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WORLD WHEAT SURVEY AND OUTLOOK JANUARY 1938

Helen C. Farnsworth and Holbrook Working

World wheat price movements during September-January were large, yet differed widely among the leading markets. Strong price movements, mainly unrelated to statistics of the wheat situation, were initiated largely by Chicago and tended to be followed by other markets; but concurrent changes in ocean freights and in premiums on different hard wheats induced large changes in inter-market price relations.

Wheat supplies for 1937-38 in the world ex-Russia only slightly exceed those of 1936-37; but their distribution and the increased supplies of feed grains point to reduced trade, reduced disappearance, and an easier international wheat position this year. World shipments were at a record post-war low level in August-September, but after mid-October approximated the average for 1934-35 to 1936-37. In the second half of the current crop year, exports will presumably be proportionally heavier than usual. Our present forecast of world net exports in 1937-38 is 535 million bushels—15 million lower than in September. European net imports will probably approximate 415 million bushels, non-European net imports 105 million. Broomhall's shipments seem likely to total about 505 million bushels, with 410 million destined to Europe and about 95 million to ex-Europe.

Year-end stocks in 1938 are now forecast at 615 million bushels, roughly 85 million higher than last year. The increase in stocks will be concentrated in the United States, where the carryover may approximate 190 million bushels. The price of the Chicago May future may decline moderately before the end of March, with Winnipeg and Liverpool perhaps showing relative strength. Thereafter, much will depend on the crop outlook. New-crop futures at Chicago seem likely to advance relative to the May; prices of hard wheats and of futures in other United States markets may advance relative to the Chicago May.

STANFORD UNIVERSITY, CALIFORNIA

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For the second successive year, per capita wheat supplies in the world ex-Russia are relatively small, with total supplies only about 50 million bushels larger than last year. The general supply position has changed but little during the past four months. Initial stocks and prospective Russian exports are now estimated somewhat higher, the 1937 world crop ex-Russia a little lower, than in September.

Within importing Europe, domestic wheat supplies are of about the same magnitude as in 1936-37. But the quality of the wheat is generally better this year, supplies of other grains and potatoes are more abundant, and the distribution of wheat among the different countries is such as to reduce the total import demand. Moreover, in several European countries, new governmental measures have tended further to restrict wheat imports and utilization in 1937-38. Outside of Europe, the large wheat crop of the United States has shifted this country from the position of a net importer in the three preceding years to its former position as one of the world's chief exporters.

Through mid-January, world wheat shipments totaled only 214 million bushels—the lowest figure in postwar years and presumably a relatively low percentage of the crop-year total. Nevertheless, shipments to Europe approximated the average for the four preceding years, while shipments to ex-European countries other than the United States were a little larger than last year and about the same as in 1935-36.

World shipments were really strikingly light only during August-September, when European millers, provided with fair stocks, appeared reluctant to alter their milling mix-

tures to include inferior United States wheats at current discounts, yet were unable to draw sizable immediate exports from areas other than the United States and the Danube basin. It appears significant that since mid-October, weekly "world" shipments have approximated their average level in 1934-35 to 1936-37. Moreover, for the first time in post-

war years, commercial net exports of United States wheat were almost as large in November-December as they had been in the three preceding months of normally heavy shipments.

Wheat price movements from September to mid-January in the principal markets were so diverse that prices in Chicago,

Liverpool, and Buenos Aires give an appearance of having moved largely under independent influences. Actually, the usual close interdependence of these markets was maintained throughout the period, except as regards old-crop futures in Buenos Aires. Chicago, to a larger extent than usual, controlled the course of prices. Other markets moved in close correspondence with Chicago except as their reactions were modified by changing freight rates and other influences bearing specifically on price spreads. The influences affecting price spreads were unusually strong and were so timed as to result in a superficial appearance of price independence among the markets.

The principal price movements during September-January were independent of changes in the wheat situation itself, either as regards indicated supplies or importers requirements. Such changes as occurred in the statistical position of wheat evoked relatively small and transitory price responses. The net price change of Chicago futures during September

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was slightly upward, despite declines in prices of most other sensitive commodities. In early October, wheat prices came under the influence of the general price decline and the sudden onset of business depression in the United States. Chicago prices declined over 20 cents in five weeks. A short recovery was only moderately and temporarily stimulated by the frosts in Argentina which led to reduction of Argentine crop estimates by about 40 million bushels. Thereafter, Chicago prices again fluctuated rather widely about a horizontal trend to the end of December.

With importing countries requiring liberal exports from the United States, but the price spread between Chicago and Liverpool in early September too narrow to encourage the requisite volume of buying by millers, Liverpool steadily increased its premium over Chicago until the end of October. Advancing freight rates occasioned part of the increase. During November and December, Liverpool declined relative to Chicago, chiefly in connection with declining ocean freights. With increasing recognition of the scarcity of choice hard wheats, the Winnipeg future advanced relative to Chicago futures, but only weakly reflected the spectacular advance in relative prices for No. 1 Manitoba Northern. Buenos Aires prices of new-crop futures gained sharply on Chicago to mid-November, partly in consequence of resistance to the Chicago price decline and partly owing to a decline of about 6 cents a bushel in ocean freights from Argentina.

Our present forecast of world net exports of wheat and flour in 1937-38 is 535 million bushels—15 million less than seemed indicated in September. World shipments as reported by Broomhall may be expected to total about 505 million bushels, with 410 million destined to Europe and 95 million to ex-Europe. Prospective net imports of European net importing countries are now put at 415 million bushels, and the net imports of non-European countries at 105 million—each of these figures 5 million lower than our corresponding September forecast.

The United States is still expected to be the world's largest wheat exporter in 1937-38. During August-July net exports from this

country may approximate 115-120 million bushels, with the July-June figure probably about 105 million. Since the available statistical data suggest that domestic wheat utilization will be in the neighborhood of 670 million bushels in 1937-38, as compared with 696 million last year, the carryover of wheat in the United States on July 1, 1938, may now be forecast at 190 million bushels, about the same figure we suggested in September.

In no other major area of the world ex-Russia are year-end wheat stocks in 1938 likely to be relatively so large as in the United States. We anticipate that "world" year-end stocks will approximate 615 million bushels, as compared with our revised estimate of 531 million for 1937. Prospective utilization of wheat in the world ex-Russia may accordingly be calculated at 3,720 million bushels in 1937-38, a reduction of about 35 million from last year and almost 40 million from the five-year average for 1932-37.

Wheat prices in the principal world markets will probably continue strongly under the influence of the Chicago market during February-May, since the moderate surplus in world wheat supplies is chiefly in the United States. The Chicago May future appears more likely to decline moderately—perhaps to as low as 90 cents—than to advance during February-March. From about the end of March, the course of prices will hinge largely on the crop outlook in North America, which might lead either to extreme price advance or to severe decline. If favorable and unfavorable crop developments about balance, the large wheat acreage in prospect may hold such promise of an enlarged wheat surplus as to induce some price decline during April-May.

New-crop futures at Chicago promise to advance relative to the May, and foreign markets may rise somewhat relative to Chicago. In the United States, prices on the Pacific Coast would tend to respond to strength at Liverpool relative to Chicago, if it should develop; and increased exports of hard wheats may lead to some increase in premiums of such wheats over the Chicago future, with consequent moderate advances of Kansas City and Minneapolis futures relative to the Chicago May.

WHEAT SUPPLIES

Since mid-September, estimates of 1937 wheat crops in the world ex-Russia have been reduced net by roughly 40 million bushels. This reduction, however, is about offset by upward revision of our estimate of the "world" wheat carryover of 1937 and of our forecast of Russian net exports. Consequently, total wheat supplies available to the world ex-Russia in 1937-38 now appear to be about the same as was indicated in September. Supplies of importing countries now appear a little larger, those of exporting countries smaller than four months ago.

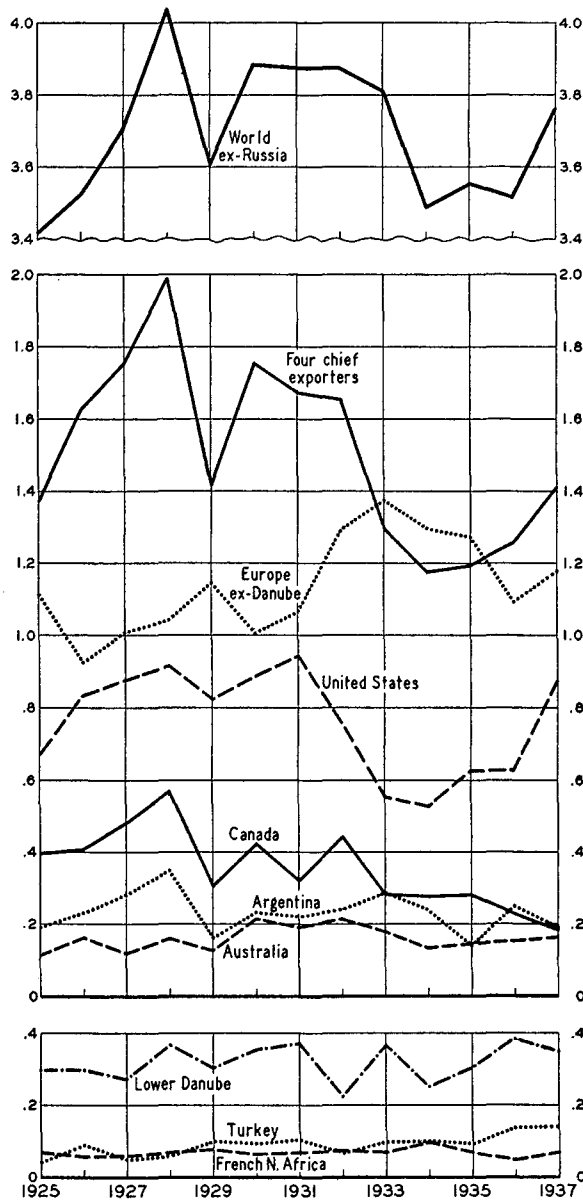
Currently estimated at 4,335 million bushels, wheat supplies in the world ex-Russia are only about 50 million bushels larger than last year and otherwise are the smallest since 1926-27 or 1927-28, when the wheat-eating population was considerably smaller. With such reduced supplies, the prospective level of wheat utilization in the world ex-Russia is of great importance. In this connection, the distribution and quality of available wheat supplies and the general feed-grain position assume unusual significance.

Distribution of 1937 crops.—The small world wheat supplies of 1937-38 reflect shortage not of the world crop of 1937 but of the carryover of old-crop wheat on August 1, 1937. As is apparent from Chart 1, the 1937 world crop ex-Russia was of moderate size and some 200 million bushels larger than any of the three crops which preceded it. Sown on by far the largest area ever planted, the 1937 crop would have been of near-record size if the yield per sown acre had been up to the 1926-35 average. But abandonment of sown acreage was average or somewhat above in 1937, and the yield per harvested acre appears to have been almost as low as in 1936 and slightly lower than in either of the two preceding years of poor outturn.

Prominent features of the distribution of the 1937 world crop are shown in Chart 1 and, by countries, in Table II. Among exporting countries, the United States, Australia, the lower Danube countries, and Turkey secured fairly good outturns, whereas in Canada and Argentina, wheat crops were strikingly short. European importing countries

as a group secured a harvest somewhat larger than in 1936 but considerably smaller than in 1932-35. As compared with those four

CHART 1.—PRINCIPAL WHEAT CROPS, 1925-37*
(Billion bushels)



* See Tables I and II, which contain revised figures for Canada.

years, France, Germany, and Spain in particular harvested reduced crops this year.

Throughout the world ex-Russia, weather factors generally combined to prevent high yields and bumper crops in 1937. According to standing estimates, relatively few countries

were favored with yields per acre substantially above a long-time average. In the Mediterranean region, Italy, Greece, Turkey, Tunis, and Egypt all obtained good yields, and in the Danube basin, Rumania and Bulgaria were somewhat similarly favored; but outside of these areas high yields were confined to a few countries in central and northern Europe (Germany, Switzerland, Norway, and Sweden) and to Japan and Chosen.

In contrast, the Russian crop was apparently favored by good weather in all regions. Although no official production estimate has yet been published, accumulated evidence clearly suggests that the 1937 wheat crop of the USSR was substantially larger than the good crops of 1933 and 1935, despite heavy losses this year from delayed harvesting.

Two of the most important producing countries, Canada and Argentina, suffered severe crop reverses in 1937. In the North American spring-wheat belt, drought and excessive heat resulted in a yield per sown acre in Canada of only 7.1 bushels—the lowest yield ever recorded for that country. Now estimated at only 182 million bushels, the Canadian crop of 1937 ranks as the smallest since 1914. In the United States, spring wheat was damaged less seriously in 1937 than in 1931, or than in any of the four years 1933–36; yet the yield per sown acre in 1937 barely reached 8.0 bushels and the crop totaled only 189 million bushels in contrast with an average production of 216 million in 1926–35 upon a smaller average seeded acreage.

In Argentina, insufficient rains during June–August 1937 gave wheat a bad start in the northern provinces, and subsequent general frosts (on October 30, November 10–11 and 16) in Buenos Aires and La Pampa wrought heavy damage.

Reflecting beneficial rains in September and early October, private estimates of the Argentine crop were raised from 200–215 million bushels in mid-September to 230–240 million in late October; but the higher figures were cut to 180–200 million following the November frosts. At 192 million bushels, the first official forecast, issued December 15, was well in line with current private estimates.

In June–August, drought threatened not

only the wheat crops of the North American spring-wheat belt and Argentina but also the Australian crop. In Australia, however, rains in August–September did much to improve the crop outlook, and weather conditions in October–November were also moderately favorable. At present the Australian crop is officially estimated to have approximated 162 million bushels, representing a yield per acre slightly above average on a sown acreage somewhat larger than in any of the three preceding years. The official estimate is 7 million bushels higher than our September approximation.

Size and distribution of total supplies.—

This year, for the first time in at least a decade, a world crop of moderate size is associated with relatively small total wheat supplies in the world ex-Russia. The three successive small crops of 1934–36 were so far below consumption requirements that “world” year-end wheat stocks were reduced from the burdensome level of about 1,200 million bushels in 1934 to roughly 530 million in 1937. Combined with a carryover of such small proportions, the crop of 1937 was not large enough to bring total supplies up to a normal level, even with the addition of about 40 million bushels exports from the USSR (p. 210). Below is shown the summation and general distribution of total wheat supplies (crops plus inward carryovers) in the world ex-Russia in 1937–38, with past-year comparisons in million bushels:

Aug.- July	World ex- Russia ^a	Europe ex- Danube	Principal exporters				
			Totals ^a	Canada, Argentina, Australia	United States	Dan- ube basin	French North Africa
1927–28..	4,354	1,214	2,427	1,040	986	318	81
1928–29..	4,734	1,255	2,804	1,299	1,028	392	85
1929–30..	4,573	1,387	2,426	893	1,054	378	92
1930–31..	4,911	1,232	2,885	1,108	1,180	397	86
1931–32..	4,940	1,252	2,855	1,010	1,270	427	83
1932–33..	4,894	1,491	2,667	1,149	1,148	271	82
1933–34..	4,977	1,657	2,532	1,093	934	394	77
1934–35..	4,696	1,677	2,264	1,056	800	303	103
1935–36..	4,541	1,624	2,136	923	774	322	88
1936–37..	4,286	1,385	2,095	854	765	409	62
1937–38..	4,335	1,376	2,130	664	965	386	74

^a Including also Russian net exports as reported in past years and as now forecast for 1937–38.

Somewhat larger than in 1936-37, total wheat supplies this year are otherwise the smallest in a decade. The general distribution as between the importing countries of Europe ex-Danube on the one hand, and the world's chief exporting areas on the other, is roughly very similar to that of 1936-37. But this year the United States has a surplus of wheat rather than a deficit; Canada and Argentina have considerably smaller supplies than last year; the Danube countries (specifically Yugoslavia and Hungary) have somewhat smaller quantities; and within Europe ex-Danube, Italy and Greece have substantially more domestic wheat, while France, Czechoslovakia, and Poland have materially less than in 1936-37.

These and other aspects of the distribution of wheat supplies in 1937-38 clearly point to a smaller volume of international trade in wheat than was witnessed last year. The actual amount of the reduction, however, will depend upon various factors besides the distribution of wheat supplies—such, for example, as national financial and economic conditions in certain countries and governmental policies and administrative decisions.

Wheat types and quality.—As striking as the smallness of "world" wheat supplies this year is the scarcity of good *hard* bread wheats.

¹ See our review of the crop year 1936-37, *WHEAT STUDIES*, December 1937, XIV, 112-13.

² Comparative data on durum crops (partly approximations made by the respective governments or by the Foreign Agricultural Service of the U.S. Department of Agriculture) are shown below, in million bushels:

Year	U.S.	Canada	Morocco	Algeria	Tunis	Spain	Italy
1934 ..	6.9	....	27.9	28.3	9.6	37.4	57.8
1935 ..	24.8	17.8	13.9	24.5	11.0	30.8	55.8
1936 ..	8.8	15.3	8.5	18.7	4.4	24.6	57.4
1937 ..	28.7	26.4	11.0	21.3	9.9	....	69.1
Average							
1931-35	22.8	....^a	20.0	22.9	9.8	31.6 ^b	57.6

^a Crop estimates not available for 1931-34, and the figure for 1935 is only an official approximation, but data on car-load inspections suggest that the 1931-35 average may have approximated 16-19 million bushels. ^b Average for 1930-34.

³ On January 14, the Canadian visible wheat supply was reported to include 13 million bushels of durum wheat—a quantity almost as large as the whole durum crop of 1936.

⁴ Many Continental millers, however, appear to have been pleased with the quality of Russian wheat this year. In mid-November Broomhall's *Corn Trade News* carried an item which criticized Russian wheat chiefly on the grounds of being too fresh or immature.

⁵ See article by C. F. Raikes in *Northwestern Miller*, Nov. 10, 1937, p. 32.

Last year hard wheats were also relatively scarce, with the shortage most pronounced for durum wheats.¹ This year the quantity of durum wheat available appears generally adequate, unless there is a greater deficiency in Spain than is suggested by private estimates of the total Spanish crop. The durum crops of Italy, Canada, and the United States were considerably larger this year not only than in 1936 but also than on the average in 1931-35.²

With Italy and the United States well supplied with durum wheat this year, a problem of disposal of the sizable Canadian surplus may arise. Unless France later finds Canadian durums attractive or British or other European millers turn to durums to add strength to their mixtures of bread flour, Canada may be forced to carry over into 1938-39 a substantial quantity of this wheat.³

In contrast with durum wheats, high-quality hard bread wheats are decidedly less abundant this year than in 1931-35, and perhaps scarcer than last year. The most highly esteemed strong bread wheats are the North American hard red spring varieties. From crops and carryovers these total roughly 290 million bushels in 1937-38 as compared with 405 million in 1936-37 and 645 million on the average in 1931-32 to 1935-36. In recent years, the situation most nearly comparable with that of the current season was in 1936-37. Although North American spring bread wheats were less deficient last year than they are this year, the somewhat less preferred Russian export wheats and the hard winter wheats of the United States, Argentina, and the Danube basin were then available in smaller aggregate quantity.

Danubian export wheats are apparently of generally satisfactory milling quality this year, although the Hungarian at least are reported to be lower in test weight than in 1936-37. On the other hand, British millers are said to have been dissatisfied with various Russian wheat samples;⁴ and the United States export wheats are reported to have been so irregular in quality that European buyers refused, for a time at least, to buy these on "certificate final" terms and insisted on purchase by sample.⁵

That United States export wheats should not have proved entirely satisfactory this year is not surprising in view of (1) the grading of the 1937 crop, (2) the usual drawing off of higher quality wheats for domestic milling, and (3) the necessity of re-establishing good wheat-trading connections between the United States and leading importing countries following several years of virtually no commercial exports of American wheat.

This year early inspections of United States hard red winter wheat indicated that a fairly large percentage (64 per cent) of the crop is grading No. 2 and above, but that a sizable quantity (21 per cent) is grading below No. 3. The percentages in grades below No. 3 is as high as in the two preceding years and far higher than in 1934. For soft red winter wheat, the proportion of inspections below No. 3 is considerably the highest for a number of years—51 per cent. Some British millers are said to believe that grain elevators in this country have freely mixed the lower with the higher grades of country-run wheat this year, producing mixtures which can pass as No. 2 but which are in fact much less satisfactory for milling purposes than the usual, more uniform No. 2 grades.¹

As regards other quality characteristics, both United States hard red winter and hard red spring wheats are this year somewhat lower in protein content than on the average in 1934–36 and about 1 per cent lower than last year. In test weight, the hard winter crop of 1937 stands high; but the hard spring crop ranks with the lighter crops of 1935 and 1936 as a result of recurrent drought and rust infestation.

Canadian hard red spring wheat (exclusive of Garnet, which is present in unusually large proportions) is of somewhat higher test weight this year than last; and this year's crop is above average in protein content, though not up to last year's exceptional standard. In Australia and also the United States Pacific

region, 1937 crops of white wheat are reported to be of excellent quality and in good demand for export.

Within Europe ex-Danube, there are naturally marked differences in wheat quality from country to country; but, on the whole, the 1937 crop appears to be about average and better than the crop of 1936. In Great Britain, where in 1936 there was much wheat not up to customary milling standards, the general quality is definitely better this year. Although the German crop is relatively high in moisture content, it is reported to be of fairly high test weight and also of notably high protein content.² In France, the fixed price for the 1937 crop is significantly based upon wheat weighing 76 kilograms per hectoliter (practically the long-time average hectoliter weight) as contrasted with 72 kilograms in 1936. Among the larger wheat-consuming countries of Europe ex-Danube, Italy alone appears to have harvested a wheat crop of definitely inferior quality in 1937.

Visible supplies and marketings.—Reflecting the relatively small wheat supplies in the "world" ex-Russia, "world" visible supplies have this year stood far below the levels characteristic of the seven years ending with 1935–36 and have recently approximated the average level in the pre-surplus period from 1925–26 to 1927–28 (Chart 2). Although total wheat supplies are supposedly somewhat larger this year than last, world visibles were moderately smaller this year until the beginning of December, when early and rapid marketing of the Australian crop hastened the usual seasonal rise in Australian visibles. This rise more than offset concurrent decline of visible wheat supplies in the United States and Canada.

After the extraordinarily large increase in commercial stocks of United States wheat in August–September,³ there followed sharp reduction of these stocks in October–December as marketings fell off and the export movement gained momentum.

In contrast with the course of United States visibles, commercial wheat stocks in Canada did not show their usual large seasonal increase this year, but after a slight, brief upturn they reached a low early peak in October,

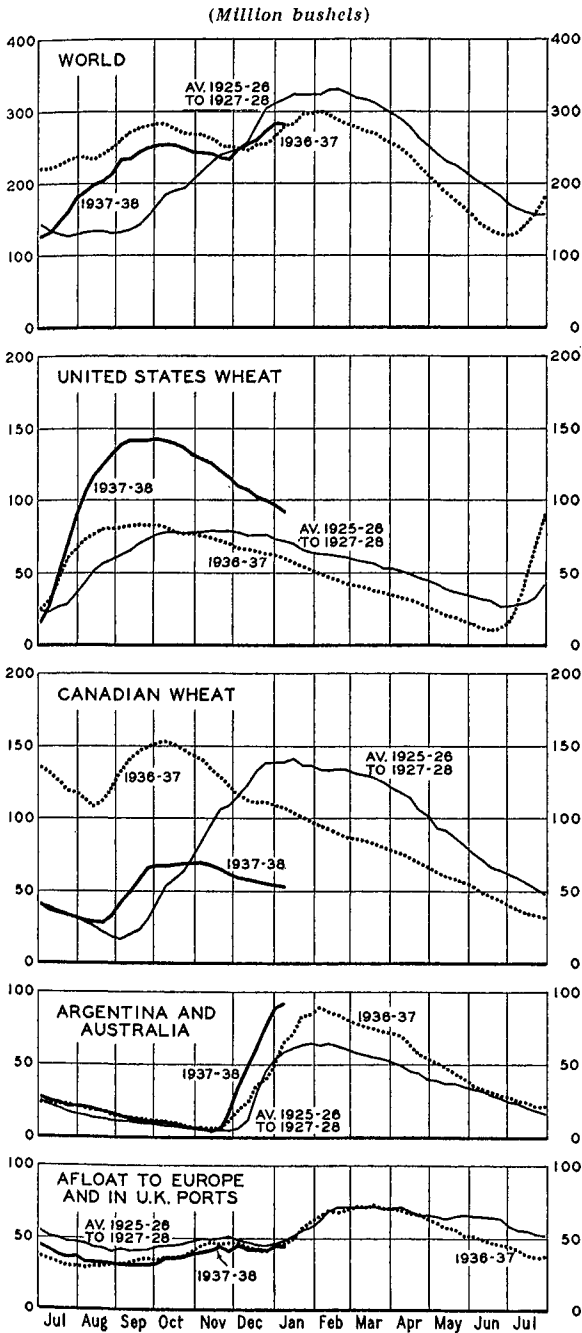
¹ See *Northwestern Miller*, Dec. 1, 1937, p. 49.

² See *Zeitschrift für das gesamte Getreide- Mühlen- und Backereiwesen*, October and November issues, 1932–37, and December 1931.

³ This was discussed in our September survey, *WHEAT STUDIES*, September 1937, XIV, 9.

then tended downward. The level and course of these stocks can be explained by the short

CHART 2.—VISIBLE WHEAT SUPPLIES, WEEKLY FROM JULY 1937, WITH COMPARISONS*



crop in Canada, the relatively good export demand that has prevailed for the small domes-

tic surplus, and the course of Canadian wheat marketings. In Western Canada, "rapid" marketing of wheat began in mid-August, several days later than in 1936 but otherwise the earliest in post-war years. The 25 and 50 per cent points of the estimated season's marketings were also reached fairly early—around September 8 and 29 respectively. About 85 per cent of the marketings will have been completed by the end of January, as has been the case in earlier years when prices were considered reasonable but not especially attractive.¹

Not only in Canada, but also in the United States, the United Kingdom, and Germany—the only countries for which rough statistical evidence is available—wheat growers appear to have marketed their grain quite freely in August–December. Moreover, according to the reports of unbiased observers, this was true also in most other countries of Europe ex-Danube.

In the United States, receipts of wheat through December at 13 primary markets represented a larger percentage of the crop than in any of the preceding five years. Suggesting the same conclusion, farm stocks of wheat in this country on January 1 represented a smaller proportion of the crop than in any recent year except 1937. Similarly, British farmers' deliveries of wheat during August–December constituted a larger proportion of the crop than in all but one of the five previous years; and in Germany, stocks of wheat in farmers' hands on December 1 were unusually small in relation to the size of the crop.²

Earlier in the season, there had been complaints in France of slow deliveries to millers. This led the Wheat Office to raise in mid-September the proportion of the crop year's deliveries that the co-operatives were permitted and urged to make during September–October.³ Whereas the regular delivery schedule called for monthly deliveries equal to one-

¹ For comparative data in past years, see Holbrook Working, "The Timing of Wheat Marketing in Western Canada," *WHEAT STUDIES*, October 1936, XIII, 44, 59.

² The small German farm stocks reflected compliance with the governmental schedule for early marketings in 1937–38.

³ See *Bulletin des Halles*, Sept. 17, 1937.

twelfth of the total supplies stored on September 1, 1937, the revised schedule permitted deliveries during September–October to equal five, rather than four, twenty-fourths of the total. At the same time, permission was given the co-operatives to liquidate immediately all wheat carried over from the 1936 crop. Moreover, about a week earlier, a special decree had authorized the sale and eventual replacement of the wheat of the 1935 crop which had formed part of the security stocks. For this wheat a monthly sales schedule provided that sales in September–October should total 2.78 million bushels, with the remainder of the stocks (roughly 2.71 million bushels) subject to regulated monthly sale before the end of January.¹ These various provisions so eased the immediate wheat position in France that it was possible in November to return to the former schedule of co-operative marketings.

Credible reports of farm-holding of wheat have come this year mainly from the Danube countries. In that region, wheat prices were artificially maintained during the depression years, while world prices were low; and the current level of international prices does not appear especially attractive to farmers in that territory. Moreover, economic recovery has made great headway in eastern Europe, including the Danube countries; and farmers in these countries are now more prosperous and better able than formerly to hold their wheat for higher prices.

In Argentina, wheat prices are being held at levels that have thus far kept export sales to Europe abnormally low, even in relation to the small exportable surplus. There is some evidence that this reflects shippers' hopes for reduction of ocean freights (p. 216) rather than farm holding of wheat.

ASPECTS OF UTILIZATION

Since wheat supplies in the world ex-Russia are relatively small this year, and only a little larger than in 1936–37, appraisal of the prospective level of wheat utilization again assumes special importance. Quantitative evidence bearing on wheat disappearance in the first four or five months of the crop year is

scanty and is limited geographically to the United States and Germany. But consideration of the general feed-grain position, of governmental measures likely to affect wheat utilization, and of the distribution of wheat supplies suggests that world wheat disappearance in 1937–38 may be somewhat lower than in 1936–37.

Rye, potatoes, and feed grains.—Except in the Scandinavian and Baltic States, European rye crops of 1937 were generally deficient as compared not only with the preceding year but also with most other recent years. Yet the deficiency is scarcely great enough to affect the relative consumption of wheat and rye for food. Rather, in most countries there will be reduced feeding of rye to livestock, and in several (notably Germany) less rye added to military and other stocks than otherwise might have been the case.

The European potato crop was this year notably large, the largest, indeed, in postwar years. Although in Germany, governmental propaganda has encouraged heavier consumption of potatoes as a bread-substitute, and also for mixing with wheat flour in the making of bread, this may not reduce the demand for wheat by much more than enough to compensate for the increase in population. However, in Germany and many other European countries, price relationships between wheat and potatoes are now more favorable to the substitution of potatoes and potato flour for wheat bread and flour than in most other recent years.

Corn supplies are much more abundant this year than last in the United States and Italy, but are moderately smaller in the Danube basin, where Rumania's crop turned out poorly. In the United States, small feed grain crops in 1936 were associated with moderately heavy feeding of wheat, despite the generally high level of wheat prices. Since October 1937, farm prices of corn (and also other feed grains) have been much lower relative to wheat prices than in 1936–37; and it seems reasonable to believe that feed use of wheat in the United States will be considerably curtailed this year even in the face of increased quantities of low-grade soft winter wheat (see p. 188).

¹ *Bulletin de l'office de renseignements agricoles*, Sept. 15, 1937.

Italy's 1937 corn crop turned out to be of record size, and corn prices have this year been fixed substantially lower relative to wheat prices. One might therefore anticipate some contraction of per capita wheat consumption in Italy in 1937-38 if the consumption had not already been at a low level in 1936-37 owing to shortage of supplies. With wheat supplies so much larger this year (and perhaps overestimated) apparent disappearance of wheat may even be higher than last year, despite governmental measures designed to encourage substitution of corn for wheat (see below).

In Rumania, corn supplies are considerably smaller this year than in 1936-37, and corn prices have advanced relative to wheat prices. Thus, of the principal corn-producing countries, Rumania stands out as an important exception: there, the corn-supply and corn-price positions are such as to encourage moderately heavier wheat consumption than in 1936-37.

Oats and barley made fair-sized crops this year in both Europe ex-Russia and the United States. Generally, current supplies and prices of these cereals are such as to discourage use of millable bread grains for feed.

Government measures.—In most European importing countries, governmental measures restrictive of imports and/or of utilization of wheat are neither more nor less stringent in 1937-38 than they were in 1936-37. Minor modifications of former regulations have perhaps resulted in some slight lowering of barriers to wheat imports in France,¹ Belgium,² Denmark,³ and the Netherlands;⁴ but more important have been the modifications designed to curtail wheat utilization in Germany, Italy, Portugal, and Austria.

In Germany, many of the restrictive measures now in force date from the latter part of 1936-37: such, for example, are the regulations forbidding the purchase and use of wheat and rye for livestock or for distillation purposes, the requirement that 7 per cent corn flour must be added to all wheat flour, and specification of the types of flour that may be milled. Yet even these regulations have been strengthened for 1937-38 by provision that corn flour must be added at the mills rather

than at the bakeries, and to rye flour (in the amount of 10 per cent) as well as to wheat flour, and by further reduction of the number of types of flour that may be milled.⁵ Moreover, since July, it has been forbidden to sell either wheat or rye bread until the day after it is baked. The quantity of wheat to be imported remains a matter for government decision, with the importation and sale of foreign wheat controlled at every step by a government bureau.

Cereal admixture regulations, very similar to those of Germany, have recently been imposed by Portugal, Italy, and Austria. The Portuguese government decreed that from September 15, 1937 maize or rye flour should be incorporated in wheat flour employed for bread making, the required mixture ranging between 11.1 and 12.5 per cent in different districts. In Italy, effective November 1, 1937, 5 per cent corn flour was required to be added at the mills to all wheat flour produced for bread-making, and from December 1, the compulsory admixture of corn was set at 10 per cent.⁶ Finally, late in November, the Austrian

¹ A slight liberalization of imports was effected through modification of the regulations of November 1936 providing for compensatory imports of foreign wheat against exports of domestic wheat and wheat products. Up to Nov. 29, 1937, prior exports of 127 kilograms of French wheat were required to balance imports of 100 kilograms of foreign wheat. Thereafter, prior exports of only 100 kilograms were demanded. An opposing influence was the increase in tariffs on all grains and flour, effective Sept. 11, 1937.

² From July 14, 1937, an import license tax of 14 francs per 100 kilograms of wheat was abolished.

³ Since Jan. 30, 1937, imports of all wheat and wheat flour have been permitted to enter Denmark duty-free. On May 7, 1937, the necessity of securing prior permits for the importation of grain and feeding stuffs was abolished; but it should be noted that under the former import-licensing system and under the former as well as the present Exchange Control, licenses for imports of wheat and flour have been freely obtainable.

⁴ Effective April 5, 1937, the monopoly tax on imported wheat was reduced from fl. 2 to fl. 1 per 100 kilos.

⁵ Late in November 1937, it was ruled that from December 1, only two types of milling products may be manufactured: a wheat flour, type No. 812 (superior to former type 1050 but inferior to the better, more popular flour, No. 502) and Weizenbackschrot, type No. 1700 (a kind of whole-wheat meal).

⁶ Apparently in some districts where corn is not readily available, other cereal or potato flour may be substituted for the maize flour, subject to the approval of the prefect.

government ruled that potato flour should be used by bakeries to the extent of 4 per cent of all flour employed for ordinary bread and somewhat less for pastries and rolls.

Statistical evidence.—Only for the United States and Germany are stocks data adequate for a calculation of wheat disappearance in the early months of the crop year.

In the *United States*, more or less comprehensive stocks estimates are regularly published as of July 1, October 1, January 1, and April 1. The estimates for October 1, together with other statistics of disposition, indicated that wheat utilization for feed and seed in July–September 1937 had been 54 million bushels less than in the same period of 1936 and 17 million below the fairly low figure for 1934. Even with allowance for relatively light seeding of wheat in July–September 1937 (owing to drought in important areas), the October stocks statistics could not be interpreted as supporting the often expressed view¹ that feeding of wheat had been unusually heavy in the early months of 1937–38. The stocks estimate for January 1, 1938 has recently become available and permits the following calculation of disposition in July–December, in million bushels.

	1934	1935	1936	1937
July 1, carryover.....	274	148	138	91
Crop	526	626	627	874
Net trade, July–Dec.....	–1	+19	+21	–42
Total net supplies....	799	793	786	923
Domestic millings	232	235	248	246
Winter-wheat seed	57	60	69	69
Residual ^a	510	498	469	608
Reported stocks, Jan. 1	435	426	370	535
Feed and errors	75	72	99	73

^a Supplies remaining January 1, plus feed use in July–December, plus errors in estimation.

Uncalculated disappearance of wheat totaled 73 million bushels in July–December 1937, about the same as in 1934 and 1935 but 26 million less than last year. Since the use of wheat for feed will probably be strikingly

small during January–June 1938, the available statistical evidence seems to be in line with our September forecast of only 670 million bushels for domestic wheat disappearance in 1937–38.²

For Germany, data are published monthly on farm stocks and stocks in second hands. The most recent of these reports applies to the stocks position at the end of November 1937. From this we may calculate disappearance in August–November as follows, with comparisons in million bushels:

	1935–36	1936–37	1937–38
Crop	171.5	162.1	160.7
Carryover	50.1	25.6	18.0
Aug.–Nov. net imports .	.5	.4	13.8
Total supplies	222.1	188.1	192.5
Nov. 30 stocks	153.3	116.0	121.8
Disappearance	68.8	72.1	71.7

Insofar as one can judge from these figures, disappearance of wheat in Germany has so far been a trifle smaller than in the same months of 1936–37, but larger than in 1935–36, when strict government measures to curtail wheat consumption were not in force. Data on the quantity of wheat ground for human consumption in the larger German flour mills suggest a larger reduction from 1936–37 and a slight decrease as compared with 1935–36: in August–November reported wheat grindings approximated 50.5 million bushels in 1937, as compared with 54.9 million in 1936 and 50.7 million in 1935.

Conclusions.—Although trustworthy statistical evidence on wheat disappearance thus far in the crop year is scant, the prospects for utilization during the whole year are reasonably clear.

Of the principal wheat-consuming countries of the world ex-Russia, the United States alone seems likely to reduce her domestic utilization of wheat markedly in 1937–38 as compared with 1936–37. Significant but considerably smaller reductions now seem indicated for Germany, Spain, and perhaps Poland. Elsewhere slight reductions seem likely about to offset slight increases, except in Rumania and Italy. In Rumania, we anticipate substantial expansion of wheat utilization following a second big wheat crop, reduced corn produc-

¹ Broomhall's *Corn Trade News*, Dec. 15, 1937; Nat Murray, *Monthly Grain and Cotton Report* of Clement, Curtis & Co., Dec 9, 1937.

² "World Wheat Survey and Outlook," *WHEAT STUDIES*, September 1937, XIV, 27.

tion, and improved economic conditions. In Italy, apparent domestic utilization may be moderately heavier because of the large size and/or possible overestimation of the 1937 crop, and because of the low quality of a considerable portion of it. Shipments to areas outside the "world ex-Russia," as that term is here used, will perhaps be slightly larger than in 1936-37.

INTERNATIONAL TRADE

Various factors combined to restrict the volume of international trade in wheat from August to mid-January. World shipments were particularly light in August-September, when available exportable supplies were notably small outside of the United States and the Danube basin. Since mid-October, however, the level of trade has roughly approximated the average for 1934-35 to 1936-37. As compared with this average, shipments to ex-Europe have been relatively smaller than shipments to Europe, mainly because the United States has this year resumed her normal role as a net exporter.

Volume and course.—At 214 million bushels, Broomhall's reported world shipments of wheat from August to early January (23 weeks) were smaller this year than in any preceding postwar year. With exportable supplies of wheat in the Southern Hemisphere, particularly in Argentina, reduced to near minimum levels as of August 1, 1937, with American winter wheats openly distrusted by importers in most European markets, and with high-quality Canadian wheats commanding extraordinarily high premiums, importers and millers everywhere bought foreign wheat sparingly during the early months of 1937-38. Free marketing of domestic wheats in most European countries (p. 189) doubtless contributed to postponement of foreign purchases; and the fact that Russia and the Danube countries did not press sales heavily also tended to restrict the volume of trade in these months.

Although notably small, shipments to Europe had been smaller in 1935-36 and about equally light in 1933-34 and 1934-35. In contrast, shipments to ex-Europe were smaller this year than in the corresponding period

of any year since 1924-25. Comparative data are shown below for seven years, in million bushels:

Aug.- mid-Jan. (23 weeks)	"World"	To Europe		To ex-Europe		
		Reported	Adjusted ^a	Total	U.S.	Others
1931-32 ..	344	260	266	84	..	84
1932-33 ..	257	194	191	62	..	62
1933-34 ..	228	178	188	50	..	50
1934-35 ^b ..	228	174	183	55 ^c	0 ^d	55
1935-36 ..	222	160	156	62	20	42
1936-37 ..	249	194	177	54 ^d	21	36
1937-38 ..	214	174	169	40	..	40

^a Adjusted by subtracting from the reported figures any increase in stocks afloat or by adding any decrease.

^b Shipments for 24 weeks minus those in the first week.

^c Too low by about 6 million bushels. In 1934-35 Broomhall first reported Canadian shipments to the United States in mid-February when he added into his cumulative total 8.0 million bushels shipped in preceding weeks.

^d Not equal to the sum of the two following columns which are from a different table in Broomhall's *Corn Trade News*. In the "total" here given, Broomhall has tried to balance shipments of wheat from the United States against shipments of Canadian wheat to the United States.

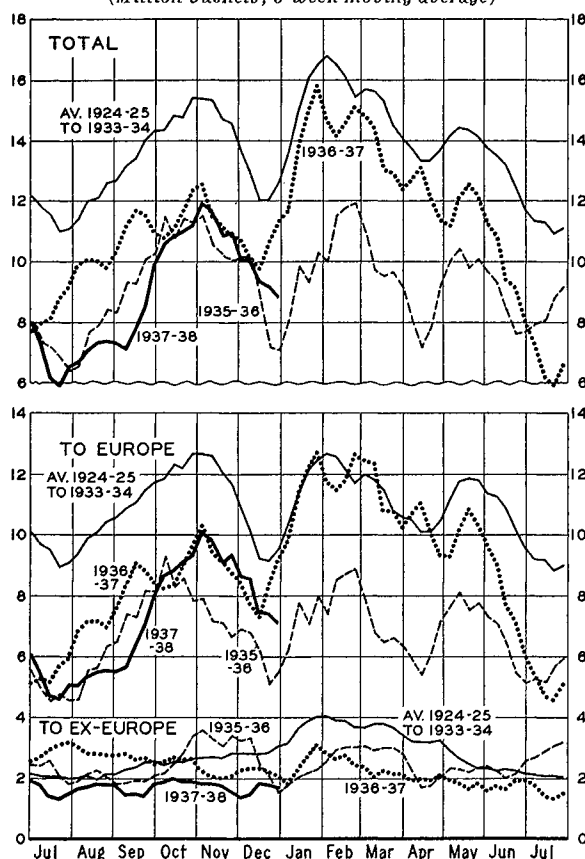
Significant features of the preceding tabulation are (1) "adjusted" shipments to Europe, though somewhat smaller than last year, have been significantly larger than in 1935-36, and (2) shipments to ex-European countries other than the United States have so far been slightly above their low level in 1936-37.

The course of world shipments (3-week moving average) is shown in Chart 3, p. 194. Particularly striking is the slowness with which the international movement of wheat got under way in the first two months of the crop year. Sizable wheat supplies were then available and in position for export only in the United States and the Danube countries. The export movement from the big Russian crop (following a very poor outturn in 1936) could not start in volume until late September; the Canadian crop was still being harvested; and old-crop supplies were moderately low in Australia and near exhaustion in Argentina, where new crops were not due for several months.

That United States and Danubian exports were not larger during August-September may be ascribed partly to uncertainty of importers as to the quality characteristics of these wheats, and partly to the fact that the Danube countries showed less willingness than in some past years to export wheat on a barter basis

or on terms other than payment in strong currencies. But the primary influence was probably the tendency for importers and millers to buy cautiously in view of their sizable stocks and the downward tendency in prices.

CHART 3.—WHEAT SHIPMENTS, WEEKLY FROM JULY 1937, WITH COMPARISONS*
(Million bushels; 3-week moving average)



* Broomhall's data; see Table VI.

As stocks of foreign wheat were worked down to normal and then low levels after early September, as offers of Canadian and Russian wheats for near shipment increased, and as American winter varieties became available for export at larger price discounts, import buying picked up rapidly. This was reflected in the unusually sharp increase in shipments to Europe between mid-September and early November (Chart 3). The subsequent seasonal decline in these shipments through December was somewhat less than on the average in the preceding decade. Throughout August–December and even up

to mid-January, shipments of wheat to ex-European countries monotonously fluctuated around 1.5–2.0 million bushels per week.

Imports.—Through mid-January, total European arrivals of wheat¹ were but slightly smaller in 1937–38 than in 1936–37, reflecting moderately smaller arrivals at British rather than at Continental ports. Continental countries have taken almost as much wheat this year as have the British Isles. As compared with 1936–37 (Table VII), German, French, Dutch, and Spanish net imports have been larger, whereas Greek and Italian imports have been smaller. For Germany and Spain, the increased imports of August–December probably foreshadow mainly a different seasonal distribution of wheat imports than in 1936–37 (p. 209). In the case of France (whose domestic wheat supplies are apparently smaller for 1937–38), increased takings reflected moderately larger exports from Algeria and Tunis, where exportable supplies are not so abnormally light as in 1936–37.

Among non-European countries, the United States, which was an important net importer of wheat in 1935–36 and 1936–37, has this year returned to the ranks of net exporters; and the other two chief variable importers of recent years, China and Manchukuo, have so far bought foreign wheat sparingly. Brazil, with large stocks of Argentine wheat on hand on August 1, 1937, probably imported less wheat in August–November 1937² than in the same period of any preceding year since 1932, when she was similarly well stocked with supplies of American wheat purchased through the Farm Board. Japan ranked as a net exporter of wheat in August–December this year, a situation not without precedent.

Although Manchukuo, Brazil, and Japan imported less wheat in August–December 1937 than in the same period of 1936, Broomhall's cumulated shipments to ex-European countries other than the United States have recently run slightly larger this year than last. Presumably in a number of minor non-Euro-

¹ Broomhall's data.

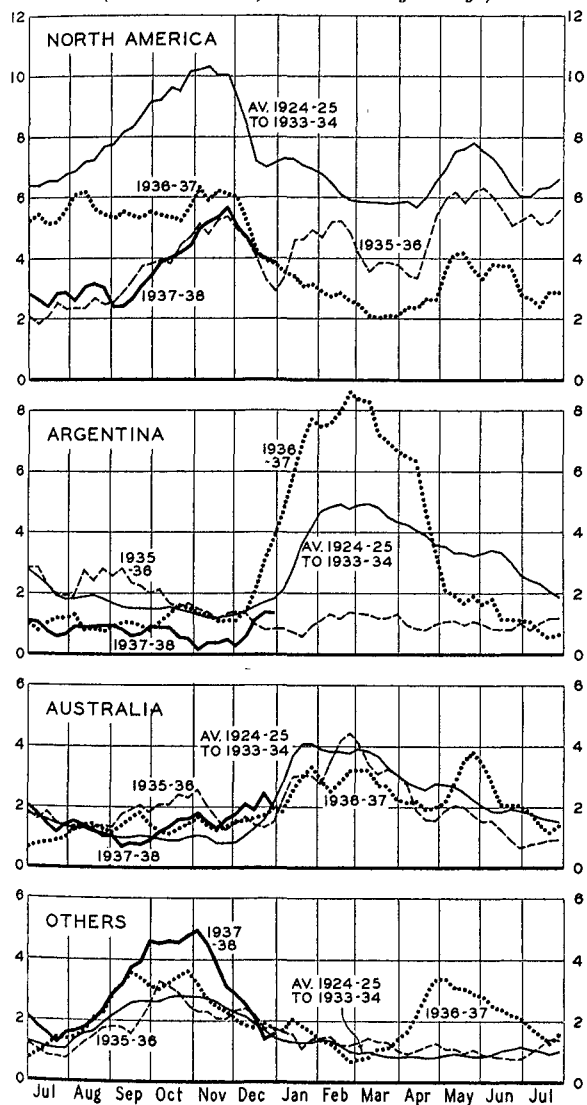
² In December, shipments to Brazil sharply increased, reflecting purchases in anticipation of the scheduled increase in import duty on wheat flour on Jan. 1, 1938. Yet total imports in August–December were apparently smaller in 1937 than in 1936.

pean importing countries, higher levels of economic welfare in 1937-38 have been associated with increased consumption of wheat.

Sources of exports.—Official trade data (Table VIII) and Broomhall's reports on weekly shipments (Chart 4) reveal several outstanding features of the export movement of wheat through mid-January 1937-38.

CHART 4.—SHIPMENTS BY SOURCES, WEEKLY FROM JULY 1937, WITH COMPARISONS*

(Million bushels; 3-week moving average)



* See Table VI.

Canada, despite her small wheat crop, continued to hold first place in the world export trade. United States exports, however, were only a little smaller, and Australia, Russia,

and the group of Danube countries competed actively for third rank. Argentina trailed far behind this year, with exports only about half the size of those from either Australia or Russia. Except for Argentina, which overshipped in the spring of 1937, the various larger wheat exporters shared in the world export trade more equally in August-mid-January 1937-38 than in any other recent year.¹ Even India, a variable minor exporter, contributed over 3 per cent of the world's wheat shipments in this period. On the other hand, North African exports were relatively small and probably smaller than was generally anticipated.

The seasonal course of United States exports was practically unprecedented. Normally, the period of heaviest movement of export wheat from the United States is August-October, when one-third to one-half of the crop-year total exports are made. During postwar years, commercial exports have always averaged higher per month in August-October than in November-December, or, indeed, than in any subsequent two- or three-month period.² This year, in contrast, net exports of United States wheat in August-October totaled only 20 million bushels out of an expected crop-year figure of over 100 million. Moreover, in November-December,

¹ From about August 1 through early January, Broomhall's cumulative shipments compare as follows, in million bushels:

23 weeks	Total	North America	Argentina	Australia	Russia	Danube	India	Others
1931-32...	344	153	33	41	66	42	.. ^a	9
1932-33...	257	160	22	42	16	5	.. ^a	13
1933-34...	228	104	40	36	21	17	.. ^a	9
1934-35 ^b ...	228	78 ^c	78	46	2	9	.. ^a	16
1935-36...	222	92 ^c	41	40	26	13	.. ^a	9
1936-37...	249	125 ^c	34	34	.. ^a	47	7	5
1937-38 ^d ...	214	89 ^c	18	34	31	32	7	3

^a Less than half a million bushels.

^b Shipments for 24 weeks minus shipments for the first week.

^c In 1934-35 to 1936-37 North American shipments were composed almost exclusively of Canadian wheat. In contrast, in 1937-38 Canadian net exports in August-December approximated only 50 million bushels, whereas United States net exports approximated 40 million.

^d Data for last week from Broomhall's Cables.

² In 1933-34, net exports in November-December and also some other later months were larger than the net exports of August-October; but these exports were mainly subsidized by the government and did not represent exports on a purely commercial basis.

United States exports were almost as large in the aggregate as in the three preceding months.

The slowness which this year characterized the American export movement in August–October, and more particularly August–September, reflected reluctance of foreign importers to take United States wheat at prevailing prices. In European markets, United States wheats were priced high relative to comparable wheats (owing to high ocean freights) until prices in United States markets fell to unusual discounts under Liverpool. Americans were reluctant to accept such discounts and did so only after considerable delay. Probably a contributing factor was that European millers, unaccustomed to the use of American wheats in recent years, were not anxious to change their usual milling mixtures without definite price incentive. Also important was the poor quality of many of the early samples of United States winter wheats received in Europe. Most of the heavier sales of American wheat effected in October–December are said to have represented purchases on sample and not on “certificate final” terms (p. 187).

Although the seasonal course of Canadian exports was fairly normal in August–December, the proportion of the crop year’s exports made in that period was probably larger than in any other recent year except 1936–37. Export movements from Australia and Argentina were notable largely for the early movement of sizable quantities of new-crop wheat from Australia near the end of the calendar year, and for the continued small volume of Argentine shipments even after exports from the new crop began (Chart 4).

Shipments from “other countries” have been unusually heavy in 1937–38, mainly because Russian, Danubian, and Indian exports have been larger than in most other postwar years. As compared with early-season forecasts, Russian exports turned out relatively large, Danubian exports relatively small. In Bulgaria and Hungary, domestic wheat supplies are now believed to be smaller than seemed indicated in September, and in several of the Danubian countries both governmental wheat policies and improvement in economic conditions have operated against proportionally heavy exports in August–December.

During this period, Rumania was by far the largest Danubian exporter (Table VIII). Exports from that country have been encouraged not only by the large domestic supplies available, but also by governmental provisions for an export subsidy amounting to about 6 cents per bushel during August and 14 cents per bushel since early September. Yet even Rumanian exports might have been larger if actual payment of the export premiums had been more certain. At the end of October, unpaid claims for these premiums are reported to have totaled 150,000,000 lei (\$1,126,950 at current exchange rates); and fears were being entertained in export circles that the claims might never be settled in full.¹ Moreover, since early October, the Rumanian Wheat Marketing Board has made the full wheat-export premium applicable only to exports to countries with strong currencies and to such other exports as are associated with simultaneous exportation of fruit and/or wine.²

Although Yugoslavia ranked second among Danubian exporters in August–December, the exports from that country have recently been almost wholly non-commercial, representing deliveries by the Privileged Export Company to countries such as Germany and Austria which have preferential trade agreements with Yugoslavia. Private exporters are legally permitted to purchase wheat from farmers in competition with the Export Company, and to export wheat on permit to countries with free currencies, but domestic and foreign wheat price relationships have this year been such as to preclude private traders from taking advantage of these provisions.

Hungary and Bulgaria each exported less than 5 million bushels of wheat in August–December; such exports were relatively small for Hungary, relatively large for Bulgaria. In September, many private observers were of the opinion that the Hungarian wheat crop was officially underestimated, but at present

¹ *Foreign Agriculture*, December 1937, pp. 632–33.

² Such exports must equal at least 20 per cent of the quantity of wheat exported. Without these, the premium on wheat exports to countries with weak currencies is reduced by 29 to 57 per cent through forfeiture of the prior security payments demanded of wheat exporters.

the same moderately low official estimate is generally accepted. Because of the reduced Hungarian supplies, improved economic conditions, and governmental preferential trade agreements with several countries, domestic wheat prices were maintained above export parity during most of August–December, thus seriously restricting exports.

In Bulgaria, the farm buying price of wheat of the Government Grain Monopoly has approximated only 80 cents per bushel at current exchange rates. Hence, the Monopoly has been in a favorable position to offer wheat to exporters at prices which would be competitive on world markets. The principal restriction imposed upon exporters has been the requirement that all foreign sales be made to countries with strong currencies, with the additional obligation that the resulting foreign exchange be delivered to the National Bank of Bulgaria.

PRICES AND SPREADS

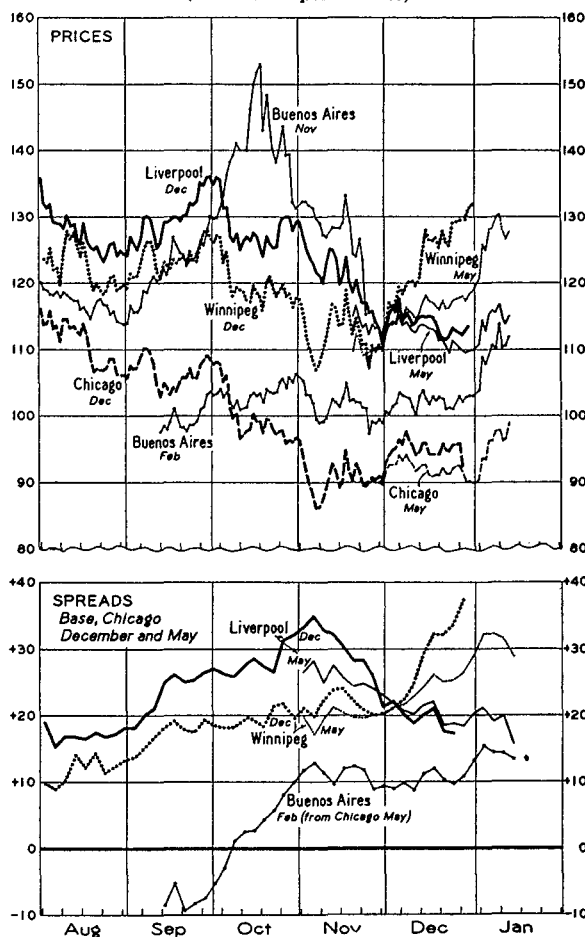
Price movements.—Wheat price movements during September–December in the principal world markets were so diverse as to defy ready summarization. The movements in Liverpool might be described as falling into two periods, comprising first an advance of about 10 cents during September and the first few days of October, and then a decline of nearly 20 cents to the end of December (Chart 5). At Buenos Aires, the November future advanced sharply to October 18 and then declined even more steeply.¹ The Febru-

¹ We noted in the September issue of *WHEAT STUDIES* (p. 13) that the September future at Buenos Aires appeared to have been "receiving artificial support of some kind." Information later made public indicates that the effect derived from concentrated holding of most of the Argentine surplus of cash wheat. On October 29 an official decree was published prohibiting further exportation of wheat from Argentina. Commenting on this action, the *Times of Argentina* (Nov. 1, 1937, p. 27) said: "The Government adopted the measure in order to depress local values—the spot market has been in the hands of a group of speculators, as advised in these columns some time ago—which had reached really absurd levels and had brought about a resolution on the part of the bakers to raise the price of the staff of life. . . . There is an excess of wheat in Argentina and to prohibit exportation under such conditions, on the eve of early new wheat arrivals, seems to us to have been an extreme measure. However, it may be that the Government took the step in order to frighten the holders,

any future advanced slightly to early October and then fluctuated around a roughly horizontal course to the end of December. At Chicago, prices fluctuated rather widely with little net change during September, dropped

CHART 5.—WHEAT FUTURES PRICES AND SPREADS, FROM AUGUST 1937*

(U.S. cents per bushel)



* Closing prices, except for Liverpool, chiefly from *Daily Trade Bulletin*, Chicago; *Grain Trade News*, Winnipeg; and *Revista Oficial*, Buenos Aires; converted at noon cable transfer rates of exchange in New York. For Liverpool, opening prices of the following day, from Broomhall's daily cables. Spreads, Tuesday and Friday.

over 20 cents from October 4 to November 6, recovered 6 cents during November 8–12, and then fluctuated around a horizontal course to

and if the result is as expected, it is probable that permits for cargoes already sold will be accorded." On November 5, permission was granted for exports for which boat space had been contracted, or which had cleared the customs, prior to October 29; and the general embargo on exports was lifted November 18.

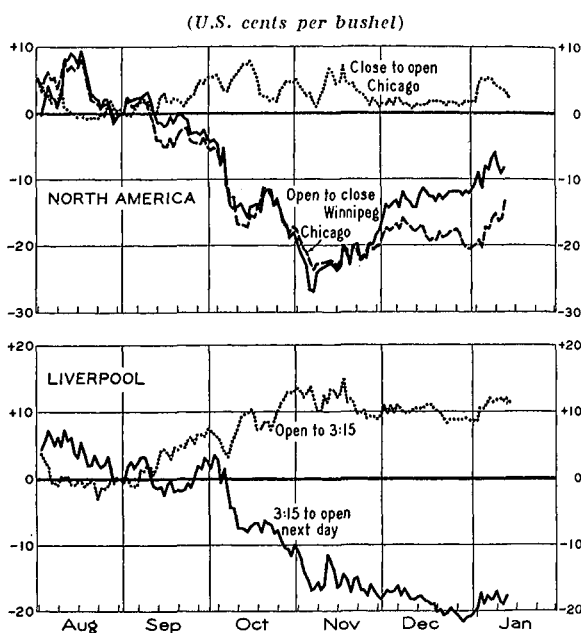
the end of December. The Winnipeg price movement closely resembled that at Chicago except for showing a slight upward trend during the two periods when the Chicago movement was roughly horizontal.

Chicago occupied a controlling position among world wheat markets during the period. The great price decline of October 4 to November 6 originated entirely in North American markets and appears to have been led chiefly by Chicago. Some of the important price movements were initiated in Liverpool and some, apparently, in Winnipeg; but even when the leadership was elsewhere, the final result depended much on the response of Chicago. Under these circumstances, changes in international price spreads are most readily understood when expressed in terms of Chicago prices as a base (Chart 5, lower section).¹ When international price movements during September–December are considered in terms of influences bearing on the Chicago price and influences affecting price spreads, it becomes apparent that movements in the principal world markets were not largely independent of each other, as is suggested by initial examination of the price curves. Instead there prevailed the usual close interrelationship among price movements in Chicago, Winnipeg, Liverpool, and Buenos Aires.

There are several evidences of the controlling position of Chicago in connection with the price developments of recent months. The fact that changes in price spreads appear simpler and more readily explained when the Chicago price is taken as the base suggests such a conclusion. Analysis of the origin of price movements on the basis of cumulated interval price changes (Chart 6) supports this view. Consideration of importers' wheat requirements during August–July and probable sources of supplies leads to the conclusion that supplies in all important countries except the United States will be reduced to

low levels by the end of the current crop year. With a substantial surplus in prospect for the United States, prices naturally tend to be determined by the willingness of speculators and others in the United States to hold wheat in the face of that prospect.²

CHART 6.—CUMULATIVE INTERVAL PRICE CHANGES, CHICAGO, WINNIPEG, AND LIVERPOOL, FROM AUGUST 1937*



* Price changes daily in May futures (March for Liverpool), from quotations in *Daily Trade Bulletin*, Chicago; *Grain Trade News*, Winnipeg; and Broomhall's daily cables, for Liverpool. The curves as plotted represent progressive summations of price changes over the designated intervals to and from September 1.

The large wheat price changes during September–December and to mid-January had uncommonly little connection with developments in the wheat situation itself. Forecasts of importers' requirements of wheat stand, as of mid-January, slightly below or at the same level as forecasts current in September. Estimates of exportable supplies for 1937–38 stand slightly lower than in September. The net change in the indicated balance between supplies and requirements is negligible.

The chief changes in indicated supplies during the interval arose from crop developments in Argentina. The net change for that country is a decrease of only about 15 million bushels; but it was reached through a

¹ It has long been our practice to use the Liverpool price as the base in representing international wheat price spreads, but the special circumstances of recent months call for departure from this custom in the present instance.

² These circumstances were noted in discussion of the price outlook in *WHEAT STUDIES*, September 1937, XIV, 29.

progressive increase in crop estimates, followed by a succession of frosts that led to reduction of the estimates by about 40 million bushels (p. 186). The increase in crop estimates attracted little notice and there is no evidence that it had an important effect on prices. The frost damage was sensational and under other conditions might have induced a large and sustained price advance. The first frost, on October 30, raised Buenos Aires prices about one cent for a day only, and occasioned a scarcely noticeable interruption of the price decline then in progress in other markets. Frosts on November 10 and 11, coming just as prices were starting a reaction from the previous extreme 5-week decline, were followed by price advances of 4 cents in Chicago and 6 cents in Liverpool, although only 3 cents in Buenos Aires. Most of this advance was lost in the next two or three days. Finally, the frost of November 16 induced substantial new advances, but they were held for only a day or two.

The price effects of Argentine crop damage were transitory because the crop losses, though striking, did not materially alter the appearance of the international supply position.¹ After the frosts, prices at Chicago, although holding an approximately horizontal course and receiving no important further incentive from crop news, continued to fluctuate about as widely as they did under the influence of the reports of severe crop damage. These subsequent price changes, although not extreme, were frequent and larger than usual in a period of horizontal price movement because the bases for price judgments remained insecure and price opinions among traders were diverse and not confidently held.

U.S. exports and the October price decline.—At least three possible explanations may be offered for the decline of over 20 cents in wheat prices at Chicago during October 4–November 6. Listed in the reverse order of probable significance, as we view them, they

are: (1) failure of export demand for United States wheat to develop in the expected degree; (2) reaction from an excessive speculative price advance in June–July; and (3) response to the general price decline and the business depression in the United States.

As a factor in the October price decline, disappointment over export sales receives mention here chiefly because of the attention it received in trade comment. On all the usual grounds it was reasonable to suppose that fairly rapid exportation of United States wheat would commence in August. As export sales continued small during September, uncertainty arose in some quarters as to the amount of wheat that would eventually be sold from the United States. All the prominent calculations of international supplies and requirements, however, united in September in indicating prospective crop-year exports from the United States of close to 100 million bushels, or considerably more. Now, four months later, the calculations give essentially the same indications. To those who had confidence in the calculations of requirements and took account of the possible variations in timing of imports, the low level of export sales from the United States in August and September appeared chiefly as evidence that importers' purchases were being postponed until prices of United States wheat should fall into a more favorable relation to prices of other wheats in import markets. Calculating on the basis of our estimates of August–July import requirements and the assumption that purchases of United States wheat would be delayed about as long as possible, we estimated in September that United States exports of wheat and flour from August to the end of December might total about 35 million bushels.² Incomplete statistics now available indicate that exports actually approximated 40 million bushels.

On the supposition that buying from the United States was merely being postponed, slackness of export trade during September could be viewed as only a mildly price-depressing influence. The fact that this slackness was viewed otherwise by some traders, however, undoubtedly increased its importance as an influence toward lower prices. The light ex-

¹ It may be recalled that in September we commented on the fact that the supply situation was such that "news affecting the appearance of the supply position will tend to have rather less than its usual sustained effect on prices" (*WHEAT STUDIES*, September 1937, XIV, 28).

² *WHEAT STUDIES*, September 1937, XIV, 30.

ports appear to have been especially disappointing to traders who had purchased wheat futures at the comparatively high prices of July and August and continued to hold in hope of a price recovery. The disappointment probably did not lead directly to sale of their holdings so much as it did to weakening of their confidence, rendering them more urgent sellers later when other influences started prices sharply downward.

Reaction from a June-July price advance.—On grounds of analogy with price trends under like conditions in the past, there was some reason in September for supposing that the price decline which began in mid-July was experiencing only a temporary interruption in September and would be resumed. Historically, there are observable marked tendencies for wheat prices to follow certain patterns, varying with circumstances. Among the most pronounced of these characteristic patterns are those which start with a sharp price advance. The typical course of wheat prices after the advance varies according to circumstances associated with the advance, among which one of the most important is the timing of the price rise. In a study published six years ago we showed that special significance attaches to price advances of 14 cents or more in terms of weekly average prices reduced to the basis of the 1913 price level (17 cents or more at the price level of last summer) if such an advance occurs within 5 weeks or less.¹ We noted further that rapid advances culminating in June and July tended to be followed by a different pattern of subsequent movement than advances culminating earlier or later in the season. When that study was published, the

record from 1884 showed three examples of such price advances. Since then, there have been three additional instances of the sort: in 1933, 1936, and 1937.² Chart 7 shows the price records for these six years, drawn to the same scale as the charts of our earlier analytical study. In Chart 8 prices at Liverpool are shown similarly.

On the basis of the historical record prior to 1936, it appeared that a rapid price advance culminating in June or July was regularly followed by a price decline into October or later, to a level about the same as that from which the advance started. Such a decline should not be viewed as a consequence of the previous rapid advance, but as a consequence of circumstances of which the previous advance is merely a symptom. After the rapid price advance of 1936, for example, we considered that the circumstances were not such as to result in the typical subsequent decline, but compared the situation with that of 1897-98, though with the qualification that development of such extreme shortage as occurred in the spring of 1898 seemed unlikely.³

Viewing the price outlook as of mid-September 1937 in terms of analogy with previous years in which a sharp price advance had occurred in June-July, the evidence was ambiguous. It was possible to reason that because in other instances the price decline following such an advance had extended beyond September, a similar continuation should be expected in 1937-38. On the other hand, it was possible to reason that relative magnitude of the decline was a more important criterion than duration; and that since Chicago prices had on this occasion dropped more rapidly than usual after such a price advance and at mid-September stood already significantly below the level from which the advance had started, further decline was to be expected only in the event of new price-depressing influences. This latter view was supported by analysis of the relation of supplies to price.⁴

Even though it be true that Chicago wheat prices during September-December, 1937, would not have fallen below the lows of September in the absence of strong new price-depressing influences, the conditions that had developed in connection with the previous

¹ Holbrook Working, "Cycles in Wheat Prices," *WHEAT STUDIES*, November 1931, XIII, 18-27.

² The formal dating of an advance on the basis of its culmination may become questionable when, as in 1936, the advance is not followed by a major reaction. Although the price advance of 1936 may reasonably be judged to have culminated in August, the steep portion of the advance occurred wholly in June-July, as in the other movements represented in Charts 7 and 8. To exclude 1936 from the category of years represented in these charts would involve leaning heavily on a technicality of definition.

³ See *WHEAT STUDIES*, September 1936, p. 23.

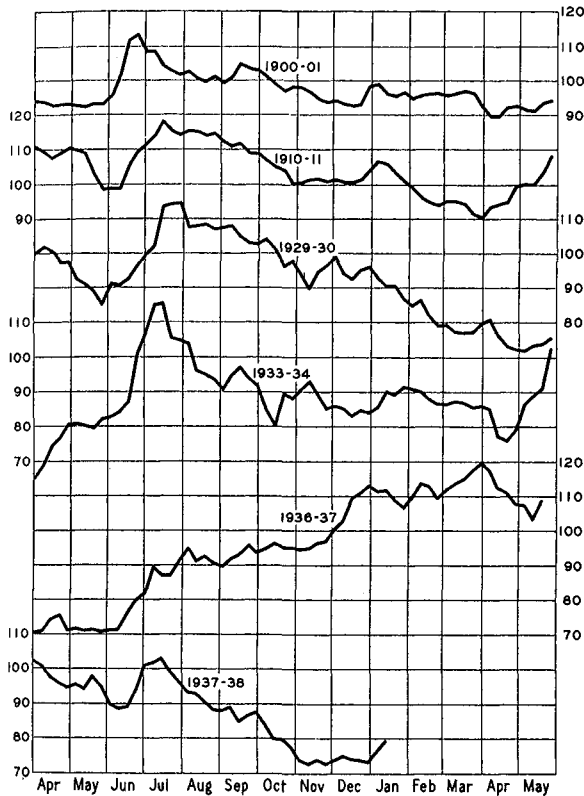
⁴ *WHEAT STUDIES*, September 1937, XIV, 29.

price movements were such as to magnify the effects of subsequent price-depressing in-

further losses in the event of renewed price declines.

CHART 7.—CHICAGO WEEKLY WHEAT PRICES (DEFLATED) IN SEASONS OF JUNE-JULY CROP SCARES*

(Cents per bushel at 1913 price level)



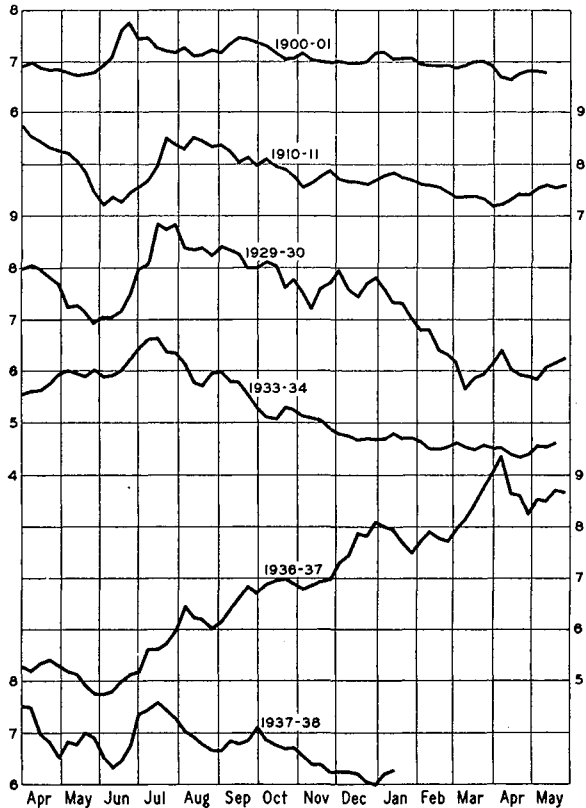
* Weekly averages of daily prices of May futures, adjusted for changes in price level as between seasons (but not within seasons) by dividing by the seasonal average Bureau of Labor Statistics Index number of wholesale prices of "all commodities," base 1913 = 100 per cent. For weeks prior to opening of trading in the May future, quotations are for the December or an earlier future, adjusted to form a continuous series with the May. Quotations for April and May at the beginning of each series are thus based usually on the September future, and never on the May future which is about to expire. Data for years prior to 1931, based on quotations in *WHEAT STUDIES*, November 1931, VIII, 1-66, where further explanations will be found.

The seasons for which data are shown include all those since 1884 in which the deflated Chicago price advanced 14 cents or more during 5 weeks or less, wholly within June and July.

fluences. The previous price decline had weakened the confidence of many holders of wheat. Some had already sold; some continued to hold, sustained more by hope than by faith in their price opinions; and some, remaining confident, could not afford to take

CHART 8.—LIVERPOOL WEEKLY WHEAT PRICES (DEFLATED) IN SEASONS OF JUNE-JULY CROP SCARES*

(Shillings per cental at 1913 price level)



* Based on weekly averages of daily prices of May futures (March or other futures when necessary), from Broomhall's *Corn Trade News* and *London Grain, Seed, and Oil Reporter*. Adjustments as for data in Chart 7 except that deflation is by the Sauerbeck index number.

Business depression and related influences.—Some clouds had appeared on the business horizon during the summer. Security prices started to decline notably in mid-August. A month earlier, prices of a number of important commodities had begun substantial declines, apparently in consequence of specific weaknesses in individual commodity situations. Prices of new-crop corn futures started downward from July 9, silk from July 12, and cotton from July 15. Prices of all other grains declined sharply with wheat from July 19. Lard and cottonseed oil followed almost immediately. Before

the middle of August prices of coffee, hides, sugar, and wool had started downward. Thus, by the time stocks prices began their general decline from August 16, recessions were already in progress among nearly all the prominent sensitive commodities except the metals.

From about the first of September, iron and steel prices dropped rapidly. Copper, lead, and rubber prices had joined in the decline by the middle of September, and cocoa by late September. By the end of September, therefore, substantial price declines had occurred or were in progress in all the more prominent price-sensitive commodities.

In early September, sentiment among business men generally seemed optimistic despite the downward tendency in prices of commodities and stocks. Discussions of the business outlook released in the first half of September seem to have been nearly unanimous in anticipating active business during the autumn. In our September "Survey" we ventured no opinion on the probable course of business, but expressed the view that "the general business situation during October-December may prove more than usually critical in determining the course of wheat prices."¹ In retrospect, the wheat price decline of October 4 to November 6 appears chiefly attributable to a shattering of confidence among wheat traders in the United States by the price declines in other commodities and the severe recessions that developed in business activity. Continuing weakness in export demand and the background of previous price decline doubtless added to the extent of the new decline.

Origin of price changes.—Except for some divergence in trends, price changes during market sessions in Chicago and Winnipeg

corresponded closely during September-January (Chart 6, p. 198, upper section), and were closely followed by Liverpool in its changes from 3:15 P.M. to its opening next morning (solid line in lower section of Chart 6). Similarly, Liverpool price changes during its session from the opening until 3:15² were closely followed by the overnight price changes in Chicago, as shown by the correspondence between the dotted curves in the separate sections of Chart 6.

Liverpool initiated only a small portion of the total price change during September-January, and that chiefly in September and the first week of October. During September, Liverpool tended to advance during its sessions to 3:15, as shown by the trend of the dotted line in the lower section of Chart 6. During the last week of September, Liverpool also generally opened "stronger than due" (as indicated by the sharp rise of the solid curve in the lower section of the chart, despite the simultaneous downward tendency in session changes in Chicago and Winnipeg).

In the first week of October, Liverpool, reversing the direction of its leadership, was consistently weak. Thereafter, until early January, the more conspicuous price changes during market sessions to 3:15 at Liverpool were chiefly reactions, either upward or downward, from extreme overnight price changes taken in response to session changes in North American markets. By thus reacting against price movements initiated in North America, Liverpool contributed strongly toward moderation of the net daily price changes.

North American wheat markets exhibited severe weakness during September 8-13, more conspicuous in Chicago than in Winnipeg. Marked weakness appeared again in session changes from September 24. Responses to the strength at Liverpool preserved a general advancing tendency in North American prices to the end of September (Chart 5), but it is clear from the record of cumulated interval changes in Chart 6 that the weakness in North American markets which precipitated the October price decline began about September 24. The week of September 24 was one of sharp new declines in prices of most sensitive commodities in United States markets.

¹ WHEAT STUDIES, September 1937, XIV, 28. We did not contemplate the possibility that business recession, if it occurred, would be so sharp and severe as that which actually developed, and thus erred in the further opinion that "no large changes (in wheat prices) are to be expected on that account."

² On Saturdays the price changes are from opening to the close at 12:15. On other days the Liverpool market now closes at 4:15 (incorrectly stated as 4:30 in our last "Survey"), but price movements near the end of the session are often dominated by news from North American markets, which open at 3:30 Greenwich mean time.

During October–December, session changes in North American markets dominated the course of prices. These changes were closely followed by Liverpool at its opening except for a persistent tendency to relative weakness in the Liverpool opening after early November, in connection with the change in price spreads between Liverpool and North American markets during November–December. In the price advance of early January, however, Liverpool initiated nearly half of the movement.

International price spreads.—Changes in price spreads between the chief futures markets during September–January were large (Chart 5, p. 197, lower section). During the first half of September, Liverpool advanced some 8 cents relative to Chicago, yet without improving the competitive position of United States winter wheats in the British market (as will be noted below) owing to sharp increases in ocean freights from Gulf and Atlantic ports and increases in premiums of hard winter wheats over the Chicago future. Slight further advances in the premium of Liverpool futures to mid-October and then a sharp advance to early November, however, finally brought Liverpool prices to a premium over Chicago at which liberal export sales of winter wheats could be made. From its maximum in early November, the Chicago-Liverpool spread narrowed rapidly to late December, yet without curtailing export sales from the United States. This was made possible by a decline of about 6 cents a bushel in ocean freights from the Gulf, and by advances in premiums over the Liverpool future of the Canadian and Argentine wheats with which the United States winters were chiefly competing.

Winnipeg advanced relative to Chicago during the first half of September, but somewhat less than did Liverpool, and then rose only slightly until December, when premiums of Winnipeg over Chicago increased sharply. These changes reflected chiefly increases in premiums on hard wheats generally.

At Buenos Aires, the November future was under the influence of a "squeeze" in cash wheat in Argentina, as already noted, and its price relations to Chicago are without signifi-

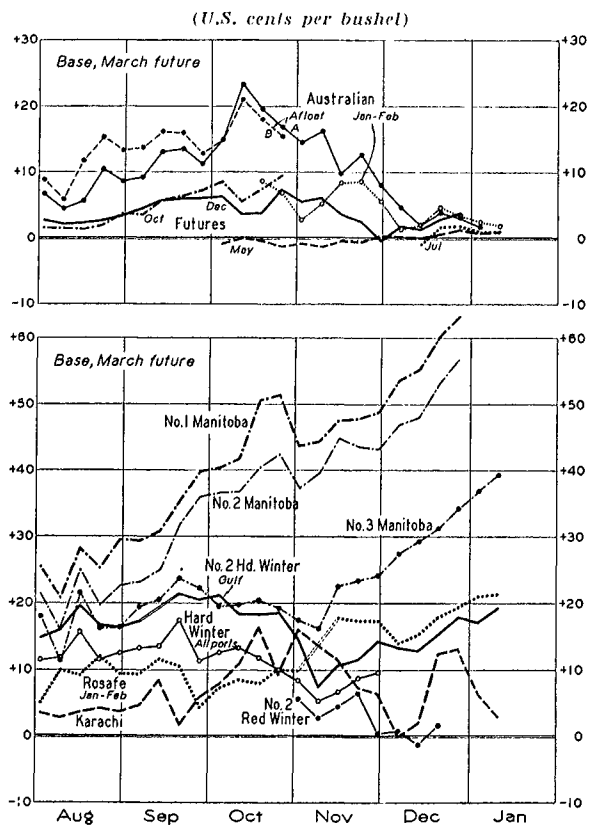
cance. The February future, on the contrary, remained closely related to the price of Chicago May wheat. From mid-September to early November, the Buenos Aires February future had an extraordinary advance of some 20 cents relative to Chicago. Nearly half of this advance seems attributable to changes in ocean freights. While freight rates from North America to the British Isles increased, rates on prompt shipments from Argentina declined from late September to early November about 7 cents a bushel, and rates for January–February shipments, although not quoted regularly, seem to have declined nearly as much. For the rest, the relative price advance at Buenos Aires reflected a progressive change in Argentine opinion of the value of Rosafé wheat in relation to United States hard winters. Following two or three weeks of irregularity after this steep rise of Buenos Aires to more than 10 cents over the Chicago future, the premium of Buenos Aires fluctuated somewhat as did the premium of Winnipeg over Chicago. Argentine wheat seems to have become established in the minds of traders as a direct competitor of the lower grades of Manitobas. It was regarded as competing even more directly with United States hard winters, yet when Winnipeg and Chicago prices moved differently, Buenos Aires tended in some degree to follow Winnipeg.

Price relations in British markets.—Changes in price relations among Liverpool futures and the principal quotations on imported wheats in British markets during September–January reflected the development of considerable tightness in the immediate wheat supply position in import markets, culminating at the end of October, and its subsequent easing. More conspicuously, the changes showed striking shifts in price relations among different classes of wheats, associated primarily with adjustments to an unprecedented scarcity of the choicer hard bread wheats. These adjustments, together with large changes in ocean freights, occasioned the great diversity among price movements in different futures markets, mentioned earlier.

With Australian and United States wheats firmly held, and international shipments running at a relatively low level, prices of the

nearer futures rose to increasing premiums over the March during September, and again after early October (Chart 9, upper section).

CHART 9.—BRITISH WHEAT PRICE SPREADS, FROM AUGUST 1937*



* Tuesday opening prices of Liverpool futures, and sellers' quotations, from Broomhall's *Corn Trade News* and daily cables. The sellers' quotations are c.i.f., and for non-Empire wheats, plus duty. They represent for Australian wheats, cargoes to the U.K.; for Manitobas, parcels from Atlantic ports to London; for other wheats, parcels to Liverpool; and unless otherwise specified are on wheat afloat or for near shipment. The Australian series "A" represents cargoes close to arrival; series "B," cargoes only recently shipped or, in a few instances, loading or soon to be loaded.

During September Australian wheat afloat in distant positions continued to be held at substantial premiums over prices that shippers were forced to accept for wheat close to arrival (curves B and A respectively, in Chart 9). Until about mid-November, Australian wheat afloat was held 10–12 cents above wheat for January–February shipment. Thereafter, prices of Australian wheat afloat and of the Liverpool December future declined rapidly relative to the March future, and from late

November prices of Australian wheat for January–February shipment declined also relative to the March future. Australian shippers were forced to the conclusion that their wheat must sell on a basis for delivery on the Liverpool future in March.

Relations among price quotations on other principal import wheats (lower section of Chart 9) changed widely and diversely. On analysis, however, these changes are found to have been more closely related than appears on the surface. They reflect changes in appraisal of the wheat situation for 1937–38 which are important for interpretations of other price developments and for judgments on the price outlook.

Dominating most of the changes in these price relations was a tendency toward progressive increase in premiums on hard wheats which persisted from August until near the middle of January, and carried such premiums to unprecedented levels. This tendency appears most clearly and most strikingly in the quotations on No. 1 and No. 2 Manitoba. The advance of No. 3 Manitoba in connection with this tendency received a prolonged setback from mid-September to early November through a novel development. Much of the No. 3 contained a high percentage of Garnet wheat—an individual parcel, indeed, might be wholly of the Garnet variety—and the No. 3 Manitoba apparently proved much less satisfactory than expected as a strengthener in the mill mix. In four weeks the No. 3 Manitoba fell from a discount of 10 cents to a discount of 25–30 cents under No. 1 Manitoba in Liverpool. Having then reached what appeared to be its appropriate position in the price structure, No. 3 Manitoba once more shared in the progressive advance of premiums on hard wheats.

Among United States wheats, hard winters shipped through Gulf ports commanded premiums. Those from Atlantic ports were perhaps from regions generally producing wheats of lower protein; but they were discounted more particularly because they represented a residual after the preferred wheats had been reserved for domestic milling, and because they had generally been mixed to about the minimum requirements of the grade.

Until the end of October, No. 2 Hard Winter wheat from the Gulf was quoted generally about 8 cents under No. 3 Manitoba. On this basis it was bought rather freely by Continental importers; but for British buyers, after payment of the import duty (the basis of comparison in Chart 9), the price differential was only about 2 cents, at which difference the United States wheat was not attractive. To attain the export flow of United States wheat looked for by traders in the United States and needed abroad to meet import requirements, it was necessary that No. 2 Hard Winter decline to a competitive basis with No. 3 Manitoba in the United Kingdom. The requisite adjustment was finally attained in early November, not through a change in relations between Chicago and Winnipeg futures (Chart 5, lower section) but through a decline of 4–5 cents in premiums of hard winters at the Gulf, relative to the Chicago future, and a decline in ocean freights from the Gulf while freights from Montreal remained firm. These changes permitted No. 2 Hard Winter to be offered in Liverpool, duty paid, at a premium over the March future only about half as great as that on No. 3 Manitoba. In this price position, United States hard winter wheats began to be purchased freely, and thereafter shared appropriately in the advance of premiums on hard wheats generally.

White wheats from the Pacific Northwest (not shown in Chart 9) were quoted, duty-paid, at prices nearly identical with near-by Australian shipments until about the end of September. Thereafter, they moved to a parity with Australian wheat for January–February shipment. Pacific Coast wheat was thus continuously priced on a competitive basis with the closely corresponding Australian wheat.

Quotations on Rosafé wheat for January–February shipment ruled about 5 cents under the cheaper United States hard winters (shipments from “all ports”) until late October. Then the Rosafé quotations held relatively firm (and consequently at advancing premiums) while prices of other wheats, especially United States winters, declined. By early December, the premium on Rosafé had fallen into about its previous relation to No. 3 Manitoba, and thereafter advanced in pro-

portion to the advances in the Canadian wheat. In this relative position, however, prices of Rosafé were now slightly above No. 2 Hard Winter from the Gulf, and much above the cheaper United States winters. The United States wheats therefore remained relatively attractive to importers, despite the fact that the Liverpool May future declined to only 20 cents or less above the Chicago May (Chart 5).

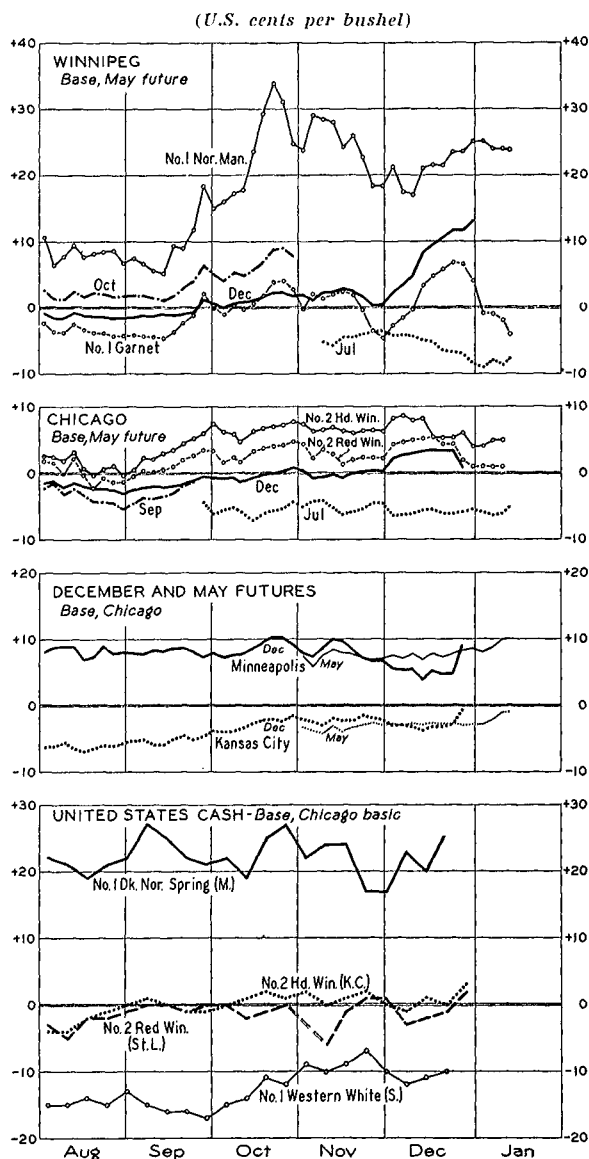
Russian and Danubian wheats sold freely on the British market during most of September–January at prices corresponding closely with other wheats of similar quality. The available quotations represented such widely differing qualities at different times as to render them of little use as a statistical series for interpreting price developments. Quotations on Choice White Karachi also varied widely, with parcels at Liverpool, shown in Chart 9, generally the lowest-priced. Presumably the price variations reflected not so much variations in quality as variations in immediate demand among millers for this special type of wheat. Broadly, the quotations on Karachi followed the course of prices of Australian wheat.

North American price relations.—In North America important changes occurred in the price spread between Chicago and Winnipeg futures, already discussed (p. 203) and extraordinary changes within the Winnipeg market itself. At Winnipeg, cash prices of No. 1 Northern, normally the basis of the future, advanced from a premium of 5 cents over the October future in mid-September to premiums of 20–25 cents a little more than a month later (Chart 10, p. 206.) No. 1 Garnet, deliverable at a discount of 5 cents a bushel, became clearly established as the basis of the Winnipeg futures. From late October, No. 1 Northern held its premium of about 25 cents over No. 1 Garnet, except during three weeks of December, when prices of Garnet and other inferior grades were temporarily elevated by tightness in the December future.

As the delivery month approached, the Winnipeg October future advanced from 1 cent over the May in mid-September, and reached a premium of 9 cents over the May near the end of October. Even more diffi-

culty was encountered in filling contracts in December than in October wheat. The December future rose from approximate parity with the May at the end of November to a

CHART 10.—NORTH AMERICAN WHEAT PRICE SPREADS, FROM AUGUST 1937*



* See notes to Chart 5 and Table X. Tuesday and Friday prices, except North American cash, which are weekly averages.

premium of 12 cents at the end of December. The May meanwhile advanced relative to the July, and in early January reached a premium of 9 cents.

The October future (not shown on the chart) was first traded in early January at 20 cents under the May, and later declined to 25 cents under. This price difference, although extreme, is a conservative reflection of current high premiums on Canadian wheat in international markets, such as cannot be expected to prevail next October.

In the Chicago market, price relations were chiefly noteworthy for the persistent firmness of cash wheat and the near futures in the face of comparatively large stocks. Discounts of the nearer futures under the May, which at the beginning of September afforded only moderate "carrying charges" to hedgers, narrowed to the vanishing point during that month. At the beginning of December the expiring future went to a premium over the May which was maintained at about 3 cents through most of the month. From the beginning of October the July future was generally 5-6 cents, and occasionally as much as 7 cents, under the May. Minimum quotations on No. 2 Red Winter wheat were consistently at 2-4 cents over the near future until late December; but these premiums reflected the superiority of country-run wheat over minimum-quality elevator wheat rather than actual tightness in the cash wheat situation. Hard wheat was consistently at a premium over soft.

Price relations among markets in the United States reflected chiefly three situations worthy of note. (1) Hard Spring wheats maintained substantial and relatively stable premiums, reflected in premiums of about 8 cents on the Minneapolis futures over the Chicago, and 20-25 cents on No. 1 Dark Northern Spring wheat at Minneapolis over No. 2 Red Winter (the basic cash wheat) at Chicago. A decline in the Minneapolis December future relative to Chicago December from mid-November reflected merely opposite changes in relations of December to May wheat in the two markets. (2) Premiums on hard winter wheats advanced moderately during September-October, with the result that Kansas City futures during November-December were generally only 2-3 cents under Chicago and the weighted average price of No. 2 Hard Winter at Kansas City was generally above the price of basic cash wheat at Chicago. (3) Prices of No. 1

Western White wheat at Seattle advanced relative to basic cash at Chicago from the end of September to early November, primarily as a reflection of the decline of Chicago prices toward a basis for free exportation of wheat from east of the Rockies. The resulting price relations brought virtually to an end the movement of Pacific Coast wheats to Eastern markets in the United States.

In early January, prices at both Minneapolis and Kansas City advanced relative to Chicago in what may prove a significant development in the direction of sustained higher premiums on hard wheats in the United States.

OUTLOOK FOR TRADE

World net exports of wheat and flour in 1937-38 now seem likely to approximate 535 million bushels, 15 million less than seemed indicated in September. During the past four months, trade and other developments have not been such as to preclude fulfillment of our earlier forecast, but rather to suggest that 550 million bushels is perhaps closer to the top than to the center of the range of prospective net exports. Import requirements of both European and non-European countries now appear slightly smaller than they did in September, partly because of minor revisions in crop estimates, partly because of unexpected governmental action in further restriction of wheat utilization and trade (p. 191). Total "world shipments" as compiled by Broomhall, seem likely to be about 505 million bushels.

Through early January (23 weeks), shipments to Europe amounted to only 174 million bushels. Should an average seasonal relationship prevail, the crop-year total would be only about 390 million. But various factors suggest that the movement of wheat to European importing countries will this year be concentrated more heavily than usual in February-July. During the past five months, native wheat supplies have been marketed, and presumably used, fairly rapidly in several European countries (pp. 189, 192), and the French Wheat Office has apparently postponed needed imports. Moreover, on world import markets, Southern Hemisphere wheats have been available only in small quantities;

Manitobas have commanded heavy premiums; Danubian wheats have not been pressed heavily during most of the period; and the United States has only recently offered wheat at prices attractive to British importers (p. 000).

Thus, several factors have combined to encourage Europeans to postpone more than the usual proportion of their imports to the second half of the crop year. On the other hand, there is little reason to anticipate this year such a mad scramble for import wheat as took place during the latter part of 1936-37, when Germany and Italy simultaneously entered the world market with heavy demands for foreign wheat. In an attempt to give proper weight to these various considerations, we place our forecast of prospective shipments to Europe at 410 million bushels.

Through early January, shipments to ex-European countries totaled 40 million bushels this year as compared with similar shipments (i.e., excluding shipments to the United States) of 36 million in 1936-37 (p. 193). We anticipate that in August-July 1937-38 total shipments to ex-Europe will reach or slightly exceed 95 million bushels, a figure 6 million bushels larger than was recorded for the same group of countries in 1936-37. Last year reported shipments to all non-European countries totaled as high as 113 million bushels only because the United States was then an important net-importing country.

Our forecasts of 535 million bushels for world net exports and 505 million for Broomhall's total shipments imply a slightly larger margin between these two indexes of world trade than has prevailed on the average in the preceding decade. This does not appear unreasonable in view of the prospective distribution of net exports by sources in 1937-38: exports are expected to be relatively large from the United States, the Danube basin, and "other countries" (including Northern Africa)—areas for which Broomhall's shipment data are usually below net exports.

In the tabulation below, our present and September trade forecasts (designated F.R.I.) are shown in comparison with standing forecasts of the International Institute of Agriculture (designated I.I.A.) and Broomhall, in terms of million bushels. The forecasts of the

International Institute were published late in October and have not since been reconsidered. Broomhall's figures represent his reconsidered (but, in total, unrevised) forecasts of December 15.

Aug.-July	Net exports ^a		Net imports ^a			Shipments		
	Re-ported	Ad-justed ^b	Total	Eu-rope	Non-Eu-rope	Total	Eu-rope	Non-Eu-rope
1933-34 ...	555	553	539	395	144	524	402	122
1934-35 ...	541	557	530	375	155	527	381	146
1935-36 ...	523	512	512	356	156	494	358	136
1936-37 ...	609	619	595	459	136	590	477	113
1937-38								
F.R.I.								
Sept...	550	550	530	420	110	...	...	...
Jan....	535	535	520	415	105	505	410	95
I.I.A. ...	...	535 ^c	...	420 ^d	...	...	...	...
Broom-hall ...	...	...	...	...	...	496	408	88

^a "Net exports" represent the added net exports of all reporting net-exporting countries, without deduction of any net imports. "Net imports" represent the added net imports of all net-importing countries, without deduction of any net exports.

^b Adjusted for net changes in stocks of Canadian wheat in the United States, United States wheat in Canada, and wheat afloat to Europe. Increases in these stocks deducted from, decreases added to, reported net exports.

^c Net exports of "normal" net-exporting countries, this year substantially equivalent to net exports of all net-exporting countries.

^d A net-import figure for the group of countries in Europe ex-Danube-Poland-Lithuania, this year reasonably comparable with our forecast.

This year, authoritative forecasts standing in mid-January show more agreement than usual as to the total volume of trade to be expected in 1937-38. But there is less general accord as to the prospective distribution of net imports and net exports by countries of destination and origin. These differences are treated briefly in the following sections.

Import requirements.—In Europe, the domestic wheat supply positions of a number of importing countries now appear slightly easier than in September (Table II). On the other hand, only Spain appears to have significantly less native wheat available than we counted on four months ago. The official estimate of the Greek crop was reduced from 37.2 to 32.7 million bushels during September-December; but we retain unchanged the estimate of 29 million which we carried in September.¹

The net change in the indicated size and distribution of the European wheat crop is

slightly in the direction of restricting rather than expanding net import requirements. Operating similarly are the recently imposed admixture laws of Portugal, Italy, and Austria. In these three countries, imports of foreign wheat will probably fall a little below the figures we suggested in September. Small reductions also seem to be indicated for the British Isles, Switzerland, and France, though our earlier forecasts may still be fulfilled for the British Isles and France. Switzerland has taken foreign wheat so sparingly during the past five months that it now seems improbable that her net imports for the crop year will exceed 15 million bushels.

In the United Kingdom, the level of disappearance of foreign wheat during August-December may be taken to suggest a slightly lower total for the crop year than we counted on four months ago. Much will depend, however, upon the volume of stocks that British millers and importers will see fit to carry on August 1, 1938—and this cannot now be foreseen.

For France, the domestic wheat supply position remains uncertain. However, developments in the wheat situation in that country through December seem to point to prospective net imports (general commerce) in the neighborhood of 25 million bushels. One may perhaps reasonably assume (1) that in August-December, domestic wheat deliveries actually represented five-twelfths of the supplies available for delivery; (2) that in these months security stocks were drawn down by 4.6 million bushels (as indicated by the official schedule of sales, p. 190); and (3) that on January 1 the milling industry as a whole had ample but not exceptionally large stocks on hand. If these assumptions are valid, one may conclude that in August-December French millers required for current milling purposes not only the regular monthly deliveries of domestic wheat but also about 6 million bushels of net imports and 4 million bushels of wheat taken from the security stocks. At

¹ Corresponding official January figures for the Greek crops of 1934-36 were subsequently reduced by an average amount of 4.5 million bushels.

² See our September survey, *WHEAT STUDIES*, September 1937, XIV, 23-24.

this rate, during January–July monthly deliveries would need to be supplemented by about 15 million bushels of wheat for consumption purposes, and by another 5.5 million bushels to rebuild the security stocks as required by the decree of September 9, 1937. Most of this additional wheat would have to be obtained through importation, since the original schedule of sale of the 1935 wheat provided that less than one million bushels would remain unsold at the end of December. With allowance for this quantity and also for possible excess holdings by mills of about one million bushels on January 1, 1938, French net imports would need to approximate 25 million bushels in the crop year.

For two countries, Germany and Spain, our present forecasts of net imports in 1937–38 are higher than those we suggested in September. These upward revisions are based mainly upon trade developments in August–December and, for Spain, upon the reduced crop approximation of the Foreign Agricultural Service of the United States Department of Agriculture. In September we allowed 10 million bushels for Spanish net imports; we now raise this figure to 15 million. Prospective German net imports have been revised upward from 30 to 35 million bushels.

Below are shown, in million bushels, our detailed current forecasts of European and non-European net imports, with appropriate available comparisons. In this tabulation the October forecasts (still standing) of the International Institute of Agriculture appear under the column headed "I.I.A." and our own forecasts are shown in the last two columns headed "F.R.I."

Important differences between Broomhall's recent detailed forecast and ours are indicated only for France and Italy. For France, Broomhall carries for past years net-import figures which usually but not always are below the official data we carry for "general commerce." Although the annual difference between these series is highly variable, we may perhaps assume that this year it does not account for more than 5 million bushels of the large difference in the two forecasts for 1937–38. We infer that the forecast of French trade made by the International Institute of Agriculture approxi-

mates or slightly exceeds 20 million bushels and is therefore close to our forecast.

Country	1935-36	1936-37	1937-38 forecasts			
			Broom-hall	I.I.A.	F.R.I.	
					Sept.	Jan.
British Isles	220	212	212	220	216	214
Belgium	39	40	40	70	39	39
Netherlands	22	21	24		23	23
France	8	12	8	70	30	25
Germany .....	..^a	32	32		30	35
Switzerland	17	18	16		17	15
Italy	5	57	16 ^b	60	10	7
Austria	7	10	10		10	8
Greece	15	22	16		15	15
Spain, Portugal ..	..^a	15	16		12	17
Poland, Czech. ...	2 ^c	.. ^a			0	0
Scandinavia, Bal- tic	21 ^c	20	18		18	17
Total Europe ^d ..	356	459	408	420	420	415
Brazil	36	44	...	...	36	34
China	8	1	...	...	2	2
Manchukuo	14	5	...	...	4	3
Japan	5	4	...	...	4	1
West Indies ^e	10	9	...	}	13	13
U.S. Possessions ^e ..	3	3	...			
United States.....	31	17	...	...	..^a	.. ^a
Other non-Europe.	48	53	...	...	51	52
Total non-Europe	156	136	...	...	110	105
Grand total.....	512	595	...	...	530	520

^a Net exports.

^b Broomhall's forecast for Italy is not truly comparable with ours (see text).

^c Without deduction of any net exports.

^d Exports of the United States and Canada to the West Indies.

^e Shipments of the United States to her possessions.

For Italy, the difference between Broomhall's forecast and ours apparently also rests in part—and probably in larger part than for France—upon use of different trade series. For example, we take for net imports in 1936–37 the official figure¹ of 58 million bushels, used also by the International Institute of Agriculture, while Broomhall uses for the same year a figure of 64 million bushels, which he also calls "official."

In September we expressed the opinion that net imports of non-European countries exclusive of the United States would probably not differ significantly from their level in 1936–37. This opinion was based upon preliminary and incomplete trade returns for

¹ From Istituto Centrale di Statistica, *Statistica ... di importazione e di esportazione* (Rome).

1936-37, which for a number of countries (most notably Brazil) have been revised upward considerably in the final estimates. As is apparent from the tabulation above, our present forecasts of non-European imports differ little from our September forecasts, but the indicated total, even excluding the United States, is materially below that of 1936-37.

Sources of exports.—If world net exports of wheat and flour approximate 535 million bushels in 1937-38, we anticipate that they will be furnished about as follows, in million bushels, with comparisons:

	1930-35 average	1935-36	1936-37	Forecasts 1937-38	
				Sept.	Jan.
United States	59	... ^a	... ^a	130	118
Canada	217	254	195	80	80
Australia	131	102	102	95	110
Argentina	145	70	162	105	82
Lower Danube . . .	39	25	89	73	60
USSR	46	29	5	25	40
Fr. North Africa..	21	19	6	15	15
Others	14	24	50	27	30
Total	672	523	609	550	535

^a Net imports.

Now, as in September, we expect Canada to ship out her entire surplus of millable hard red spring wheat, leaving the Canadian wheat carryover at about the same low level as last year (p. 211). For Argentina and Australia, revisions in our forecasts reflect mainly the differences between current estimates of these Southern Hemisphere crops and the pre-harvest crop approximations we accepted in September.

The Danube countries and Russia together are now expected to supply about the same aggregate quantity of exports as was anticipated in September. But the proportion furnished by Russia will be larger, the proportion by the Danube countries smaller, than seemed indicated four months ago. Wheat supplies in Bulgaria and Hungary are now recognized to be smaller than earlier estimates suggested; and in Rumania and Hungary more old-crop wheat now seems likely to be carried over into 1938-39.

For Russia, evidence accumulated since September strongly suggests that the 1937 harvested crop was the largest ever reaped

(p. 186). In view of this fact, Russian wheat shipments amounting to 31 million bushels through mid-January appear relatively small. To judge by most past years, such shipments may be interpreted to suggest crop-year total exports in the neighborhood of 40 million bushels. We accept this figure as our present "guestimate" for the USSR, bearing in mind that Russian exports depend primarily upon governmental policy, which is subject to change without notice.

While our present forecast of Russian exports agrees well with current forecasts by Broomhall, the International Institute of Agriculture and the United States Department of Agriculture, no such general accord prevails as to the prospective exports to be furnished by "other" countries and by the United States.

For French North Africa and "others" combined, Broomhall forecasts shipments of only 20 million bushels and the International Institute allows for net exports of only 35 million, as compared with our current figure of 45 million. Aside from the normally lower level of *shipments* as compared with *net exports* from "other" countries, the principal difference between these various forecasts probably lies in the allowance for Indian exports. In September, the course of development of the growing Indian crop could not be foreseen and our own early forecast of Indian exports provided for only small exports from the new crop. The same statement may perhaps apply to the October forecast of the International Institute and in lesser degree to Broomhall's December forecast. Although it is still too early to count on a large wheat harvest in India in March 1938, current reports of good crop conditions and the moderately high level of prevailing wheat prices seem to warrant the expectation that Indian net exports may be about as large during the second half of 1937-38 as they have been in the past six months. This implies an upward revision in our September forecast for India of roughly 6 million bushels.

On the other hand, we envisaged in September somewhat larger exports than now seem in prospect from Turkey, Syria and Lebanon, and other minor exporting countries. Reductions in our export forecasts for these

areas do not quite offset the indicated increase for India.

The United States, which supplied net exports of only 40 million bushels in August–December, we still expect to furnish practically twice that quantity during January–July. This implies a striking, and probably unprecedented, departure from the usual seasonal course of commercial wheat exports from this country (p. 186).

Among current forecasts of United States trade in 1937–38, our own forecasts of net exports—118 million bushels for August–July and 105 million for July–June—stand moderately higher than other widely circulated estimates. Broomhall's forecast—104 million bushels for August–July *shipments* from the United States—probably implies less difference of opinion than the two figures suggest, since reported shipments from North America are normally smaller than the recorded net exports of the United States and Canada combined.¹ On the other hand, the forecast recently published by the United States Depart-

ment of Agriculture,² 90 million bushels for July–June net exports (probably not including shipments to possessions), is at least 12 million bushels below our corresponding estimate. The difference is primarily attributable to the much lower forecast of world trade accepted by the Department of Agriculture.³

OUTLOOK FOR CARRYOVERS

"World" year-end wheat stocks in 1938 now seem likely to approximate 615 million bushels. This indicates a level of stocks about 85 million bushels higher than last year, but far below the levels of most other recent years and about the same as on the average in the pre-surplus period 1923–27. Both in total and in distribution, the prospective carryovers of 1938 indicate an international supply situation less tight than last year.

Our detailed forecast of year-end stocks as of about August 1, 1938, is shown below, with comparisons, in million bushels:

Position	Estimates			Forecast
	1923–27	1936	1937	1938
United States ^a	118	138	91	190
U.S. in Canada ^a	1	0	0	2
Canada	38	108	33	35
Canadian in U.S.	3	19	4	2
Australia	31	43	40	40
Argentina	65	65	50	60
Total	256	373	218	329
Lower Danube ^b	37	25	37°	32
French N. Africa ^d	13	12°	4°	6
India	46	36	29	29
Total	96	73	70	67
Europe ex-Danube	193	290°	197°	172
Japan and Egypt	13	10	12	13
Afloat to Europe	40	21	26	26
Afloat to ex-Europe....	7	11	8	8
Total	253	332	243	219
Grand total	605	778	531	615

^a As of July 1.

^b Hungary, Yugoslavia, Rumania, Bulgaria.

^c Revised.

^d Morocco, Algeria, Tunis.

¹ For Canada, Broomhall's standing forecast of shipments is 8 million bushels higher than our forecast of net exports. Hence, he apparently expects the movement of wheat from North America to reach about the volume we anticipate.

² See *The Wheat Situation*, Dec. 23, 1937, p. 8.

³ On the demand side, the Department's forecasts appear to differ from other leading forecasts largely with respect to the reduction from 1936–37 anticipated for non-European imports. The several estimates of trade differ considerably in methods of calculation of non-European trade. Both the International Institute of Agriculture and the U.S. Department of Agriculture regard the difference between European net imports and total net exports as roughly indicating the trade of non-European countries; and for comparative purposes we therefore show here this same difference in our own figures rather than our direct estimates of non-European net imports. Broomhall's data refer to his reported "shipments" to non-European countries. Since the various yearly estimates shown below are not truly comparable one with the other, useful comparisons can be made only in terms of indicated changes between years, as in the final column below, in million bushels. This clearly shows the much larger reduction between 1936–37 and 1937–38 expected by the U.S. Department of Agriculture.

Source	1936–37	Forecast 1937–38	Difference
U.S. Dept. of Agriculture..	172	85	-87
International Institute	164	115	-49
Food Research	150	120	-30
Broomhall	113	88	-25

^a July–June; other data apply to August–July.

Sizable surplus wheat stocks seem likely to be found in 1938 only in the United States, where domestic utilization is still ex-

pected to approximate 670 million bushels (p. 192) and July-June net exports 105 million (p. 211). In other major positions, carryovers are expected to be near average or minimum levels.

In Europe ex-Danube, especially, aggregate year-end stocks are likely to be the smallest in many years. There, reduced domestic supplies in France, Czechoslovakia, and Spain will unquestionably result in heavy drafts upon stocks carried over from past years of domestic wheat surplus. With some smaller decreases in carryovers in certain other European countries, these reductions will presumably be only partially offset by sizable increase in wheat stocks in Italy and slight increases elsewhere in Europe ex-Danube. It should be noted that these forecasts do not provide for building of "security" or "military" stocks during 1937-38 in any European country except Italy, where domestic supplies are reported to be abundant and governmental measures appear to have been directed toward the enlargement of the wheat carryover (p. 191).

For Canada, Argentina, and Australia, our forecasts of year-end stocks are based upon various considerations, which can best be discussed with reference to the estimates of supplies and disposition in Table IX. In the face of record low postwar wheat supplies in Canada in 1937-38,¹ we anticipate a slightly larger Canadian carryover at the end than at the beginning of the crop year. This reflects current uncertainty as to available markets for the considerable quantities of durum wheat in the 1937 crop. Were it not for this uncertainty, we should place the Canadian carryover 5-10 million bushels lower and the exports correspondingly higher.

Argentina, with domestic wheat supplies almost as small as in 1935-36, will have relatively small stocks remaining on August 1, 1938. We expect her holdings to be around 10 million bushels higher than in 1937, mainly

because there is now no indication that Argentina will overship wheat in January-July 1938 as she did in 1937. If much of the new Argentine crop turns out to be of poor quality, year-end stocks in Argentina may be somewhat higher than we now anticipate.

In Australia, where moderate wheat supplies are available this year, stocks on August 1, 1938, are also expected to be of moderate size. Presumably the export demand for Australian wheats will not be particularly urgent, since these wheats lack the characteristics of hardness so highly prized at present on European markets.

On the basis of current estimates of crops and initial stocks, and our forecasts of Russian exports and year-end stocks, wheat utilization in the world ex-Russia appears likely to approximate 3,720 million bushels, or roughly 35 million bushels less than last year.² The estimates for 1937-38 are shown below, with comparisons for the preceding five years, in million bushels:

August- July	Initial stocks	Crops	USSR ex- ports	Total sup- plies	Disap- pear- ance
1932-33 ..	1,003	3,874	17	4,894	3,761
1933-34 ..	1,133	3,810	34	4,977	3,773
1934-35 ..	1,204	3,490	2	4,696	3,737
1935-36 ..	959	3,553	29	4,541	3,763
1936-37 ..	778	3,503	5	4,286	3,755
1937-38 ..	531	3,764	40	4,335	3,720

PRICE OUTLOOK

Chicago May wheat.—During February-May, as in earlier months of the season, the course of international wheat prices seems likely to be governed largely by the reactions of Chicago to the domestic and international wheat situations and to collateral developments. Importers will require an average of perhaps 12 million bushels of wheat a month from the United States during February-July. Stocks of wheat outside the United States will be reduced to comparatively low levels, whatever the price within the range reasonably to be contemplated. The United States, on the other hand, we expect to be left on July 1 with a very liberal carryover of about 190 million bushels. Much will depend, therefore, on the level of prices at which holders of wheat in the United States prove willing to carry a substantial surplus.³

¹ Supplies appear to have been about equally low only in 1919-20.

² The prospects for utilization in various areas are briefly summarized on pp. 192-93.

³ Most of the carryover will be hedged, and the price determination will consequently lie largely with traders in futures.

The outlook for wheat harvests in 1938 has a bearing on current price judgments and may be expected to assume increasing importance from about March. The pertinent facts now known are that fall-sown acreage plus prospective spring plantings promise about a record sown acreage in wheat; European crop conditions are generally favorable except in Italy; in the spring-wheat areas of North America, topsoil moisture is more abundant than last year, although the subsoil of course remains dry; winter wheat in the United States east of the Rockies is in condition to suffer unusually severe winterkilling if the weather is adverse; and in the United States Southwest, winter wheat is suffering from drought that threatens damage from soil blowing and possible further damage from lack of moisture for the growing plant later.

The condition of winter wheat in the United States thus holds more than the usual possibilities of such severe crop losses as might generate a crop-scare price advance. There is perhaps an equal possibility of favorable weather that would result in harvest of more than the 630 million bushels of winter wheat which the United States Department of Agriculture considered indicated by conditions as of December 1. Even with only 630 million bushels of winter wheat in the United States, yields near average elsewhere might result in total wheat supplies for 1938-39 in the world, ex-Russia, 200-300 million bushels greater than for the present season.

The course of business and of prices of other commodities may have a significant influence on wheat prices during February-May, but the wheat situation now is not such as to favor strong response of wheat prices to such developments in either direction. Unexpectedly heavy import purchases might advance wheat prices moderately, but probably only temporarily. Unexpectedly light purchases might operate somewhat more strongly toward sustained decline. Farm legislation now in prospect in the United States may take such form as to provide substantial support in the event of a price decline below 75 cents for Chicago May wheat.

Historically, a relation is observable between prospective carryover and wheat prices

in the United States which is especially pertinent when the expected carryover is 130-280 million bushels. We noted in September that this historical relation suggested prospects of a price of about \$1.05 for the Chicago May future in December.¹ The same calculations based on the lower general wholesale price level now prevailing would suggest a December price of about \$.95-1.00. Under influences discussed in an earlier section, the Chicago May future fell sharply below this indicated range during October and early November; but it has since recovered, and, at 95 cents on January 22, accords reasonably well with the historical relationship.

For use in judging February-May price prospects, the historical record is more useful in graphic form than in terms of price averages. Chart 11 (p. 214) shows the course of the Chicago May future thus far in 1937-38 and throughout each season since 1896 in which the carryover out was, roundly, 130-280 million bushels. Prices in all seasons, including 1937-38, have been adjusted (deflated) to the basis of the 1913 price level.² The upper eight curves in the chart are for seasons in which the carryover out was 130-150 million bushels, the lower eight, years in which the carryover was (or promises to be) 175-275 million bushels. The substantial difference in average carryover between the two groups of years seems to have had little effect on either the level or the course of prices during the winter and spring.

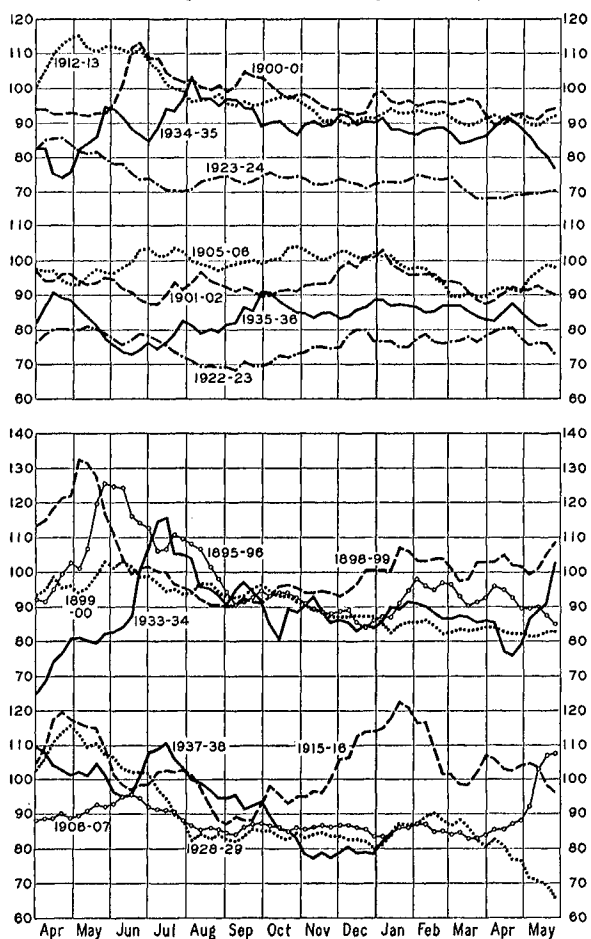
For this chart 1937-38 prices have been divided by the wholesale price index number as of the beginning of January 1938 (116, on the basis 1913 = 100). Recent Chicago prices, thus deflated, appear as equivalent to about 84 cents in terms of the 1913 price level. Many of the curves in Chart 11 run at a considerably higher level during January-March; but the curves for these months of 1923 and 1924 were considerably lower than this, and for 1934, 1935, and 1936, only slightly higher.

¹ WHEAT STUDIES, September 1937, XIV, 29.

² Comparisons of price levels between widely separated dates can be made only roughly, but it is useful to have even an approximate adjustment for the effects of such changes. The present price level is indicated to be about 16 per cent above the 1913 level.

The comparison seems to offer no ground for arguing either that wheat prices may be expected to advance, on the supposition that they are now "too low," or that they may be

CHART 11.—CHICAGO WEEKLY WHEAT PRICES (DEFLATED) IN SEASONS OF COMPARABLE UNITED STATES YEAR-END WHEAT STOCKS*
(Cents per bushel at 1913 price level)



* Price data as for Chart 7 (p. 201), except that deflation of 1937-38 prices is by the index number as of January 1, 1938, rather than by its seasonal average to date. The seasons represented include all those from 1896 in which the United States carryover at the end was, roundly, 130-280 million bushels, based on official estimates from 1923 and estimates of the Food Research Institute (*WHEAT STUDIES*, February 1928, IV, 180) for earlier years. The upper eight curves are for seasons in which the carryover was 130-150 million bushels, the lower eight, for seasons in which the carryover was (or is forecast as) 175-275 million.

expected to decline, on the supposition that they are now "too high."

When compared with similar charts for other years, the price curves of Chart 11 are

conspicuous for moderation of price movement during November-April.¹ The season of 1915-16, when the World War was in progress and an extreme price inflation was under way, presents an exception of no importance for appraising the present situation. Among the years of larger carryover especially, there have been several instances in which prices advanced from late December or early January and then declined 5-10 cents or more, on the deflated basis. Moderation of price movement was not preserved to the end of May in all the seasons represented, even excepting 1915-16. In April-May 1907 and from late April of 1934, prices advanced sharply on winter-wheat crop scares. About mid-April 1929, following moderate declines from February such as occurred at this season or slightly earlier in several other years, prices entered a new and severe decline. In 1935 a somewhat similar strong decline occurred at the end of the season.

Price movements during January-March, among the curves in Chart 11, show several different patterns. Perhaps most significant in the present situation is a certain broad similarity among the seasons in which a moderate price advance began near the first of January. Such movements are found only among the eight curves in the lower section of the chart, and occurred in 1895-96, 1906-07, 1928-29, 1933-34, and 1937-38. In the four instances prior to the present season, the advances continued through 4-6 weeks. Except in 1895-96, the advance, as measured by the deflated weekly averages, aggregated only 4-10 cents. And in each instance, the advance was followed by a decline of roughly comparable magnitude to about the end of March. The average price for the week ending January 22, 1938 is slightly below that of the week of January 15 (the last week shown on the chart), and it remains to be seen whether by the end of January the price curve for this season will bear a close resemblance to those for other years in which a moderate advance began about the first of January.

Unless changes in crop prospects or de-

¹ Most satisfactory comparison may be made with the charts in *WHEAT STUDIES*, November 1931, VIII, Plate I, which are similarly drawn.

velopments in the business outlook assume greater importance than we now anticipate, the price of the Chicago May future during February–March may move chiefly under the influence of the obscure forces that in other years have induced moderate price decline after a January advance. The possibility that the prospective large wheat acreage for harvest in 1938 might yield a substantial wheat surplus may receive increasing attention and prove a further price-depressing influence even before the end of March.

Price movements during April–May will hinge largely on the crop outlook. Among the significant possibilities are either a crop-scare price advance of 20–30 cents a bushel, or a decline of as much as 20 cents during April–May. In the event of crop developments which are neither conspicuously unfavorable nor especially favorable, the prospects of about average yields on a near-record acreage may induce a price decline of as much as 10 cents a bushel during April–May.

Other United States prices.—At Chicago, new-crop futures are likely to advance relative to the May. Save in 1931, when the price of the May future was pegged by the Grain Stabilization Corporation and the price of the July left free, the July future has always gone to a premium over the May when the carryover on July 1 subsequently proved to be over 150 million bushels. On similar grounds, the September future may be expected to go to a premium of 1 to 2 cents over the July. Commonly, in seasons of year-end stocks such as are now in prospect, the July future has advanced relative to the May chiefly during February and March.¹

In view of the extraordinary premiums on hard wheats in the international market, premiums which have thus far developed in the United States appear quite moderate. Disappointment over the small export sales dur-

ing the autumn tended especially to hold down the premiums on hard winter wheat, which was the class in most liberal supply east of the Rockies. With the continuation and expansion of export purchases of hard wheat which seems inevitable, sharp competition may develop between exporters and mills which would substantially advance premiums on hard wheats in the United States. Such a development would tend to advance prices of both Kansas City and Minneapolis futures relative to Chicago.

Prices of soft wheats on the Pacific Coast may remain in about the same relation to Chicago futures that has prevailed since early November or may show some relative advance. Pacific Coast prices are in a relation to Liverpool determined chiefly by shipment costs, and if Liverpool should advance relative to Chicago, ocean freights remaining constant, prices on the Pacific Coast would naturally share in the advance. If exportation from this region should be subsidized, prices of Pacific Coast wheats in foreign markets might be lowered somewhat, but presumably the subsidy would serve chiefly to elevate the domestic price in relation to other domestic wheats.

Prices in foreign markets.—Advances of Winnipeg May wheat to more than 30 cents over Chicago May were checked in early January by substantial sales of United States spring wheat.² Quotations on January 10, representative of the price relations under which these sales occurred, were as follows: top nominal quotations on No. 1 Dark Northern Spring wheat at Minneapolis were at about the same price as No. 3 Manitoba Northern, at Winnipeg (basis Fort William–Port Arthur). At the same time, the No. 3 was 4 cents under the Winnipeg May future, top quotations on No. 1 Dark Northern at Minneapolis were 19 cents over the Minneapolis May, and the latter was 9 cents over Chicago. Thus the Winnipeg May future was about 32 cents over the Chicago May. An advance of premiums on hard spring wheat in United States markets, such as is not improbable, would permit Winnipeg to rise correspondingly higher relative to Chicago. Present indications are that the shortage of Canadian spring wheat is so extreme that the Winnipeg price may be main-

¹ See Holbrook Working, "Price Relations between May and New-Crop Wheat Futures at Chicago since 1885," *WHEAT STUDIES*, February 1934, X, 183–228.

² A "ticker" report from New York on January 12 stated that "it is understood that during the past few days some 400,000 to 500,000 bushels of American spring wheat was sold for export. It was said that Europe cancelled some Manitobas and replaced the latter with domestic spring wheat."

tained during most of the remainder of the season close to the upper price limit set by potential competition between United States and Canadian spring wheats in import markets.

Liverpool must remain on a basis for fairly steady importation from the United States through the remainder of the season. Price relations between Liverpool and Chicago futures, accordingly, must depend largely on shipment costs and on premiums of United States export wheats over the Liverpool and Chicago futures, respectively. Ocean freights, having fluctuated widely since August, appear to have reached a position of comparative stability. At about 15 cents a bushel from the Gulf to the United Kingdom and 12-13 cents from Atlantic ports, however, rates are still fairly high, even by comparison with freights in the years of active trade prior to 1930. If business recession should spread from the United States to other countries, ocean freights might decline somewhat further, tending toward a moderate narrowing of the spread between prices of wheat futures at Chicago and Liverpool.

Changes in relations of the futures to prices of hard winter wheat at Liverpool and in the United States, respectively, may exert a stronger influence on price relations between the futures. As noted above, hard wheats in the United States may go to higher premiums over the Chicago future. Thus, No. 1 Dark Hard Winter at the Gulf might advance to considerably more than its recent premium of about 20 cents over the Chicago May. This would tend toward a corresponding advance of Liverpool May relative to Chicago, provided hard winter wheat at Liverpool maintained its relation to the Liverpool future (recently at premiums of 18-20 cents, duty-paid, over the May). Prospects for the premium of hard winter wheat at Liverpool are difficult to appraise. Recent high premiums have resulted from the shortage of Canadian wheat, firm

holding by the United States and Argentina, and free selling by Australia (affording prospects of liberal supplies of soft wheat and tending to depress the Liverpool future). These influences may have attained about their maximum effect and some reaction toward slightly lower premiums of hard winter wheat over the Liverpool future may be in prospect. Any narrowing of this premium in Liverpool would tend to advance the Liverpool future relative to Chicago. On the whole, the possibilities for an advance of Liverpool May wheat relative to Chicago appear somewhat to outweigh the possibilities for an opposite change in the price relation.

Argentine wheat (Rosafé), at 2-4 cents over Gulf hard winters, has been regarded by British importers as overpriced and sales appear to have been limited mainly to a few lots offered below prevailing quotations. The decline in ocean freights from Argentina during the autumn was temporarily checked by an agreement among shipowners on a minimum basis of 30 shillings per ton for cargoes from upriver ports to the United Kingdom.¹ This was soon followed by a reduction of the basic rate to 25 shillings² (about 16.6 cents a bushel (which has remained in effect since late November, with many ships unable to obtain cargoes. It appears reasonable to suppose that wheat prices in Argentina have been held comparatively high relative to Liverpool and Chicago at least partially in anticipation of a further decline in ocean freights from Argentina. Such a decline would place Argentine wheat in a more favorable position to compete with United States hard winters in import markets without a reduction in Buenos Aires prices. If ocean freights are maintained, however, a relative decline in Buenos Aires prices may be forced, assuming no government intervention to sustain prices.

¹ *Times of Argentina*, Nov. 22, 1937, p. 16.

² *Ibid.* Nov. 29, 1937, p. 14.

Tables in this study were prepared by Rosamond H. Peirce, charts by P. Stanley King.

APPENDIX TABLES

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1932-37*

(Million bushels)

Year	World ex-Russia ^a			United States	Other chief ex- porters ^b	Europe ex-Russia				French North Africa ^d	India	Others ex-Russia ^a	USSR
	Total ^a	North- ern Hem- isphere	South- ern Hem- isphere			Total	Lower Danube ^c	France, Italy, Ger- many	Others				
1932.....	3,874 ^e	3,355 ^e	519	757	898	1,518 ^e	222	825 ^e	471	75	337	289	744 ^f
1933.....	3,810	3,268	542	552	745	1,742	367	867	508	70	353	348	1,019
1934.....	3,490	3,046	444	526	650	1,546	249	738	559	97	350	321	1,117
1935.....	3,553	3,184	369	626	567	1,575	302	739	534	70	363	352	1,133
1936.....	3,503	3,034	469	627	619	1,479	384	641	454	50	352	376	960
1937 ^g	3,806	3,371	435	886	548	1,537	357	698	482	71	366	398	...
1937 ^h	3,764	3,340	424	874	536	1,528	349	703	476	70	366	390	...

* Data summarized from Table II (except for India and USSR). Figures in italics are in part unofficial estimates. Dots (...) indicate no data available.

^a Excludes China, Iran, and Iraq.

^b Canada, Australia, Argentina.

^c Hungary, Yugoslavia, Rumania, Bulgaria.

^d Morocco, Algeria, Tunis.

^e Including increase of 30 million bushels for France.

^f Not fairly comparable with data for later years.

^g As of about Sept. 20, 1937.

^h As of about Jan. 20, 1938.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1932-37*

(Million bushels)

Year	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Brazil, Peru	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1932...	491.8	265.1	443.1	213.9	240.9	5.4	28.7	8.85	64.5	53.4	55.5	48.1	28.0	29.2	17.5
1933...	376.5	175.2	281.9	177.3	286.1	14.7	35.3	7.98	96.4	96.6	119.1	55.5	28.9	32.0	9.2
1934...	438.0	88.4	275.8	133.4	240.7	10.7	30.1	7.13	64.8	68.3	76.6	39.6	39.6	43.5	13.8
1935...	465.3	161.0	281.9	144.2	141.5	15.1	31.9	7.38	84.2	73.1	96.4	47.9	20.0	33.5	16.9
1936...	519.9	106.9	219.2	150.5	249.2	9.3	28.6	....	87.8	107.4	128.7	60.4	12.2	29.8	8.1
1937 ^a ...	688.1	197.8	188.2	155.0	205.0	....	....	....	70.1	86.3	136.0	64.2	18.0	34.4	18.4
1937 ^b ...	685.1	188.9	182.4	161.8	192.0	15.0	....	....	69.9	86.3	136.0	56.5	18.4	34.0	17.6

Year	United Kingdom	Irish Free State	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^c	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1932...	43.6	.83	363.8	276.9	183.8	53.7	12.2	4.00	16.1	12.8	11.0	.75	24.1	184.2	23.8
1933...	62.4	1.98	362.3	298.5	205.9	72.9	14.6	4.96	16.1	15.3	11.5	.76	26.3	138.2	15.1
1934...	69.8	3.80	338.5	233.1	166.5	50.0	13.3	5.52	17.9	18.0	12.8	1.20	27.8	186.8	24.7
1935...	65.4	6.69	285.0	282.8	171.5	62.1	15.5	5.99	17.1	16.7	14.7	1.77	23.6	158.0	22.1
1936...	55.3	7.84	254.6	224.6	162.1	55.6	14.0	4.47	17.2	15.6	11.3	2.09	21.5	121.5	8.7
1937 ^a ...	56.1	7.30	246.2	294.3	157.4	49.9	14.0	6.16	15.8	12.7	11.9	2.20	26.5	147.0	14.5
1937 ^b ...	56.4	7.20	246.2	296.0	160.7	51.3	14.5	6.16	15.9	13.0	13.6	2.52	26.5	135.0	14.5

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East ^d	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1932...	49.5	9.4	5.29	2.08	1.48	17.1	69.0	12.9	52.6	32.8	9.0	39.4	9.7	10.6	11.06
1933...	79.9	8.2	6.72	2.45	2.46	28.4	98.2	16.7	40.0	40.4	8.9	52.5	12.1	11.5	9.04
1934...	76.4	10.5	8.05	3.11	3.28	25.7	99.7	21.5	37.3	47.7	9.3	23.9	11.0	16.4	5.93
1935...	73.9	10.1	6.52	2.27	4.23	27.2	92.6	24.8	43.2	48.7	9.7	37.3	10.7	20.2	8.86
1936...	78.4	7.9	5.27	2.43	5.44	19.5	138.5	20.3	45.7	45.2	8.1	35.2	13.6	16.1	7.17
1937 ^a ...	65.8	8.5	6.39	2.90	6.03	29.0	140.3	....	45.4	49.6	11.0	42.4	12.9	15.0	....
1937 ^b ...	67.6	8.0	6.32	2.77	6.32	29.0 ^e	140.3	....	45.4	50.4	11.0	39.6	11.2	10.9	....

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

^a As of about Sept. 20, 1937.

^b As of about Jan. 20, 1938.

^c Including Luxemburg.

^d Syria and Lebanon, Palestine, Cyprus.

^e Our approximation; see p. 208.

TABLE III.—WHEAT RECEIPTS IN NORTH AMERICA, MONTHLY, JULY–DECEMBER, 1932–37*

(Million bushels)

Year	United States (13 primary markets)							Canada (country elevators and platform loadings)						
	July	Aug.	Sept.	Oct.	Nov.	Dec.	July-Dec.	July	Aug.	Sept.	Oct.	Nov.	Dec.	Aug.-Dec.
1932.....	41.0	40.7	38.4	27.2	17.6	13.9	178.8	3.2	17.6	120.5	81.0	38.1	18.5	275.7
1933.....	37.2	26.7	22.6	17.6	11.6	11.2	126.9	10.5	25.6	55.6	46.4	23.0	10.3	160.9
1934.....	49.7	23.0	19.1	12.9	9.2	7.8	121.7	10.9	30.8	55.6	50.8	23.6	12.5	173.3
1935.....	28.9	48.2	42.3	27.9	14.5	9.9	171.7	12.6	13.3	73.2	60.0	21.0	14.2	181.7
1936.....	84.2	29.5	10.6	15.2	10.7	10.4	160.6	4.0	40.8	57.7	22.6	9.0	8.0	138.1
1937.....	111.9	62.2	35.2	22.6	16.1	10.6	258.6	3.4	19.8	44.7	18.0	10.3	5.4	98.2

* United States data unofficial, compiled from *Survey of Current Business*; Canadian data computed from official figures given in *Canadian Grain Statistics*. U.S. data for 1932 are for 14 markets, including Toledo.

TABLE IV.—WHEAT VISIBLE SUPPLIES, AUGUST–JANUARY 1937–38, 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						
Aug. 1											
1932.....	385.5	175.9	15.4	116.8	4.7	312.8	31.4	9.1	40.5	26.0	6.2
1933.....	423.2	135.0	3.7	190.4	6.7	335.8	31.6	11.4	43.0	31.5	12.9
1934.....	423.2	115.9	.0	177.6	9.8	303.3	34.8	13.6	48.4	52.0	19.5
1935.....	302.2	34.7	.0	186.8	10.5	232.0	16.9	8.8	25.7	32.0	12.5
1936.....	237.4	67.3	.0	99.5	19.3	186.1	20.6	9.6	30.2	11.5	9.6
1937.....	180.1	89.3	.1	27.8 ^a	4.1	121.4	25.6	12.0	37.6	14.5	6.6
Jan. 1											
1933.....	549.7	168.5	6.9	224.2	13.6	413.2	36.4	7.5	43.9	83.0	9.6
1934.....	476.5	132.5	2.3	227.6	14.0	376.4	20.7	19.1	39.8	50.0	10.3
1935.....	447.8	91.0	1.0	230.2	27.6	349.8	25.4	16.1	41.5	45.5	11.0
1936.....	441.5	76.7	.0	226.4	34.8	337.9	20.2	10.3	30.5	68.0	5.1
1937.....	267.1	62.4	.0	81.6 ^a	27.8	171.8	35.9	9.0	44.9	44.5	5.9
1937–38											
Sept. 1.....	226.8	137.9	1.4	38.9 ^a	2.6	180.8	20.0	11.2	31.2	10.0	4.8
Oct. 1.....	252.8	141.5	1.7	65.3 ^a	2.1	210.6	21.7	9.8	31.5	7.0	3.7
Nov. 1.....	244.9	130.3	2.4	66.2 ^a	2.5	201.4	27.1	10.2	37.3	4.0	2.2
Dec. 1.....	248.8	108.6	1.9	54.0 ^a	5.2	169.7	34.3	10.3	44.6	30.5	4.0
Jan. 1.....	279.9	94.5	1.9	49.2 ^a	4.7	150.3	31.4	9.2	40.6	82.0	7.0

* Selected, for dates nearest the first of each month, from weekly data in *Commercial Stocks of Grain in Store in Principal U.S. Markets*, *Canadian Grain Statistics*, and (for stocks outside North America) *Broomhall's Corn Trade News*.

^a Excluding, for comparability, stocks in transit by rail which are now included in published totals.

TABLE V.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, JULY–DECEMBER 1937, WITH COMPARISONS*

(Thousand barrels)

Month or period	Production						Net exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total								
	1935	1936	1937	1935	1936	1937	1935	1936	1937	1935	1936	1937
July.....	7,387	9,416	8,415	7,825	10,028	8,914	296	320	308	7,529	9,708	8,606
Aug.....	8,082	9,148	8,678	8,561	9,753	9,193	315	356	430	8,246	9,397	8,763
Sept.....	9,055	8,708	9,234	9,602	9,284	9,782	314	470	496	9,288	8,814	9,286
Oct.....	9,897	9,120	9,446	10,495	9,733	10,006	356	361	533	10,139	9,372	9,473
Nov.....	8,274	8,019	8,698	8,784	8,558	9,214	302	307	527	8,482	8,251	8,687
Dec.....	7,175	8,216	.....	7,617	8,778	9,155 ^a	294	401	550 ^a	7,323	8,377	8,605 ^a
July-Dec.	49,870	52,627	.....	52,884	56,134	56,264 ^a	1,877	2,215	2,844 ^a	51,007	53,919	53,420 ^a
July-June ^b ...	98,421	100,264	.....	104,505	106,803	.....	3,886	4,495	....	100,619	102,308	103,300 ^a

* Reported production and trade data from U.S. Department of Commerce, *Wheat Ground and Wheat Milling Products*, *Monthly Summary of Foreign Commerce*, and Statement No. 3009. Total production and net retention are our estimates.

^a Preliminary estimate.

^b Twelve months beginning in year stated.

TABLE VI.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM SEPTEMBER 1937*

(Million bushels)

Week ending	Total	Shipments from							Shipments to Europe				To ex-Europe		
		North America	Argentina ^a	Australia	South Russia	Danube	India	Other countries ^b	Total	United Kingdom	Orders	Continent	Total	Brazil	Others
1937															
Sept. 4.....	6.70	2.16	.99	.84	.77	.96	.93	.05	5.23	2.33	1.29	1.61	1.47	.94	.53
11.....	7.47	2.13	.89	.94	1.68	1.26	.46	.11	5.66	1.46	.74	3.46	1.82	.86	.96
18.....	7.19	2.91	.56	.38	1.28	1.98	.06	.02	6.06	2.03	.57	3.46	1.13	.19	.94
25.....	8.98	3.02	.41	1.18	1.42	2.06	.47	.42	7.49	2.72	.48	4.29	1.49	.35	1.14
Oct. 2.....	9.25	3.31	1.14	.70	1.77	1.73	.20	.40	7.55	2.35	1.00	4.20	1.70	.77	.93
9.....	11.58	4.05	1.22	.90	2.50	2.18	.55	.18	9.25	3.96	1.42	3.87	2.33	.97	1.36
16.....	10.92	4.40	.37	2.01	1.90	1.95	.09	.20	9.22	2.92	2.79	3.51	1.70	.29	1.41
23.....	10.08	3.57	1.07	1.11	1.48	2.35	.42	.08	8.06	3.25	1.46	3.35	2.02	1.09	.93
30.....	11.93	4.70	.26	1.71	3.63	1.41	.22	.00	9.98	4.03	2.21	3.74	1.95	.40	1.55
Nov. 6.....	11.66	4.89	.22	1.77	3.60	.87	.30	.02	9.89	3.01	2.96	3.92	1.77	.44	1.33
13.....	12.14	5.37	.00	1.90	2.12	2.66	.05	.04	10.33	4.52	1.98	3.83	1.82	.00	1.82
20.....	11.34	5.36	1.02	.94	1.83	1.63	.54	.02	9.32	3.55	1.23	4.54	2.02	.95	1.07
27.....	9.15	5.30	.13	.97	1.68	1.05	.00	.02	7.63	2.23	2.53	2.87	1.52	.13	1.39
Dec. 4.....	12.33	6.36	.37	2.87	.96	1.60	.17	.00	11.10	2.54	4.30	4.26	1.22	.36	.86
11.....	8.71	3.59	.41	1.47	1.24	1.50	.48	.02	7.18	1.69	2.75	2.74	1.53	.34	1.19
18.....	9.03	4.13	1.07	2.06	1.13	.50	.12	.02	7.28	1.82	2.95	2.51	1.75	.93	.82
25.....	10.22	4.82	1.91	2.19	.32	.61	.36	.01	7.87	1.85	2.98	3.04	2.35	1.07	1.28
1938															
Jan. 1.....	8.45	3.08	1.11	3.17	.00	.93	.16	.00	7.07	2.66	2.36	2.05	1.38	.47	.91
8.....	7.91	3.63	1.05	.80	1.24	.54	.00	.65	6.49	1.46	.96	4.07	1.42	...	...
15.....	10.43	4.15	1.66	3.59	.29	.29	.19	.26	8.68	3.08	2.96	2.64	1.75	...	...

* Here converted from data in Broomhall's *Corn Trade News*.^a Including Uruguay.^b "North Africa, France, Germany, Sweden, etc."^c Preliminary.

TABLE VII.—NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1937*

(Million bushels)

Month or period	United Kingdom	Irish Free State	France ^a	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium ^b	Netherlands	Denmark	Norway	Sweden	Portugal
Aug.	17.42	1.06	.99	1.20	6.64	(.95)	.20	.80	2.93	1.95	.46	.43	.17	.01
Sept.	13.06	1.07	1.91	.40	2.94	(.06)	.41	1.30	3.94	2.07	.36	.47	.12	.00
Oct.	17.73	1.20	.69	(.32)	2.33	(.05)	.46	1.41	3.73	1.96	.49	.38	.17	.03
Nov.	16.67	1.16	...	(.23)	1.90	.30	...	1.15	5.00	2.25	.55	1.37	(.20)	...
Aug.-Nov. 1937	64.88	4.49	5.00	1.05	13.81	(.76)	1.50	4.66	15.60	8.23	1.86	2.65	.26	.05
1936	65.92	4.65	1.85	2.75	.43	(.22)	2.67	5.97	16.41	5.96	2.54	2.13	(.57)	.06

Month or period	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Syria, Lebanon	Egypt	Japan	Manchukuo	China	Cuba ^c	South Africa	New Zealand
Aug. ....	.00	.00	.29	.02	.26	1.41	.05	(.00)	(.09)	.57	...	.44	(.01)	.19
Sept. ....	.00	.00	.00	.00	.21	1.15	(.02)	(.01)	(.56)	(.04)	.20	.37	...	.17
Oct. ....	.00	.00	.00	.00	.22	.92	...	...	(.74)	...	...	.40	...	.13
Nov. ....	.00	...	...	...	...	...	...	...	(1.22)	...	...	.44	...	...
Aug.-Nov. 1937 .....	.00	.00	.30	.02	.90	4.60	(.05)	(.03)	(2.61)	.60	.40	1.65	(.01)	.60
1936	(3.26)	.00	.00	.00	1.12	6.51	(.95)	.03	1.11	2.19	(.76)	1.40	.02	.24

* Data from official sources and International Institute of Agriculture. Dots (...) indicate that data are not available. November figures preliminary for some countries; August-November 1937 includes our estimates for missing monthly data. Figures in parentheses represent net exports.

^a Net trade in "commerce général."^b Including Luxemburg.^c Gross imports of flour from unofficial sources.

TABLE VIII.—NET EXPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1937*

(Million bushels)

Month or period	United States ^a	Canada	Australia	Argentina	Chile	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	India	USSR
Aug.	6.64	7.82	6.06	4.05	.00	1.03	1.58	4.15	.30}	.23	.79	.49	2.13	2.70
Sept.	4.58	7.23	3.38	3.40	...	.70	1.41	4.62	.84}	.63	.45	2.13	6.85	
Oct.	9.26	11.31	5.68	2.86	...	.78	.83	5.96	.84	.34	1.04	.68	1.56	...
Nov.	8.68	15.88 ^b	5.92	1.48	...	1.16	...	...	1.21	...	...	...	1.20	...
Aug.-Nov. 1937	29.16	42.24	21.04	11.79	.00	3.67	4.70	18.00	3.19	(.70)	3.40	2.00	7.02	29.00
1936	(14.41)	109.28	23.58	19.35	.00	12.03	9.11	19.30	3.47	(.63)	4.07	(.22)	6.30	1.30

* For general notes see Table VII. Here, figures in parentheses represent net imports.

^a Including shipments to possessions.^b Gross exports for December were 8.2 million bushels.

TABLE IX.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1932-33*

(Million bushels)

Year	Domestic supplies			Domestic utilization				Surplus over domestic use ^c	Net exports			Year-end stocks
	Initial stocks	New crop	Total	Milled (net)	Seed use	Balancing item ^a	Total ^b		Total	To Nov. 30	From Dec. 1	
	A. UNITED STATES (JULY-JUNE)											
1932-33....	375	757	1,132	484	84	+150	718	414	36	23	13	378
1933-34....	378	552	930	440	78	+110	628	302	28	4	24	274
1934-35....	274	526	800 ^d	450	83	+120	653	147	(1) ^e	2	(3) ^e	148
1935-36....	148	626	774 ^d	466	87	+111	664	110	(28) ^e	(15) ^e	(13) ^e	138 ^f
1936-37....	138 ^f	627	765 ^d	471	96	+130	697	68	(23) ^e	(18) ^e	(5) ^e	91 ^f
1937-38 ^g ...	91 ^f	886	977	480	95	+ 94	669	308	123	..	..	185
1937-38 ^h ...	91 ^f	874	965	480	95	+ 95	670	295	105	32	73	190
	B. CANADA (AUGUST-JULY)											
1932-33....	130	443	573	44	36	+19	99	474	264	121	143	210
1933-34....	210	282	492	43	33	+29	105	387	194	84	110	193
1934-35....	193	276	469	43	32	+27	102	367	165	80	85	202
1935-36....	202	282	484	45	33	+44	122	362	254	102	152	108
1936-37....	108	219	327	44	34	+21	99	228	195	109	86	33
1937-38 ^g ...	33	188	221	44	34	+30	108	113	80	..	..	33
1937-38 ^h ...	33	182	215	44	35	+21	100	115	80	42	38	35
	C. AUSTRALIA (AUGUST-JULY)											
1932-33....	50	214	264	33	16	+10	59	205	150	27	123	55
1933-34....	55	177	232	33	13	+15	61	171	86	26	60	85
1934-35....	85	133	218	32	13	+ 7	52	166	109	34	75	57
1935-36....	57	144	201	33	13	+10	56	145	102	29	73	43
1936-37....	43	151	194	33	15	+ 4	52	142	102	24	78	40
1937-38 ^g ...	35	155	190	34	15	+ 6	55	135	95	..	..	40
1937-38 ^h ...	40	162	202	34	15	+ 3	52	150	110	21	89	40
	D. ARGENTINA (AUGUST-JULY)											
1932-33....	65	241	306	65	24	+10	99	207	132	15	117	75
1933-34....	75	286	361	66	23	+ 7	96	265	147	33	114	118
1934-35....	118	241	359	69	17	+ 6	92	267	182	63	119	85
1935-36....	85	141	226	69	21	+ 1	91	135	70	35	35	65
1936-37....	65	249	314	70	23	+ 9	102	212	162	19	143	50
1937-38 ^g ...	55	205	260	70	23	+ 2	95	165	105	..	..	60
1937-38 ^h ...	50	192	242	71	23	+ 6	100	142	82	12	70	60

* Based on official data so far as possible; see WHEAT STUDIES, December 1937, Table XXX.

^a Total domestic utilization minus quantities milled for food and used for seed.^b Total domestic supplies less surplus over domestic use.^c Summation of net exports and year-end stocks.^d Not including net imports.^e Net imports.^f Excluding new-crop wheat in some positions.^g Estimates as of September 1937.^h Estimates as of January 1938.

TABLE X.—SELECTED WHEAT PRICES, WEEKLY FROM SEPTEMBER 1937*

(U.S. cents per bushel)

Week ending	Futures							United States cash					
	Liverpool		Winnipeg		Buenos Aires	Chicago		Basic cash (Chi.)	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)
	Dec.	May ^a	Dec.	May	Feb.	Dec.	May						
1937													
Sept. 4.....	125	122	120	122	...	107	109	108	108	107	130	113	95
11.....	129	125	125	126	...	109	111	111	112	111	138	113	96
18.....	129	124	123	124	99	104	106	107	107	107	132	107	91
25.....	131	125	124	125	98	106	107	110	109	109	132	105	94
Oct. 2.....	135	129 ^a	127	126	103	108	109	112	111	112	133	109	95
9.....	130	124	122	121	103	103	104	107	107	107	129	109	92
16.....	126	122	118	117	102	98	99	102	103	100	121	107	88
23.....	126	121	119	116	103	98	99	102	104	101	127	110	91
30.....	130	122	118	116	105	97	96	101	102	101	128	107	89
Nov. 6.....	126	119	112	110	103	91	91	94	96	..	116	99	85
13.....	122	116	112	110	100	89	90	92	92	86	116	98	82
20.....	120	117	115	112	103	91	92	94	95	93	118	102	85
27.....	117	114	110	110	100	90	90	92	94	93	109	101	85
Dec. 4.....	115	114	114	112	100	93	92	95	95	96	112	105	85
11.....	115	114	118	116	102	96	93	98	97	95	121	109	86
18.....	115	113	126	117	102	94	92	96	97	94	116	104	85
25.....	112	110	127	117	102	95	92	96	96	95	122	103	86
1938													
Jan. 1.....	...	110	...	118	103	..	91	93	96	95	...	105	..
8.....	...	114	...	126	108	..	95	96	98	97	126	109	..
15.....	...	115	...	127	112	..	97	98	105	102	131	110	..

Week ending	British parcels	Liverpool (Tuesday prices)					European domestic				Winnipeg		Buenos Aires 80-kilo ^f
		No. 1 Man.	No. 3 Man.	No. 2 H. W. ^b	Arg. Rosafé ^c	Aus-trallan ^d	Great Britain	France ^e	Ger-many ^e	Italy ^e	Wtd. average	No. 3 Man.	
1937													
Sept. 4.....	132	149	138	137	130	130	114	184	219	198	121	118	125
11.....	139	154	144	140	132	132	113	176	219	198	125	121	128
18.....	141	154	141	...	133	137	114	167	219	198	124	120	130
25.....	141	160	148	145	134	138	116	169	219	198	128	122	130
Oct. 2.....	146	170	152	150	134	142	120	163	220	198	133	125	133
9.....	140	171	150	151	137	144	123	164	220	198	128	118	140
16.....	142	164	142	139	129	142	125	167	220	198	126	115	150
23.....	138	170	141	142	129	139	123	168	220	198	134	118	153
30.....	134	172	143	142	133	138	122	167	220	198	129	116	144
Nov. 6.....	133	168	141	138	133	136	122	169	223	198	124	110	132
13.....	130	160	132	123	...	132	122	169	223	198	125	112	128
20.....	137	164	138	128	135	130	120	170	223	198	126	114	129
27.....	131	163	138	127	133	128	118	169	223	198	118	108	116
Dec. 4.....	127	158	136	126	130	122	117	170	226	198	121	110	108
11.....	140	169	141	129	130	120	116	170	226	198	122	112	107
18.....	124	168	141	126	129	117	115	170	226	198	125	118	...
25.....	125	170	143	126	129	118	113	170	226	198	128	118	...
1938													
Jan. 1.....	148	173 ^d	144 ^d	130	130	116	113	171	228	198	133	123	...
8.....	...	172 ^d	145 ^d	130	131	113	...	171	228	198	136	125	...

* For methods of computation see WHEAT STUDIES, December 1936, XIII, 230-31. 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, *International Institute of Agriculture Monthly Crop Report*. . . . Prices are converted to U.S. cents at noon buying rates for cable transfers. Dots (...) indicate no quotations.

^a March future through October 2.

^b Gulf shipments; duty added.

^c New-crop; duty added.

^d To London.

* Fixed prices. Irregularities in French prices due to fluctuations in exchange rates; prices were raised one franc per quintal monthly starting with 181.0 in September.

^f August 28, 125.

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