australia .....	105
Argentina .....	120
Danube .....	75
Others .....	30
Total .....	520

These figures imply a Canadian carryover of 50 million bushels on August 1, 1937; year-end stocks in Australia and Argentina of 35 and 60 million bushels respectively; and Danubian stocks not far below the average level for the five preceding years.

The expected exports from "others" include 10 million bushels from Algeria and Tunis, 5-10 million from Poland, and most of the rest from Czechoslovakia, Turkey, and India. It is entirely possible that the high premiums on durum wheat will attract small exports from Russia; and perhaps Lithuania and Sweden may again contribute a little wheat to the world trade. There is considerable question as to the volume of net exports to be expected from minor exporters, particularly Czechoslovakia and Turkey. In the former country large stocks of wheat are in the hands of the government grain monopoly, which for some time has been considering ways and means of reducing these stocks without too much expense to the government. Exportation at the attractive prices which may prevail in 1936-37 might appear to be a happy solution; but Czechoslovakia's immediate neighbors are well supplied with grain and the matter is complicated by the reported low quality of the Czechoslovakian stocks. The

exports of Turkey will depend mainly on the size of the crop, which cannot be ascertained at present (see p. 5). Tentatively, we assume that Turkey may export around 5 million bushels.

It is obvious that the crops of Australia and Argentina are crucial in determining the ease or tightness of the world wheat position this year. If these crops should turn out below current estimates, 10 or perhaps 25 million bushels of additional exports might be found readily obtainable from Canada to meet the deficiency. Beyond that point, attainment of a balance between supplies and requirements would call for some further curtailment of net-import requirements and the drawing of heavier exports from a number of countries, perhaps especially Canada, India, and Czechoslovakia—presumably possible only at considerably higher levels of prices than assumed in the foregoing calculation. On the other hand, if yields of wheat in Argentina and Australia should prove to be above average and the harvested acreage as large as or larger than we anticipate, there would be little question that import requirements in 1936-37 could be met with comparative ease.

Broomhall's preliminary forecast of world wheat shipments in 1936-37 is 512 million bushels. Since in past years total shipments have averaged about 20 million bushels lower than total net exports, Broomhall's figure for 1936-37 might appear to suggest a somewhat larger volume of trade than our forecast of 520 million bushels for net exports. However, net exports are not likely to exceed shipments by as much as 20 million bushels this year, because of difference in the two methods of reporting Canadian exports to the United States. When wheat is exported from Canada it is recorded in Canadian exports, even if it is taken directly into store in a bonded warehouse in Buffalo. Broomhall, on the other hand, reports Canadian exports to the United States only after they have figured in United States net imports for consumption. Consequently, if stocks of Canadian wheat in the United States are reduced by 14 million bushels during 1936-37, this wheat, which was recorded in Canadian exports prior to August 1936, will presumably appear in Broomhall's

shipments but not in world net exports in 1936-37. In view of this fact, Broomhall's forecast of 512 million bushels for shipments appears not to differ significantly from our forecast of net exports at 520 million bushels.

#### OUTLOOK FOR CARRYOVER IN 1937

The preceding discussion on the wheat supplies available and the outlook for international trade in 1936-37 clearly indicate that world wheat stocks will be much smaller at the end than at the beginning of the present crop year. On the basis of current crop estimates (including our forecasts for Southern Hemisphere countries), with allowance for upward revision of these by 25-75 million bushels, we anticipate that world stocks of old-crop wheat on August 1, 1937, may total only about 550 million bushels or perhaps even less. At such a figure, the carryover of 1937 would be below the average for predepression years and would rank with the other postwar low carryovers of 552 million bushels in 1923, and 528 million in 1925.

This forecast implies a moderate reduction in world wheat utilization in 1936-37 as compared with both of the two preceding years, but a higher level of disappearance than in 1929-30 or in any year prior to 1927-28 (p. 17). In the United States, less wheat may be fed on farms this year than last, but total domestic utilization seems likely to be 10-20 million bushels higher (Table IX).<sup>1</sup> This increase, and smaller increases in wheat consumption in the Danube exporting countries and elsewhere, may be expected to be considerably more than offset by reduced utilization of wheat for feed in northwestern Europe and for food in India, Spain, northern Africa, and probably Italy and France.

With official estimates still lacking for a

<sup>1</sup> Wheat fed on farms in 1935-36 has been officially estimated at 98 million bushels, leaving an unusually small remainder in the balancing item (Table IX: 116 — 98 million bushels). For 1936-37 we expect some reduction in wheat fed on farms, but allow for a remainder in the balancing item a little above the average of the four years preceding 1935-36. Commercial feed use of wheat may be relatively high in 1936-37; and if there was an unusual amount of new-crop wheat in the 1936 carryover this would tend to increase the residual for 1936-37 as well as to reduce the residual for 1935-36.



number of the important European crops, and with the crops of Argentina and Australia still to be made, it is too early to present a reasonably reliable forecast of the distribution of the world carryover of 1937. However, it is clear that, as compared with 1936, year-end stocks will be strikingly lower only in Canada and in importing Europe (particularly in France and Spain, but in less degree also in a number of other countries). The United States carryover will presumably be reduced by 10–25 million bushels; but even a reduction of 25 million would leave the carryover higher than in several earlier postwar years.

#### OUTLOOK FOR PRICES

With world wheat supplies very short, as they promise to be for 1936–37, accurate appraisal of the supply position assumes special importance for judgments of price prospects. In these circumstances, a difference of only 40 million bushels in the calculation of available supplies (out of a total exceeding 4,000 million), or an equal difference in estimates of world wheat requirements, may make the difference between the showing of a statistical position warranting only moderately high prices and one suggesting much higher prices. Foregoing comments reflect the fact that either available statistics of Northern Hemisphere wheat supplies or current estimates of probable world wheat consumption may readily err by 40 million bushels or more; and Southern Hemisphere crops may turn out considerably more than 40 million bushels larger or smaller than the total now anticipated.

In an appraisal of prospective prices, further uncertainty arises in judging what prices would be warranted by the statistical position, if accurately known. Thus the situation which calls for the closest possible appraisal of the statistical position draws special attention to the uncertainties in any such appraisal and in the inferences to be drawn therefrom. The circumstances require both special attention to the statistical position and special caution in its interpretation.

Present indications of world wheat crops for 1936–37 show only a moderate shortage as compared with the two previous years. When full allowance is made, however, for

the lower level of carryover into the season, total supplies less a normal carryover out appear considerably below the amounts actually consumed in recent years. But the degree of prospective shortage of supplies may be exaggerated unless allowance is made for circumstances likely to favor curtailment of wheat consumption in 1936–37. Our appraisal of these several factors bearing on the situation is summarized above in two forms: a preliminary estimate of quantities that may remain for carryover about August 1, 1937, and estimates of probable import requirements and supplies available for export.

The supply position, as summarized in prospective carryover at the end of the season, may be compared with carryovers and prices in previous years with a resulting implication that current statistical data and related information suggest the probability of an average British parcels price for 1936–37 of about \$1.35–\$1.45 (pp. 11–12). The same statistical data and related information, employed in a calculation of importers' requirements and exportable surpluses, lead us to the conclusion that imports to be expected if prices should remain at or slightly above the average level of August (\$1.12 in terms of British parcels) could be supplied and still leave exporting countries with stocks as large as they might wish to carry at this price level. There thus emerges an indicated possible range for the average of British parcels for the season of about \$1.12–\$1.45. This range probably reflects fairly the inherent uncertainty in such price appraisals, assuming adequate appraisal of the statistical position. If changes are later required in appraisal of the statistical position, they will call for raising or lowering both limits of this price range.

In this connection it should be noted that our appraisal of the statistical position leans at two points to the side of conservatism. We allow for moderate decrease in consumption during 1936–37 from the already reduced levels of the past two seasons; and we assume that production statistics for Europe as of September will prove somewhat under the facts, as they have in the past several years. On the other hand, we accept provisionally the latest official estimate of Canadian production,

which some private estimators consider too low. As regards the most important uncertainty in the prospective supply position, production in the Southern Hemisphere, our estimate is probably near the middle of the range of reasonable possibilities.

A judgment of more immediate price prospects may be formed on other lines within a considerably narrower range of possibilities. Although a major price reaction is commonly to be anticipated after a price advance of such rapidity and magnitude as occurred last summer, we believe that the forces commonly responsible for such reactions are at present absent or weak (see pp. 10-11). The price levels of August, and the similar levels prevailing on September 14, appear not especially vulnerable. On the other hand, no important price advance in consequence of the present tight statistical position of wheat appears in prospect during September-November. Although our appraisal of the currently indicated statistical position, in relation to seasonal average prices, suggests a range of expectations with a maximum considerably higher than that represented by \$1.16 for the Liverpool December future, as on September 14, and a minimum only slightly lower, we anticipate that if the statistical position remains substantially unchanged it will have little further influence on prices until December or January, when reappraisal of the statistical position can be made with greater accuracy and confidence.

This judgment hinges largely on the assumption that no marked holding disposition will develop in Canada during the interval. The announcement on August 27 that the Canadian Wheat Board would offer to resume purchases at a price base of 87½ cents, if the price of No. 1 Northern in store at Fort William should close on any day below 90 cents, confirmed other evidence that the wheat board will not work for higher prices. The board's holdings of cash wheat and futures, however, have probably been reduced to a level such that it might exercise little restraining influence in the unlikely event that private trading should contribute marked strength to the Winnipeg market. Importers' needs during September-December must be supplied in

such large proportion from Canada that appearance of independent strength in the Winnipeg market would significantly alter the international price outlook for the period.

Assuming no new developments of importance, the Liverpool December future appears unlikely to advance materially above \$1.16 during September-November, and, while some recessions may occur, they will probably be held within narrow limits. The situation is one, however, in which bullish developments during the interval, such as damage to Southern Hemisphere crops or appearance of unexpected disposition of European countries to accumulate stocks of wheat, might generate price increases far beyond those to be expected from the same developments under other circumstances. Bearish developments, chiefly in prospect from possible exceptionally good yields in the Southern Hemisphere, hold a threat of only moderate price-depressing influence during September-November.

A year ago we expressed the view that "in several respects the present situation suggests comparison with that of 1896" as regards the character of general wheat price movements in prospect.<sup>1</sup> By an odd coincidence, the situation now suggests quite as strongly comparison with that of 1897. It is not to be expected that price trends during the coming season will parallel those of 1897-98 as closely as last year's price movements in fact paralleled those of the season just 39 years earlier, but the correspondence in price movements thus far in the season is striking and many of the elements underlying the price situation are remarkably similar to those of the autumn of 1897. Present indications of tightness in the supply position suggest a possibility that the similarities may extend even to emergence of extreme shortage in the spring; but existing evidence does not warrant regarding such an outcome as likely.<sup>2</sup>

Price relationships between Winnipeg and Liverpool appear likely to show no striking

<sup>1</sup> WHEAT STUDIES, September 1935, XII, 28.

<sup>2</sup> Chicago prices this year can of course not rise relative to Liverpool to the extent that they did in 1897-98. For charts and discussion of developments in 1897-98, see Helen C. Farnsworth, "Decline and Recovery of Wheat Prices in the 'Nineties," WHEAT STUDIES, June and July 1934, X, 328-35.

changes during September–December. Except in the event of increase in ocean freight rates such as might be occasioned by labor difficulties or outbreak of war, the Winnipeg December future appears unlikely to fall more than about 13 cents under the Liverpool December, and no important and sustained narrowing of this spread appears possible while a large proportion of the Canadian exportable supplies remain to be sold.

Price relations between United States and foreign markets, and among markets and classes of wheats within the United States, depend in unusual degree upon the outcome of clarification of uncertainties in the domestic supply position. The uncertainties in the statistics are somewhat greater than usual in September, and their significance for price relations is magnified by the current exceptional situation, under which importation of Canadian wheat has been proceeding rapidly over a 42-cent tariff while sporadic exports of Pacific Coast wheat have occurred to the British Isles, despite a 6-cent duty there. If supplies of United States wheat and prospective disposition for 1936–37 (including the “balancing item”) are correctly reflected by the figures in Table IX, active importation of Canadian wheat may be expected to continue at least through December. In that event the Minneapolis December future may be expected to maintain a premium of close to 27 cents over the Winnipeg December.

There appears a substantial possibility, however, that supplies of United States wheat for 1936–37 may afford a “surplus over domestic use” 20–30 million bushels larger than calculated in Table IX. The September estimate of the 1936 crop may be too low, as was the crop estimate of September 1935.<sup>1</sup> Moreover, there is considerable evidence that the “balancing item” in the calculation of disappearance for 1936–37 should be at least 10 million bushels smaller than that for 1935–36

<sup>1</sup> The estimate, at 595 million bushels in September 1935, was raised to 603 million in December, and to 623 million in June. Although this last increase was made in conjunction with a revision of estimates for several previous years to bring them into line with census statistics for 1934, we judge the accompanying increase in the estimates of 1935 acreage and production to have been greater than was called for on this ground alone.

instead of 9 million bushels larger. The larger figure is indicated on the assumption that on revision the estimate of the 1935 crop was sufficiently raised. The disposition data themselves suggest, however, that that crop may still be underestimated by 20 million bushels or more. If so, the cause is probably a defect in the acreage estimate which would similarly affect the estimates for 1936, and which should be allowed for by corresponding reduction in the “balancing item.”

These considerations suggest that the domestic supply position may be such as to result in net imports of only 15 million bushels or less, since the international supply position promises to support premiums of old-crop over new-crop (1937) futures that will induce reduction of carryovers, in the United States as elsewhere, to fairly low levels. If United States net imports are to be restricted to 15 million bushels or less, Minneapolis and other United States prices must decline relative to Winnipeg—perhaps rather sharply.

Changes in relationships among United States prices during September–December will depend on the course of the Minneapolis–Winnipeg price spread and the rate of importation of Canadian wheat. If imports continue at the rate of a million bushels or more weekly, spreads between prices of hard spring and hard winter wheats may narrow, and spreads between hard spring and soft winter narrow even more, with accompanying strength in Kansas City and Chicago futures relative to Minneapolis and Winnipeg. If Minneapolis prices weaken relative to Winnipeg and imports are diminished or stopped, the relative weakness may be most pronounced in prices of hard winter wheats and Kansas City futures, with prices of soft wheats weakening only sufficiently to permit liberal exports from the Pacific Coast.

Price relations between cash wheat and futures and between near and more distant futures in United States markets hang also on clarification of the domestic supply position. If the situation is one that will result in net imports of 25 million bushels or more, premiums of contract grades of cash wheat over futures are likely to persist through December, and the Chicago December future

may increase its premium over the May future. If it appears, rather, that net imports will be some 15 million bushels or less, prices of cash wheat and the December future are likely to go to discounts under the May future. In either event, the July future, in which

trading will soon start, will probably sell at a discount of 5-10 cents under the May, but at a smaller discount if it becomes evident that net imports must be small than if the situation warrants continuation of the recent rate of importation.

*This survey was written by Helen C. Farnsworth and Holbrook Working, with the advice of Joseph S. Davis. Tables were prepared by Rosamond Peirce, charts by P. Stanley King*

# APPENDIX

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS AND COUNTRIES, 1930-36\*  
(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	North-ern Africa <sup>c</sup>	India
				Total	Winter	Spring								
1930.....	3,702	3,211	1,753	886	633	253	421	214	232	989	353	1,006	64	391
1931.....	3,674	3,211	1,669	937	821	116	321	191	220	753	370	1,064	69	347
1932.....	3,715	3,204	1,655	757	492	265	443	214	241	744	222	1,269	75	337
1933.....	3,638	3,103	1,297	552	377	175	282	177	286	1,019	367	1,378	70	353
1934.....	3,338	2,902	1,176	526	438	88	276	133	241	1,117	249	1,297	97	352
1935 <sup>d</sup> .....	3,325	2,971	1,164	603	433	170	277	140	144	1,151	291	1,255	68	363
1935 <sup>e</sup> .....	3,367	3,015	1,182	623	464	159	277	142	140	1,151	302	1,266	70	363
1936 <sup>e</sup> .....	3,297	2,867	1,228	630	519	111	233	150	215	.....	371	1,116	52	352

Year	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy	Belgium <sup>f</sup>	Netherlands
1930.....	84.3	80.3	130.8	57.3	21.3	32.4	10.4	39.8	43.3	228.1	139.2	210.1	13.7	6.1
1931.....	72.6	98.8	135.3	63.8	29.8	25.6	14.0	46.1	38.6	264.1	155.5	244.4	14.2	6.8
1932.....	64.5	53.4	55.5	48.1	28.0	29.2	17.5	52.6	44.4	333.5	183.8	276.9	16.1	12.8
1933.....	96.4	96.6	119.1	55.5	28.9	32.0	9.2	40.0	64.4	362.3	205.9	298.5	16.1	15.3
1934.....	64.8	68.3	76.6	39.6	39.6	43.5	13.8	37.3	73.6	338.5	166.5	233.1	17.3	18.0
1935 <sup>d</sup> .....	73.9	73.1	96.4	47.9	20.0	31.2	17.3	43.2	71.9	278.8	171.8	283.5	14.8	15.9
1935 <sup>e</sup> .....	84.2	73.1	96.4	47.9	20.0	33.5	16.5	43.2	72.1	278.7	171.5	283.5	15.8	16.7
1936 <sup>e</sup> .....	88.1	105.7	121.3	55.8	15.5	28.5	7.7	45.4	66.3	240.0	176.7	238.8	16.7	16.0

Year	Scandinavia <sup>g</sup>	Baltic States <sup>h</sup>	Spain	Portugal	Switzerland	Austria	Czechoslovakia	Poland	Greece	Mexico	Japan, Chosen	South Africa	Chile, Uruguay	New Zealand
1930.....	31.8	15.6	146.7	13.5	3.60	12.0	50.6	82.3	9.7	11.4	38.5	9.3	28.6	7.58
1931.....	27.7	14.6	134.4	13.0	4.04	11.0	41.2	83.2	11.2	16.2	39.2	13.7	32.4	6.58
1932.....	38.2	18.3	184.2	23.8	4.00	12.2	53.7	49.5	17.1	9.7	39.9	10.6	34.2	11.06
1933.....	41.5	19.8	138.2	15.1	4.96	14.6	72.9	79.9	28.4	12.1	49.3	11.8	50.0	9.04
1934.....	42.4	24.9	186.8	24.7	5.34	13.3	50.0	76.4	25.7	11.0	56.9	15.3	40.8	5.93
1935 <sup>d</sup> .....	39.7	21.7	153.9	15.9	5.82	15.6	62.1	73.0	30.9	10.3	58.5	20.2	47.8	8.41
1935 <sup>e</sup> .....	40.0	23.1	158.0	23.4	5.82	15.6	62.1	73.9	26.4	10.7	58.5	20.2	47.8	8.41
1936 <sup>e</sup> .....	37.9	18.9	121.5	8.4	4.70	14.7	54.0	77.2	23.7	13.0	55.2	12.0	....	....

\* Data of U.S. Department of Agriculture and International Institute. Figures in italics are unofficial estimates. Dots (...) indicate no data available.

<sup>a</sup> Excluding also China and southwestern Asia.

<sup>b</sup> Hungary, Yugoslavia, Rumania, Bulgaria.

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

<sup>d</sup> As of about May 15, 1936.

<sup>e</sup> As of about Sept. 15, 1936.

<sup>f</sup> Including Luxemburg.

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

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

TABLE II.—WHEAT RECEIPTS IN NORTH AMERICA, MARCH-AUGUST 1936, WITH COMPARISONS\*  
(Million bushels)

Year	United States (14 primary markets)							Canada (country elevators and platform loadings)						
	March	April	May	June	July-June <sup>a</sup>	July	Aug.	March	April	May	June	July	Aug.-July <sup>a</sup>	Aug.
1931.....	30.8	21.2	30.9	29.7	494.9	104.0	61.5	9.6	8.4	6.4	8.2	5.4	307.0	11.9
1932.....	13.4	13.2	15.3	13.5	374.7	41.0	40.7	12.9	6.0	8.2	15.0	3.8	265.2	17.6
1933.....	12.7	15.8	23.3	28.6 <sup>b</sup>	281.9	37.2	26.7	20.8	10.3	10.8	19.5	10.5	370.7	25.6
1934.....	9.1	8.4	12.5	23.4	199.1	49.7	23.0	9.1	7.3	8.3	12.3	10.9	227.6	30.8
1935.....	4.7	6.4	8.3	10.0	160.1	28.9	48.2	8.4	6.3	5.6	9.3	13.3	229.0	12.5
1936.....	9.8	7.4	11.1	14.8	229.6	84.2	29.5 <sup>c</sup>	7.2	4.6	5.5	8.7	4.0	216.3	41.2 <sup>c</sup>

\* United States data unofficial, from *Survey of Current Business*; Canadian data computed from official figures given in *Canadian Grain Statistics* and press releases of the Board of Grain Commissioners.

<sup>a</sup> From 1930-31 to 1935-36.

<sup>b</sup> Toledo not included, June 1933 and following.

<sup>c</sup> Approximate.

TABLE III.—WHEAT VISIBLE SUPPLIES, MAY–SEPTEMBER 1936, 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						
May 1, 1931.....	503.4	206.5	5.9	156.1	2.8	371.3	48.1	9.9	58.0	67.5	6.6
1932.....	525.7	186.5	26.9	159.7	4.6	377.7	54.9	14.4	69.3	62.5	16.2
1933.....	478.9	124.4	5.4	217.3	2.5	349.6	40.9	12.5	53.4	61.5	14.4
1934.....	454.1	88.8	2.2	207.4	1.5	299.9	30.5	14.4	44.9	88.0	21.3
1935.....	370.1	39.5	1.0	203.9	11.9	256.3	30.1	10.8	40.9	54.5	18.4
1936.....	308.6	40.7	0	173.3	11.9	225.9	33.2	9.8	42.0	31.5	9.2
Sept. 1, 1931.....	475.2	261.7	32.2	95.2	5.3	394.4	46.9	12.5	59.4	15.5	5.9
1932.....	374.3	188.3	11.3	111.1	5.6	316.3	24.5	8.3	32.8	18.5	6.6
1933.....	430.1	151.7	3.7	194.1	4.8	354.3	34.7	10.2	44.9	19.5	11.4
1934.....	427.5	122.4	0	183.7	10.1	316.2	37.9	13.0	50.9	40.5	19.9
1935.....	316.8	62.5	0	175.3	18.6	256.4	18.6	7.6	26.2	23.2	11.0
1936.....	250.7	81.0	0	104.1*	18.3	203.4	23.7	7.4	31.1	8.5	7.7
May 2.....	308.6	40.7	0	173.3	11.9	225.9	33.2	9.8	42.0	31.5	9.2
9.....	298.0	38.1	0	166.7	10.8	215.6	35.0	9.6	44.6	28.2	9.6
16.....	288.5	34.8	0	164.0	11.8	210.6	32.9	10.1	43.0	25.0	9.9
23.....	274.3	32.5	0	153.5	13.1	199.1	33.1	10.5	43.6	21.3	10.3
30.....	265.4	31.2	0	148.7	13.3	193.2	31.8	9.9	41.7	20.2	10.3
June 6.....	255.7	28.6	0	141.8	14.7	185.1	31.4	10.3	41.7	18.2	10.7
13.....	246.1	26.4	0	136.9	14.5	177.8	31.2	10.7	41.9	16.5	9.9
20.....	235.6	24.7	0	132.7	13.5	170.9	30.0	10.3	40.3	15.2	9.2
27.....	226.9	23.2	0	126.2	15.6	165.0	28.6	10.3	38.9	14.5	8.5
July 4.....	221.0	25.2	0	120.2	15.3	160.7	26.7	9.9	36.6	14.5	9.2
11.....	222.2	32.3	0	115.0	16.7	164.0	24.9	10.2	35.1	13.5	9.6
18.....	228.2	45.9	0	109.1	17.6	172.6	22.5	10.4	32.9	12.8	9.9
25.....	232.8	60.3	0	101.8	17.9	180.0	20.4	9.7	30.1	12.8	9.9
Aug. 1.....	237.5	67.3	0	99.5	19.3	186.1	20.6	9.7	30.3	11.5	9.6
8.....	236.1	73.6	0	94.9	18.4	186.9	20.8	8.7	29.5	10.5	9.2
15.....	234.8	76.8	0	89.4*	19.5	185.7	21.7	8.7	30.4	10.2	8.5
22.....	240.6	79.6	0	93.1*	19.5	192.2	22.2	8.2	30.4	9.5	8.5
29.....	250.7	81.0	0	104.1*	18.3	203.4	23.7	7.4	31.1	8.5	7.7
Sept. 5.....	.....	81.7	0	113.9*	19.0	214.6	24.3	...	...	7.0	7.3
12.....	.....	82.0	0	122.8*	19.4	224.2	25.5	...	...	6.8	7.0

\* Commercial Stocks of Grain in Store in Principal United States Markets; Canadian Grain Statistics; Corn Trade News.

\* Not including stocks in transit by rail first reported for the week ending August 15. This amounted to 7.6; 10.7; 13.0; 14.4; and 11.9 million bushels respectively.

TABLE IV.—UNITED STATES AND CANADIAN CARRYOVERS OF WHEAT, FROM 1931\*

(Million bushels)

Year	United States (July 1)						Canada (July 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 <sup>b</sup>	Total in five positions	Canadian grain in U.S. <sup>c</sup>
1931.....	37.9	30.2	204.0	53.7	325.8	15.3	19.5	34.1	71.1	7.3	2.1	134.1	5.5
1932.....	93.4	41.6	168.4	81.8	385.2	15.9	7.5	33.5	78.6	9.3	2.9	131.8	4.7
1933.....	82.9	64.3	123.7	123.1	394.0	4.1	12.3	77.9	109.3	9.0	3.2	211.7	6.2
1934.....	62.5	48.2	80.5	97.2	288.4	0	8.7	70.4	104.7	7.7	2.5	194.0	10.0
1935.....	44.3	31.8	22.0	56.6	154.7	0	7.9	53.8	126.6	12.9	2.0	203.2	11.7
1936.....	43.8	23.8	20.6 <sup>d</sup>	62.2	150.4	0	5.5	36.2	59.7	4.9	2.4	108.7	19.3

\* Official data of U.S. Department of Agriculture, U.S. Bureau of the Census, and Dominion Bureau of Statistics.

<sup>a</sup> Census figures for wheat in and in transit to mills, and wheat stored for others, here raised to 100 per cent.<sup>b</sup> In Eastern Division only; stocks in Western Division mills included with stocks in country mills.<sup>c</sup> In bond, excluding some in transit by rail, chiefly for export through the U.S. and latterly for consumption here.<sup>d</sup> Wheat actually in store less 4.5 million bushels of new wheat.

TABLE V.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, SEPTEMBER AUGUST 1935-36, WITH COMPARISONS\*

(Thousand barrels)

Month or period	Production						Net exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total			1933-34	1934-35	1935-36	1933-34	1934-35	1935-36
	1933-34	1934-35	1935-36	1933-34	1934-35	1935-36						
Sept. ....	7,540	8,822	9,055	7,962	9,296	9,462	362	489	314	7,600	8,807	9,148
Oct. ....	8,181	9,181	9,897	8,639	9,664	10,342	352	434	356	8,287	9,230	9,986
Nov. ....	8,116	8,211	8,274	8,570	8,643	8,646	338	432	362	8,232	8,211	8,284
Dec. ....	7,332	7,547	7,175	7,743	7,944	7,497	428	354	294	7,315	7,590	7,203
Jan. ....	8,720	8,316	8,644	9,208	8,753	9,032	415	319	278	8,793	8,434	8,754
Feb. ....	7,867	7,599	8,401	8,307	8,000	8,778	325	315	310	7,982	7,685	8,468
Mar. ....	8,362	7,986	8,252	8,830	8,406	8,622	422	359	328	8,408	8,047	8,294
Apr. ....	7,455	7,786	7,840	7,872	8,196	8,193	469	333	371	7,403	7,863	7,822
May ....	8,103	7,806	7,569	8,539	8,156	7,910	322	347	358	8,217	7,809	7,552
June ....	7,507	7,381	7,845	7,910	7,712	8,197	265	320	344	7,645	7,392	7,853
July .....	7,325	7,387	9,414 <sup>a</sup>	7,719	7,719	9,837 <sup>a</sup>	322	296	320	7,397	7,423	9,517 <sup>a</sup>
Aug. ....	8,654	8,082	9,445 <sup>b</sup>	9,120	8,445	9,870 <sup>b</sup>	486	315	...	8,634	8,130	9,570 <sup>a</sup>
July-June ..	94,177	96,614	98,421	99,413	101,609	102,843	4,451	4,510	3,926	94,962	97,099	98,917

\* Reported production and trade data from U.S. Bureau of the Census press releases, *Monthly Summary of Foreign Commerce*, and U.S. Department of Commerce, *Statement No. 3009*. Total production estimated on a level conforming with revised census year totals published in *WHEAT STUDIES*, April 1936, Vol. XII, No. 8.

<sup>a</sup> Preliminary.<sup>b</sup> Estimated from data in the *Northwestern Miller*.

TABLE VI.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM MAY 1936\*

(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	U.S.	Others
May 2.....	9.90	6.01	1.15	1.47	.23	.25	.00	.79	7.68	4.19	.43	3.06	2.22	.32	1.90
9.....	10.65	6.68	.95	1.86	.28	.33	.00	.55	8.51	1.85	2.31	4.35	2.14	.34	1.80
16.....	9.57	5.21	1.14	2.38	.00	.22	.00	.62	6.83	2.84	1.93	2.06	2.74	.43	2.31
23.....	11.02	6.68	1.23	1.87	.29	.35	.00	.60	9.02	3.57	2.01	3.44	2.00	.18	1.82
30.....	8.73	5.55	.56	1.80	.00	.16	.02	.64	6.78	3.96	1.07	1.75	1.95	.41	1.54
June 6.....	10.52	6.40	1.46	1.54	.12	.26	.00	.74	7.46	3.05	1.57	2.84	3.06	.12	2.94
13.....	9.81	6.91	.94	1.26	.00	.35	.05	.30	7.62	3.07	1.91	2.64	2.19	.31	1.88
20.....	7.61	4.86	.18	1.87	.00	.22	.00	.48	6.04	2.63	1.45	1.96	1.57	.45	1.12
27.....	7.89	5.06	1.29	.59	.00	.27	.22	.46	5.59	2.14	1.47	1.98	2.30	.30	2.00
July 4.....	7.37	5.33	.93	.52	.00	.30	.00	.29	4.72	2.55	.34	1.83	2.65	1.26	1.39
11.....	7.84	5.36	.86	.88	.00	.37	.03	.34	5.05	2.79	.07	2.19	2.79	.65	2.14
18.....	8.69	5.72	.88	.85	.00	1.06	.06	.42	6.00	2.22	1.54	2.24	2.69	1.50	1.19
25.....	7.70	4.28	1.59	.70	.00	.74	.00	.39	4.41	2.68	.60	1.13	3.29	.66	2.63
Aug. 1.....	9.91	5.69	1.45	1.21	.00	1.00	.10	.46	6.62	3.06	1.14	2.42	3.29	1.18	2.11
8.....	9.85	6.85	.59	.96	.00	.94	.00	.51	6.87	3.23	.50	3.14	2.98	1.02	1.96
15.....	9.95	5.62	1.06	1.89	.00	1.03	.00	.35	7.02	4.34	1.02	1.66	2.93	1.11	1.82
22.....	10.34	5.98	.89	1.30	.00	1.48	.27	.42	7.66	3.52	1.58	2.56	2.68	1.12	1.56
29.....	9.74	5.29	.62	1.19	.00	2.15	.02	.47	6.92	2.68	1.70	2.54	2.82	1.04	1.78
Sept. 5 <sup>c</sup> .....	8.07	3.94	.78	1.35	.00	1.34	.04	.62	....	....	....	....	....	....	....
12 <sup>c</sup> .....	11.06	4.68	1.33	.97	.00	3.55	.07	.46	....	....	....	....	....	....	....

\* Here converted from data in Broomhall's *Corn Trade News*.<sup>a</sup> Including Uruguay.<sup>b</sup> North Africa, France, Sweden, Portugal, etc.<sup>c</sup> Preliminary estimates from the *Daily Trade Bulletin*, probably too low by about one million bushels, from North America.

TABLE VII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1935, WITH SUMMATIONS AND COMPARISONS\*

(Million bushels)

## A. NET EXPORTS

Month or period	United States <sup>a</sup>	Canada	Argentina	Australia	USSR	Hungary	Yugoslavia	Rumania	Bulgaria	Poland	Morocco	Algeria	Tunis	India
Aug. ....	(2.09)	23.36	10.94	5.13	4.05	.44	.01	1.53	.00	.36	.40	.70	1.08	.10
Sept. ....	(3.12)	19.04	10.48	7.71	6.97	2.37	.01		.31	.33	.90	1.48	.82	.17
Oct. ....	(4.89)	31.15	7.94	9.25	6.32	2.10	.02	2.07	.27	.85	.29	1.24	.70	.24
Nov. ....	(3.98)	28.90	5.68	7.14	4.66	1.63	.01	.81	.29	.74	.15	1.13	.38	.21
Dec. ....	(3.83)	19.01	4.13	6.92	4.16	.29	.01	.29	.05	.64	.21		.40	(.20)
Jan. ....	(1.59)	8.95	3.95	9.38	.46	.46	.01		.02	.62	.37		.57	.08
Feb. ....	(1.50)	15.75	5.29	14.76	.49	.83	.01	.47	.01	.68	.48	3.03	.19	.08
Mar. ....	(2.05)	15.26	4.91	13.59	.54	1.13	.02		.00	.54	.48		.16	.09
Apr. ....	(.87)	7.82	3.70	9.82	.12	.76	.01	.08	.00	.63	.57	.69 <sup>b</sup>	.13	.10
May ....	(1.01)	29.31	4.25	8.36	.32	.89	.02	.00	.00	.72	.75	.68 <sup>b</sup>	.10	.08
June ....	(2.28)	27.68	4.03 <sup>b</sup>	5.91	...	2.71	.56	.00	.03	.50	...	...	.03	.24
July ....	(3.67)	27.92 <sup>b</sup>	...	5.19	...	2.98	.08	...	.15	.47	...	...	.08	.22
1935-36 <sup>c</sup> ....	(30.87)	254.15	70.00	103.16	28.60	16.59	.77	6.00 <sup>d</sup>	1.13	7.08	5.00	9.50	4.64	1.66 <sup>d</sup>
1934-35 ....	(3.96)	164.86	181.54	109.10	1.89	12.80	4.26	4.22	.37	3.89	7.57	13.08	4.80	.97

## B. NET IMPORTS

Month or period	British Isles			France <sup>e</sup>	Germany	Italy	Belgium <sup>f</sup>	Netherlands	Denmark	Norway	Sweden	Switzerland	Austria	Czechoslovakia
	U.K.	I.F.S.	Total											
Aug. ....	14.18	1.42	15.60	.58	.30	(.08)	3.30	1.98	.70	.57	(.20)	1.15	.35	.29
Sept. ....	14.47	.69	15.16	1.05	(.19)	.38	3.92	2.19	.55	.45	(.50)	2.05	.46	1.59
Oct. ....	20.00	.74	20.74	2.32	.08	...	5.06	2.33	.76	.66	(.24)	1.57	.63	.13
Nov. ....	20.07	1.70	21.77	2.09	.29	...	1.62	2.21	.60	.81	.15	1.66	.48	.14
Dec. ....	18.43	1.25	19.68	1.23	.21	...	3.28	1.14	.62	1.43	.11	1.14	.76	.00
Jan. ....	13.69	.97	14.66	(.23)	(.12)	...	3.68	1.77	.54	.55	.04	.69	.67	.00
Feb. ....	13.88	.87	14.75	(.58)	(.12)	...	2.17	1.24	.62	.73	(.03)	.89	.45	.01
Mar. ....	18.81	1.22	20.03	(.14)	(.24)	...	2.70	1.52	.94	.15	(.27)	1.38	.62	.00
Apr. ....	16.57	1.59	18.16	.59	(.33)	...	3.19	1.39	.83	.55	(.28)	.95	.54	.00
May ....	17.95	1.69	19.64	.95	.05	...	4.26	2.00	.70	.75	(.16)	.92	.74	.01
June ....	20.77	.90	21.67	(.12)	.01	...	2.49	2.07	1.00	.74	(.13)	2.61	.61	.00
July ....	16.99	1.92	18.91	.13 <sup>g</sup>	(.30)	...	3.31	1.95	1.15	.38	(.36)	1.64	...	.01
1935-36 <sup>c</sup> ....	205.80	14.96	220.77	7.87	(.36)	...	38.97	21.79	9.01	7.77	(1.87)	16.65	7.00	2.18
1934-35 ....	200.58	16.96	217.54	(16.56)	10.11	11.54	39.75	19.45	18.99	8.88	(1.78)	17.91	9.84	1.45

## B. NET IMPORTS (continued)

Month or period	Greece	Spain	Portugal	Finland	Latvia	Estonia	Lithuania	Egypt	China	Manchukuo	Japan	New Zealand	South Africa	Chile
Aug. ....	1.82	(.00)	.08	.34	(.53)	(.04)	(.01)	.01	1.41	2.00	(.18)	.04	.01	(.06)
Sept. ....	.97	.00	.04	.38	(.27)	(.03)	(.01)	.01	.90	1.55	(.42)	.09	.01	(.08)
Oct. ....	1.38	.00	.09	.39	(.36)	.00	(.20)	.02	.35	.60	.10		.00	(.07)
Nov. ....	1.34	.03	.03	.30	(.19)	.00	(.22)	.03	.10	1.24	.15	.16	.01	(.15)
Dec. ....	.61	.00	.04	.10	(.05)	.00	(.49)	.02	.11	1.38	.62	.12	.01	(.11)
Jan. ....	.82	.00	.00	.45	(.06)	.00	(.25)	.00	.26	1.13	.19	.11	.00	(.05)
Feb. ....	.85	(.01)	.12	.26	.00	.00	(.32)	.01	.08	.72	.99	.05	.01	(.12)
Mar. ....	.82	(.01)	.03	.34	.00	.00	(.38)	.01	.43	.73	1.61	.06	.01	(.76)
Apr. ....	1.13	(.00)	(1.07)	.41	.00	.00	(.11)	.02	2.18	1.71	1.32	.07	.01	...
May ....	1.65	.00	(1.53)	.39	.00	.13	(.08)	...	1.73 <sup>b</sup>	.90	.08	.03	.01	...
June ....	...	.00	(.55)	.48	.00	(.02)	(.05)	...	.57 <sup>b</sup>	...	(.18)	...	...	...
July ....	...	...	...	.51	(.08)	(.03)	.00	...	...	...	.52	...	...	...
1935-36 <sup>c</sup> ....	12.50	.01	(4.00) <sup>d</sup>	4.35	(1.54)	.01	(2.12)	.15	8.60	13.50	4.79	.90	.10	(2.00)
1934-35 ....	14.55	(.00)	.70	4.25	(1.10)	(.20)	(.98)	2.18	21.10	31.30	1.09	.59	.91	(.37)

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

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

<sup>b</sup> Preliminary.

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

<sup>d</sup> Includes upward revision of monthly trade data

amounting to .35, .25, and .86 million bushels respectively for Rumania, India, and Portugal.

<sup>e</sup> Net trade in "commerce général."

<sup>f</sup> Including Luxemburg.

<sup>g</sup> Net trade in "commerce spécial."



## WORLD WHEAT OUTLOOK

TABLE VIII.—SELECTED WHEAT PRICES, WEEKLY FROM MAY 1936\*

(U.S. cents per bushel)

Week ending	Futures							United States cash					
	Liverpool		Winnipeg		Buenos Aires	Chicago		Basic cash (Chl.)	No. 2 H.W. (K. C.)	No. 2 R.W. (St. L.)	No. 1 Dk.N.S. (Mnpls.)	No. 2 Hd.A.D. (Mnpls.)	Western White (Seattle)
	July	Oct.	July	Oct.	Sept. <sup>a</sup>	July	Sept.						
May 2.....	91	91	80	81	90	87	85	101	101	106	121	109	84
9.....	90	90	78	80	91	87	86	98	96	102	118	103	82
16.....	89	89	78	79	90	86	85	95	93	100	108	106	80
23.....	87	86	76	78	90	86	85	97	94	101	112	108	81
30.....	84	83	75	76	90	84	84	92	91	100	114	107	78
June 6.....	85	84	77	78	91	85	85	90	91	100	120	104	78
13.....	85	85	77	77	91	85	85	91	89	95	118	105	78
20.....	88	88	80	80	92	90	91	93	96	97	124	115	82
27.....	90	90	83	83	92	95	95	97	102	98	133	128	86
July 4.....	90	91	84	84	93	97	98	100	100	96	124	125	82
11.....	99	98	92	91	97	106	106	108	111	106	139	142	90
18.....	100	99	93	92	98	104	104	106	111	105	135	149	88
25.....	103	101	94	93	100	104	104	106	111	107	134	142	91
Aug. 1.....	101 <sup>b</sup>	106	...	99	107	...	109	111	117	112	140	152	94
8.....	109	116	106 <sup>c</sup>	106	112	113 <sup>c</sup>	112	115	122	116	150	166	97
15.....	105	113	101	101	108	109	111	114	122	118	144	148	97
22.....	105	113	101	101	109	111	114	117	126	120	144	144	100
29.....	102	108	98	97	105	108	111	113	120	117	143	143	..
Sept. 5.....	104	109	97	97	100	107	110	113	119	114	140	...	..
12.....	109	113	102	100	100	110	112	114	123	...	143	140	..

Week ending	British parcels		Liverpool (Tuesday prices)				European domestic				Winnipeg		Buenos Aires 80-kilo
	U.S. cents	Gold cents	No. 1 Man.	No. 3 Man.	Arg. Rosafé	Aus-tralian	Great Britain	France	Germany	Italy (Rome)	Wtd. average	No. 3 Man.	
May 2.....	90	53	96	91	...	94	88	172	232	258	69	73	90
9.....	88	52	95	90	...	95	90	172	232	258	69	72	90
16.....	86	51	94	89	...	94	90	169	232	258	69	71	90
23.....	81	48	93	87	...	93	91	167	232	258	68	70	90
30.....	82	49	91	85	...	91	91	165	232	258	68	69	90
June 6.....	84	50	90	84	...	89	91	166	235	258	69	71	91
13.....	87	52	92	85	...	91	91	175	235	258	70	71	91
20.....	85	51	94	89	...	93	90	179	235	258	74	74	91
27.....	90	54	98	91	...	97	90	176	235	258	76	77	91
July 4.....	92	55	96	90	...	94	91	176	235	258	77	78	92
11.....	100	59	108	102	...	104	92	178	235	242	86	85	96
18.....	102	60	107	102	...	104	94	183	235	243	87	88	98
25.....	100	59	110	106	...	104	96	186	235	243	86	89	103
Aug. 1.....	102	61	110	106	...	107	98	200	234	243	90	95	107
8.....	114	68	126	121	...	122	101	206	234	245	103	102	111
15.....	112	67	120	114	115	124	104	...	234	254	100	97	...
22.....	111	66	120	116	115	119	109	...	212	263	100	100	...
29.....	105	63	114	109	115	119	104	249 <sup>d</sup>	212	268	96	92	...
Sept. 5.....	104	62	111	108	113	117	...	249 <sup>d</sup>	215	...	96	92	...

\* For methods of computation see WHEAT STUDIES, December 1934, XII, 180-81. For Great Britain, prices are from *The London Grain, Seed and Oil Reporter*, *Broomhall's Corn Trade News*, and *The Agricultural Market Report*; Canada, *Grain Trade News*, and *Canadian Grain Statistics*; Buenos Aires, *Revista Oficial*; United States, *Daily Trade Bulletin and Crops and Markets*; France, *Le bulletin des halles*; Germany, *Deutsche Getreide-Zeitung*; Italy, *Listino dei Prezzi all'In-grosso*. Prices are converted to U.S. cents at noon buying rates for cable transfers, and to approximate gold cents on the basis of prices of gold in London. Dots (...) indicate no quotations.

<sup>a</sup> July future through May.

<sup>b</sup> March future from week ending Aug. 1.

<sup>c</sup> May future from week ending Aug. 8.

<sup>d</sup> Fixed minimum price.

TABLE IX.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1930-31\*

(Million bushels)

Year	Domestic supplies			Domestic disappearance				Surplus over domestic use <sup>c</sup>	Net exports	Year-end stocks
	Initial stocks	New crop	Total	Milled (net)	Seed use	Balancing item <sup>a</sup>	Total <sup>b</sup>			
A. UNITED STATES (JULY-JUNE)										
1930-31.....	304	886	1,190	481	81	+187	749	441	115 <sup>d</sup>	326
1931-32.....	326	937	1,263	474	80	+197	751	512	127 <sup>d</sup>	385
1932-33.....	385	757	1,142	481	84	+147	712	430	36	394
1933-34.....	394	552	946	435	72	+123	630	316	28	288
1934-35.....	288	526	814 <sup>e</sup>	443	72	+145	660	154	(1) <sup>f</sup>	155
1935-36 <sup>g</sup> .....	152	603	755 <sup>e</sup>	460	82	+ 95	637	118	(27) <sup>f</sup>	145
1935-36 <sup>h</sup> .....	155	623	778 <sup>e</sup>	458	82	+116	656	122	(28) <sup>f</sup>	150
1936-37 <sup>i</sup> .....	150	630	780 <sup>e</sup>	460	85	+125	670	110	(25) <sup>f</sup>	135
B. CANADA (AUGUST-JULY)										
1930-31.....	111	421	532	42	39	+59	140	392	258	134
1931-32.....	134	321	455	42	37	+37	116	339	207	132
1932-33.....	132	443	575	44	36	+19	99	476	264	212
1933-34.....	212	282	494	43	33	+30	106	388	194	194
1934-35.....	194	276	470	43	32	+27	102	368	165	203
1935-36 <sup>g</sup> .....	203	277	480	45	34	+36	115	365	260	105
1935-36 <sup>h</sup> .....	203	277 <sup>j</sup>	480 <sup>j</sup>	45	34	+38 <sup>j</sup>	117 <sup>j</sup>	363	254	109
1936-37 <sup>i</sup> .....	109	233	342	43	34	+25	102	240	190	50
C. AUSTRALIA (AUGUST-JULY)										
1930-31.....	49	214	263	31	16	+ 4	51	212	152	60
1931-32.....	60	191	251	32	16	- 3	45	206	156	50
1932-33.....	50	214	264	33	16	+10	59	205	150	55
1933-34.....	55	177	232	33	13	+15	61	171	86	85
1934-35.....	85	133	218	33	13	+ 6	52	166	109	57
1935-36 <sup>g</sup> .....	57	140	197	33	14	+ 5	52	145	110	35
1935-36 <sup>h</sup> .....	57	142	199	33	14	+ 7	54	145	103	42
1936-37 <sup>i</sup> .....	42	150	192	33	15	+ 4	52	140	105	35
D. ARGENTINA (AUGUST-JULY)										
1930-31.....	65	232	297	63	21	+ 8	92	205	125	80
1931-32.....	80	220	300	65	24	+ 6	95	205	140	65
1932-33.....	65	241	306	65	24	+10	99	207	132	75
1933-34.....	75	286	361	66	23	+ 7	96	265	147	118
1934-35.....	118	241	359	67	17	+ 8	92	267	182	85
1935-36 <sup>g</sup> .....	80	144	224	67	23	+ 9	99	125	65	60
1935-36 <sup>h</sup> .....	85	140	225	67	22	+ 6	95	130	70	60
1936-37 <sup>i</sup> .....	60	215	275	67	23	+ 5	95	180	120	60

\* Based on official data so far as possible; see WHEAT STUDIES, December 1935, Table XXX. United States crop figures shown here are revised official figures.

<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 year-end stocks.

<sup>d</sup> Too low; does not include some wheat shipped to Canada and eventually exported from there.

<sup>e</sup> Not including estimated net imports.

<sup>f</sup> Net imports.

<sup>g</sup> Estimates as of May 1936.

<sup>h</sup> Estimates as of September 1936.

<sup>i</sup> Preliminary approximations (see pp. 19-21). Crop figures for Argentina and Australia based on assumption of average yields on 17.5 and 12.4 million sown acres respectively. For qualifications regarding United States figures, see p. 24.

<sup>j</sup> Probably too low by 5-13 million bushels. Official disposition estimates for the Prairie Provinces total 13 million bushels more than standing estimates of crops and carryovers. See Dominion Bureau of Statistics, *Monthly Review of the Wheat Situation*, August 1936, p. 35.

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