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WORLD WHEAT SURVEY AND OUTLOOK JANUARY 1941

Helen C. Farnsworth and Bernhardt M. Jensen

World wheat supplies for 1940–41 are of record size and concentrated heavily in overseas exporting countries. In Canada and Argentina, embarrassing surpluses present serious problems of storage in the face of wartime barriers to exports. In Continental Europe ex-Russia, wheat supplies are moderately light, unevenly distributed, and partly withheld from consumption by governmental agencies and by farmers. Bread is now rationed in most of Continental Europe ex-Danube, though in many countries the rations do not seriously restrict consumption. High extraction rates for wheat and required admixtures of other cereals and potatoes in bread flour have induced heavier curtailment of wheat-grain utilization for food than of bread consumption. Throughout Continental Europe, feed use of bread grains is prohibited, and in the British Isles it is sharply restricted.

World wheat exports in August–December were lower than in any preceding year of the present century, with the possible exception of 1917–18. Australian and Argentine exports were well maintained; but clearances from North America were strikingly small, especially as compared with the record-heavy supplies there. Continental European imports, particularly into the Axis-dominated area, were notably low. The principal neutral countries secured small supplies of overseas wheat under the British navicert system. British imports were apparently larger than in August–December 1939, though smaller than in several earlier years.

During January–July, world exports seem likely to continue low, perhaps bringing the crop-year total to 450 million bushels. In the major exporting countries, government price-supporting measures will presumably continue to dominate the course of wheat prices. In the United States prices will be affected not only by the operation of this year's wheat-loan program, but also by the outlook for changes in the government's agricultural program for 1941–42.

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War and preparations for war continued to dominate every phase of the international wheat situation during August–January. As a result, the wheat-consuming world was divided into two separate and distinct parts. The overseas exporting countries were bound together by common problems of burdensome wheat supplies, congested elevators, government-fixed minimum prices for wheat, poor export outlets, and the possibility of government-enforced acreage reduction in 1941. Over against these stood the principal importing countries of Europe and the Orient—countries facing the threat of general hunger and want, needing foreign wheat but still unable to obtain it; countries whose governments were encouraging full crop deliveries, penalizing grain-hoarding and feed use of bread grains, restricting price increases for grain, flour, and bread, stretching existing wheat stocks by various means, and endeavoring to stimulate larger wheat plantings for the crops of 1941.

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Although monthly trade statistics are no longer published for the principal importing countries, direct and indirect information may still be had with regard to the exports of the larger exporting countries. Such information, supplemented by our rough approximations to the trade of non-reporting countries, suggests that world exports in August–December 1940 were smaller than in the corresponding period of any year since 1900–01, with the possible exception of 1917–18. The reduction from 1939 was in the neighborhood of 100 million bushels or 35 to 40 per cent.

Despite their great distance from Europe and serious shipping difficulties, Australia and Argentina were able to keep about their usual share of the world's export trade. Overseas clearances of wheat and flour from Canada were notably light as compared with preceding years, though Canadian flour exports were large even in absolute quantity. United States net exports presumably did not exceed 15 million bushels in August–December; the exports were almost entirely subsidized, and mostly from the Pacific Northwest.

The great bulk of the overseas exports to Europe went to the United Kingdom, though small quantities flowed to Eire, Spain, Portugal, Greece, Finland, and probably Switzerland. Imports into the Axis-dominated area of the Continent originated largely in the Danube basin and secondarily in northern Africa. The total was very small; and we hazard the guess that all of Continental Europe ex-Danube did not import more than 35 million bushels of wheat in August–December 1940—less than half as much as on the average in 1934–38.

In the face of poor bread-grain crops in Europe this year and of governmental policies aimed at keeping large war reserves of grain, the small imports of August–December 1940 were clearly inadequate to maintain the usual level of wheat utilization. Most European countries early took full control of the available domestic supplies of bread grain, prohibiting its use for feed, establishing high minimum extraction rates for flour milling, specifying admixtures of corn, rye, potato, or other flour with wheat flour, and instituting rationing of bread and other wheat and rye products. In some countries similar measures had been in force during 1939–40; but, in general, the measures adopted for the current crop year have been more restrictive and more sharply enforced.

Thus far there have been few complaints of *current* shortage of bread in Europe, except temporarily and on a small scale. The

bread rations of most of the countries range from adequate to liberal. The reported rations of Spain, Poland, and Belgium, however, appear to be materially below former consumption levels. In these countries potatoes, coarse grains, and other products have presumably been used more extensively than usual for human food. The outlook for future months is darker for the major food-deficit countries under German control—Belgium, Norway, German Poland, France, and perhaps the Netherlands—though their grain shortages could be relieved by Germany if the German government should so will it. The neutral nations of Europe, and perhaps unoccupied France, will presumably be able to obtain limited shipments of overseas grain under the British navicert system; but the British government continues to refuse permission for food shipments to German-occupied territory to pass through the British blockade.

In terms of domestic currency, European wheat prices stood generally higher this year than in any year of the preceding decade; but in the major overseas exporting countries wheat prices were distinctly moderate, and they were kept from being low only by special governmental action. The government price-supporting programs now operating in Canada, Australia, Argentina, and the United States differ in detail but not materially in effect. All involve government-supported minimum prices to most wheat producers; all involve some government financing of heavy accumulations of stocks; all prevent the leading wheat markets (whether cash or futures) from reflecting the free appraisal of current competitive wheat values by private traders, dealers, and millers.

Over the past five months, Winnipeg wheat prices have remained stable at about the minimum legal limits. Chicago prices, substantially below government-loan values in mid-August, have since risen to and even somewhat above the loan levels. At Buenos Aires, wheat prices moved sharply downward until mid-October, influenced by improving crop prospects and evidence of previous underestimation of old-crop stocks. Later, they rose to the level, established late in November, of fixed minimum prices for the new crop.

Wheat Supplies

The new crop.—The 1940 wheat crop of the world ex-Russia is now estimated at 4,082 million bushels, some 95 million higher than seemed probable last September (Chart 1).

A reduction of 10 million bushels in the Canadian estimate was more than offset by an increase of 33 million bushels in the United States. The official revision published December 18 raised the estimate of the United States winter-wheat crop from 556 to 589 million bushels, and indicated a harvest nearly 50 per cent larger than the first forecast as of December 1, 1939.[1]

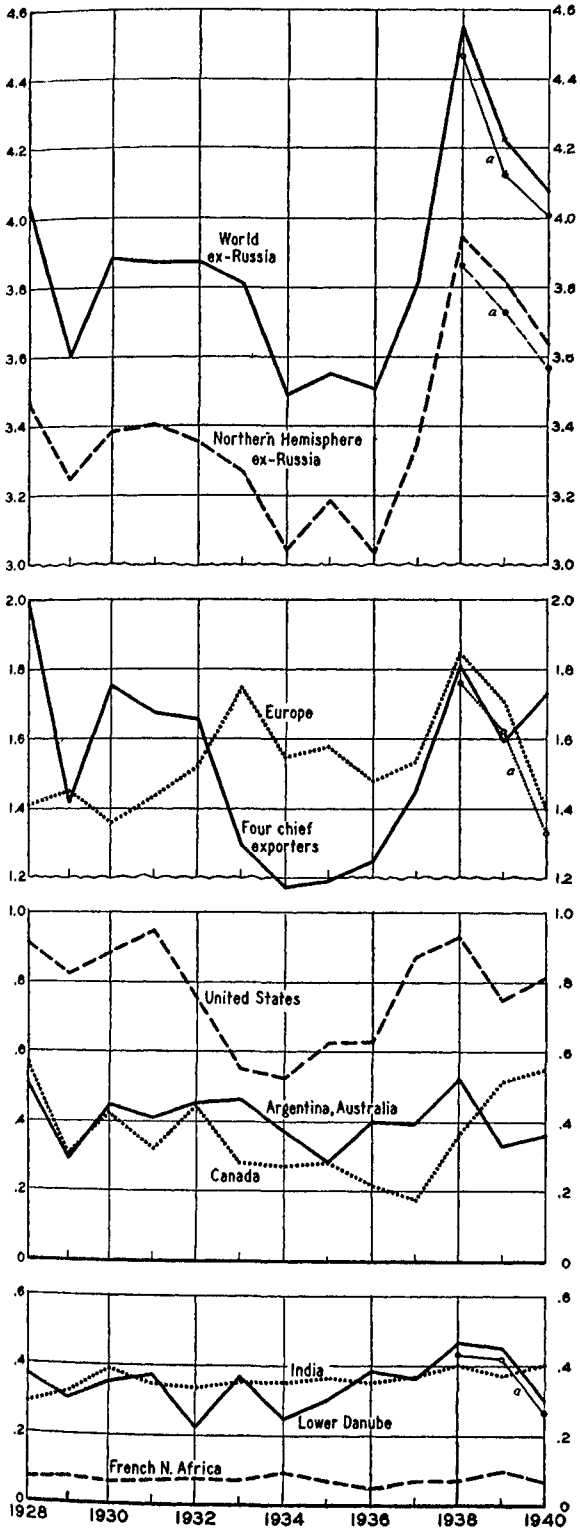
In Australia, continued drought resulted in successive reductions in forecasts. The latest estimate of 92 million bushels is nearly 25 per cent below the low trade appraisals in September, and the smallest since 1919. Though acreage was small, the poor outturn was due largely to unusually low yields, now put at 7.4 bushels per sown acre.

The Argentine crop, by contrast, far exceeds earlier expectations. After a poor start, due to excessive early rains, there was improvement resembling the "miraculous" recovery of the United States winter-wheat crop. Forecasts were at first extremely pessimistic but more and more favorable as the season progressed. Compared with September forecasts of around 200 million bushels, private appraisals ranged from 220 to 260 million shortly before the first official estimate was released on December 13. That estimate of 294 million was received with general skepticism since, in view of the excessive moisture this season, the indicated yield of nearly 17 bushels per seeded acre was considered unduly optimistic.[2] Subsequent harvest losses due to heavy rains led the Ministry of Agriculture, early in January, to suggest a downward revision of 23 million bushels, and on January 22 the second official estimate was placed at 276 million.

[1] Most of the phenomenal crop recovery occurred in the Southwest. Kansas and Oklahoma each had outturns more than double the size of early spring estimates, while the crops of Nebraska and Texas showed lesser but important gains.

[2] Yields usually range between 10 and 14 bushels per seeded acre, and even the bumper crop of 1938 only reached 17.6; the yield in 1939 was 6.7 bushels.

CHART 1.—WHEAT CROPS EX-RUSSIA, 1928–40*
(Billion bushels)



* Data in Tables I and II.
[a] New boundaries: deductions made for territory acquired by Russia from Rumania, the Baltic States, Poland.

Early indications of a good harvest in Russia now seem substantiated. The total grain crop in the USSR is indicated to be 10 per cent larger than the moderate crop of 1939, though it still falls some 5 per cent below the record crop of 1937.[1] Quality and yields are said to have been particularly good in those areas where wheat predominates.

Production of wheat in the Orient seems somewhat greater than in 1939. Declines in the reported harvests of Chosen and Manchukuo were offset by an increase in the Japanese crop of approximately 5 million bushels to a record high of 66 million. As reported by the American consulate general in Shanghai, Chinese production this year reached 700 million bushels, greater by 33 million than the outturn last year, but still considerably below the 1931–35 average of 780 million. In contrast to the improvement in wheat production, there were marked reductions in the Oriental rice crops.

The 1940 harvest of wheat in India is estimated at 403 million bushels, slightly exceeding the previous record of 1938. The growing crop, which will be harvested in March–April 1941, seems to have progressed reasonably well, though some fears have been expressed that the rains in January might be inadequate.

The European crop situation is little clearer than it was four months ago. Very little evidence has accumulated regarding large segments of Europe, notably those under German control. Official statistics are few this year, as are even unofficial estimates from usually reliable sources; and many of the reports, official or unofficial, must be accepted with reserve. In view of German and British pressures, several governments of Continental Europe have incentives to understate crop outturns; and peasants everywhere would presumably tend to understate their harvests if consulted. Such factors may figure in the low official estimates of the Danubian crops.

Moreover, the marketed crops are likely to fall below harvested crops in larger degree than usual because of peasant practices of concealing, hoarding, or refusing to deliver.

[1] *International Review of Agriculture* (Rome), November 1940, p. 665S. There is no clear assurance that 1937 and 1940 crop estimates are comparable.

The peasant-producer naturally aims first to assure food for his family and feed for his livestock. Almost every European country has regulations designed to prevent hoarding of bread grains or using them as fodder. It is doubtful whether such measures can be more than moderately effective, though the facts may never emerge clearly.

There is general agreement, however, that the aggregate European wheat crop is considerably under that of 1939.[1] The accompanying table follows the same general groupings of countries as were used in our September survey.[2] Our guess for the crop in the British Isles, 74 million bushels, is based on reports of a fine crop in Eire, and on evidence that reduced yields per acre in Great Britain were offset by increased plantings. The estimate for the Danube, old boundaries,[3] agrees with those most frequently given, although our impression is that it may somewhat understate the facts. To obtain estimates of production in the Axis-controlled territory, it is necessary to make an adjustment for those parts of the Baltic States and Poland which have recently been absorbed into the USSR. We assume the output of this territory to be 45 million bushels for 1940.[4] Of the neutrals, only the estimate for Switzerland is not official; that for Italy, though rumored to be too high, is also official. On this basis of appraisal it would appear that the 1940 crop of the German-controlled area is roughly 18 per cent below that of both 1939 and the average for 1934–38.[5]

EUROPEAN WHEAT PRODUCTION, 1940, WITH COMPARISONS

(Million bushels)

Area	1934-38 average	1939	1940
Europe ex-USSR (old bound.)..	1,597	1,711	1,400
British Isles	71	71	74
Continent (old bound.).....	1,526	1,640	1,326
Danube basin[a] (old bound.)...	362	454	300
Continent ex-Danube (old bound.)	1,164	1,186	1,026
Baltic[b] and Russ. Poland....	52	57	45
Continent ex-Danube (new bound.)	1,112	1,129	981
Neutrals[c] and Greece.....	217	209	198
Axis-controlled Areas (new bound.)	895	920	783
Italy	267	293	268
German-controlled area[d]	628	627	515

[a] Hungary, Yugoslavia, Rumania, Bulgaria. Boundaries are as of 1939 for Hungary.

[b] Estonia, Latvia, Lithuania.

[c] Spain, Portugal, Switzerland, Sweden, and Finland.

[d] Germany (old boundaries), Austria, Bohemia-Moravia, Slovakia, all of former Poland except the part transferred to Russia, Norway, Denmark, the Low Countries, and all of France.

With the paucity of information now available, the distribution of crops within the German-controlled areas can only be guessed. The official Norwegian crop estimate, however, falls but slightly below that of last year; and the Danish wheat harvest, while below normal, was apparently not excessively curtailed. There seems little question that the crops of Belgium and Holland were quite poor. The combined outturn of these four countries probably did not exceed 40 million bushels in 1940. If so, "Greater Germany"[6]

[1] The *International Review of Agriculture* carried estimates in September of 1,425 million bushels; in October, 1,415; and in November, 1,396. No information was given regarding details of the reductions. The U.S. Department of Agriculture has carried an estimate of 1,375 million bushels since September. Although both institutions have published appraisals for various groups of European countries and for a few individual countries (mostly whose governments have released official statistics), the groupings fail to show the crop situations in the various alignments of warring nations.

[2] WHEAT STUDIES, September 1940, XVII, 12.

[3] Russia's gain through the seizure of Bessarabia and northern Bukovina probably amounted to about 10 per cent of this total figure.

[4] The crops of Estonia, Latvia, and Lithuania plus 44 per cent of the crop of Poland (old boundaries). See WHEAT STUDIES, January 1940, XVI, 230, footnote 1. In 1940, Baltic crops apparently suffered from the severe winter, but southeastern Poland, like Bessarabia and the Ukraine, is reported to have had a good harvest.

[5] Incomplete figures published by the U.S. Department of Agriculture suggest that something less than 500 million bushels was produced in the German-controlled areas.

[6] For purposes of convenience in this comparison, we use the term "Greater Germany" to include all of Germany (old boundaries), plus Austria, Czechoslovakia, and all of former Poland except that part transferred to Russia.

and France together may have produced about 475 million bushels.

Official German reports indicate that a reduction of about 10 per cent from last year's harvest occurred in the total 1940 crop of grains and potatoes. Of these, the bread grains may be expected to have suffered most, with rye probably less affected than wheat. Under the circumstances it might seem reasonable to suppose that the outturn of German wheat this year was reduced from last year's harvest possibly by as small an amount as 12 per cent, perhaps by as large an amount as 16 per cent. With allowances for those areas not officially within the Reich, this suggests an outturn of perhaps something like 240 million bushels in "Greater Germany," and a crop of roughly 235 million bushels in France, free and occupied, including Alsace. French production would thus be indicated at 52 million bushels below the 1939 harvest, a reduction of 18 per cent from the moderate crop of 1939, and 23 per cent below the 1929–38 average.[1]

[1] An appraisal based on prewar official statistics indicates that the Franco-German armistice of June 23, 1940, divided France in such fashion that "free" France contains roughly 44 per cent of the former area of the nation. The prewar distribution of population suggests that perhaps one-third of the national population resided in the area now under the Vichy government, but it is impossible to do more than guess at the present distribution. The population of the "free" area has been swelled from some 14 million to an unknown total, estimated by some to be as high as 17.5 million. Not all of this increase may be attributed to movements out of the occupied area, since the refugees include some from the Low Countries, as well as a large remnant of those who fled earlier from Spain. It is clear, however, that "free" France, normally less productive than the occupied territory, both absolutely and relative to area, is today even less productive relative to population. Of the former national harvest, the unoccupied area produced normally only 25 per cent of the wheat, 19 per cent of the oats, 40 per cent of the potatoes, and 57 per cent of the rye. Thus the area was normally at a great relative disadvantage in the production of wheat and oats, although it had some advantage in the production of potatoes. The advantage in rye is insignificant since this crop is relatively unimportant in France, amounting usually to less than 10 per cent of the volume of wheat. Such reports as we have regarding the 1940 crops indicate that yields were much farther below normal in "free" France than in the occupied zone.

[2] See J. S. Davis, "The World Wheat Situation, 1939–40: A Review of the Crop Year," WHEAT STUDIES, December 1940, XVII, 196–200.

Carryovers and total supplies.—Our standing estimate of world wheat stocks on August 1, 1940, is 1,400 million bushels, a record total some 250 million larger than the year before, and perhaps about double the quantity that might be considered normal in a year of peace.[2] Stocks were of record size in most positions, but not in Argentina, Australia, or the United States.

The United States showed only a moderate gain of 32 million bushels over the 1939 figure. Large crops in 1939, together with shrinking export outlets, caused stocks in both Canada and Australia to show huge gains. The Canadian carryover of 301 million bushels was nearly triple that of a year earlier, and the Australian increase from 50 to 130 million bushels was nearly as large in percentage terms. In contrast, Argentine stocks declined remarkably from the high 1939 figure of 230 million bushels to only 70 million bushels—a decline due in part to the short crop of 1939, and in part to success in exporting most of the available supplies before August 1, 1940. The net change in the four chief exporters was thus an increase of some 150 million bushels, to the new record total of about 786 million. North American carryovers, 230 million bushels larger than in 1939, were only slightly below the 1933 record of 600 million.

European stocks were undoubtedly higher on August 1, 1940 than at the end of the preceding crop year, but their distribution among the nations is uncertain. In both Germany and Great Britain, however, carryovers were almost certainly higher than those of the previous year, whereas those of Poland, Belgium, and Spain were presumably all quite low.

Total world supplies for 1940–41 are now estimated at 5,482 million bushels, 100 million higher than those of 1939–40. For the third successive year new records have been set, each above the level of 5 billion bushels. Indicated supplies for Europe ex-Russia show a reduction of some 235 million bushels from last year's total of 2,160 million, but they are still roughly equal to the 1934–39 average. The most significant development, however, has been the enormous concentration of sup-

plies in North America, where supplies for 1940–41 totaled 1,954 million bushels. This is more than 325 million bushels greater than a year ago, and more than 200 million above the highest level previously reached.

WHEAT CROPS PLUS CARRYOVERS IN MAJOR AREAS EX-RUSSIA, ANNUALLY FROM 1935–36

(Million bushels)

Crop year	World ex-USSR[a]	North America	Australia, Argentina	Europe ex-Russia		
				Total	Lower Danube[b]	Other
1935–36....	4,525	1,269	428	1,959	336	1,623
1936–37....	4,266	1,115	504	1,810	418	1,392
1937–38....	4,370	1,176	481	1,797	401	1,396
1938–39....	5,178	1,470	645	2,078	502	1,576
1939–40....	5,378	1,628	610	2,160	529	1,631
1940–41....	5,482	1,954	568	1,925	385	1,540

[a] Including also Russian net exports.
[b] Hungary, Yugoslavia, Rumania, Bulgaria.

Visible supplies and marketings. — The war-imposed shortage of statistics applies in some small measure to data on visible supplies. Yet the most important series continue to be published, and these indicate beyond doubt that the world visible, if completely calculable, would have moved to levels far higher than any previously attained.

For the second consecutive year Canadian stocks have reached new highs. Reflecting the record inward carryover of 301 million bushels, the near-record new crop, and restricted exports, the still-mounting Canadian visible had reached on January 17 the unprecedented level of 485 million bushels (Chart 2).[1] The visible supply of United States grain has run above that of last year, though it is far below the record level of 1931–32. The combined total for North America reached a new high level. Australian figures likewise show an increase over previous years, and the Argentine series may soon rise to or above the levels reached in 1940, although it seems certain to fall short of the record achieved in 1938–39.

The Canadian visible has risen more slowly this year than last, reflecting the contrast between the slow marketing of this crop and the rapid marketing of the preceding one. The period of rapid marketing[2] began on August 22, whereas in six of the preceding seven years it had begun earlier; and the first 25 per cent of the estimated total marketings was not completed until September 23, an interval of 32 days instead of the average of 24 days. Weekly deliveries during this period were at the unusually low rate of 4.8 per cent, in contrast to a normal rate of about 7 per cent.[3] The second 25 per cent period was of unprecedented length—63 days compared with a normal interval of 28 days—and the average rate of delivery for the period as a whole was correspondingly low, at only 2.7 per cent per week. The end of rapid marketing came on October 2, with only about one-third of the estimated total deliveries completed. Never before had the rate of marketing fallen below 0.5 per cent daily, except for a few days at a time, until almost 60 per cent of the season's deliveries had been completed.

In large measure this delay was due to the system of delivery quotas imposed by the Canadian Wheat Board because of lack of storage facilities adequate to accommodate both the bumper new crop and the huge carryover. Early in the crop year a uniform quota of 5 bushels per seeded acre was set as the maximum that any producer might then deliver to the Wheat Board, which had agreed to purchase all wheat[4] delivered to it at a basic minimum price of 70 cents per bushel. In those localities where storage facilities were not filled by the deliveries permitted at first, the quotas were successively raised, and by December 14 the minimum quota was 12 bushels per acre, with some 22 per cent of the delivery points having quotas of 15 bushels

[1] Visible supplies for 1928–29, accompanying a bumper crop of 567 million bushels (15 million bushels in excess of the 1940 harvest) reached a figure less than half that of the current season.

[2] The beginning of rapid marketing is defined as the date on which daily deliveries reach 0.5 per cent of the estimated seasonal total; the end of rapid marketing occurs when daily deliveries fall below 0.5 per cent of the seasonal total. See Holbrook Working, "Price Effects of Canadian Wheat Marketing," WHEAT STUDIES, October 1937, XIV, 52.

[3] The only occasions when such low rates had occurred previously were in years when harvesting was delayed by wet weather. Harvest weather this year was generally excellent.

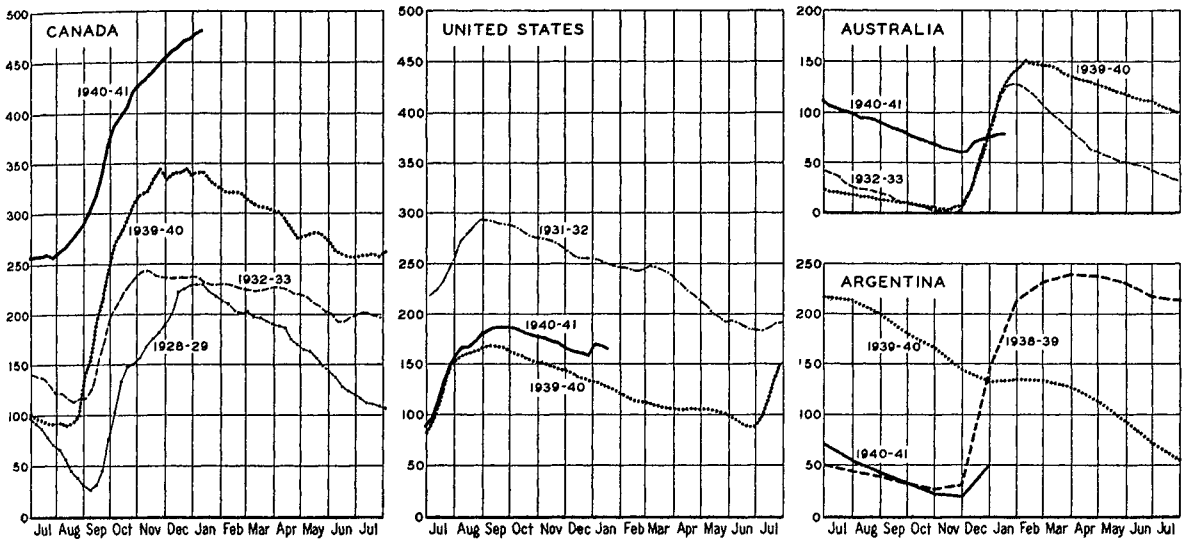
[4] In 1939–40, deliveries to the Wheat Board at the guaranteed minimum price were limited to 5,000 bushels per farmer.

and an additional 15 per cent having quotas of 20 bushels. No revision of the minimum quota has since been made, but quotas for specified delivery points have been increased from time to time.

lion bushels, compared with 36 million in 1940. Movement by rail to the Maritime Provinces was far below that of last year, when the Eastern elevators offered a large unutilized capacity not available this year, and the rail-

CHART 2.—VISIBLE SUPPLIES OF WHEAT, 1939–40, WITH COMPARISONS*

(Million bushels)



* Data for certain series summarized in Table IV. Beginning Jan. 4, two new markets were added to the U.S. series.

Despite recent increases in Canadian elevator space,[1] the congestion of storage facilities has been unprecedented. Stocks of Canadian wheat in the United States as of January 17, 1941, were at the high level of 51 mil-

roads have found it necessary to declare embargoes on shipments to either Fort William–Port Arthur or Vancouver.

Since the government has promised that all stocks of wheat eligible for delivery will be accepted by the Wheat Board before August 1, 1941, and since August 1–January 17 deliveries have totaled only 293 million bushels, it appears that some 185 million remain still to be cared for. The situation thus promises to tax to the utmost the present Canadian system of grain storage and handling.[2]

Marketing of the United States wheat crop for 1940 proceeded without major variation from normal, although new high peaks for weekly receipts were recorded in both the southwest and northwest markets.[3] While almost identical in its early course with that of 1939–40, the United States visible supply for 1940–41 later rose to higher levels. In both of these years, however, it has contained a large amount of wheat pledged against loans; and there have been complaints of shortages of "free" wheat despite heavy total supplies.

As of January 1, 1941, farm stocks in the

[1] Elevator space in the Prairie Provinces has increased by 78 million bushels since Aug. 1, 1939, according to an estimate of the Hon. J. A. MacKinnon, in a speech to the Canadian House of Commons, Nov. 22, 1940. Most of the increase seems to have been in the form of temporary annexes to country elevators. As an incentive to expansion of storage facilities, the Canadian government permitted the cost of these temporary annexes to be written off in two years, for income-tax purposes. See James Richardson & Sons, *Weekly Grain Letter*, Dec. 11, 1940.

[2] According to an appraisal of James Richardson & Sons, the present storage system will be inadequate for the task; additional capacity must be provided to care for present stocks, as well as to prepare for the coming crop. The suggestion was made that additions should be of a temporary nature, since the permanent elevator system has proved adequate for any normal situation (*idem.*).

[3] In the Southwest, where elevators still contained moderately large stocks of old-crop wheat, heavy deliveries of the "miracle" crop caused serious temporary congestion. The congestion in the Northwest, where unusually large quantities of Canadian wheat were in storage, apparently was less.

United States were estimated at 284 million bushels, an increase of nearly 50 million over the corresponding figure for 1940, and only 38 million below the record of 1932. Farm stocks constituted 34.8 per cent of the crop, a proportion exceeded only in 1932. This high figure reflects the large quantity of farm-stored wheat pledged against loans; unpledged farm stocks were not abnormally heavy relative to crop-year farm supplies but were surprisingly large in view of the additional sizable quantities held under loan.

Crop quality.—The available supplies of North American wheat are not only large but in general of excellent quality. In the United States, the three principal classes in the 1940 crop graded higher than last year and also higher than the average for 1934–39. Ample supplies of high-protein wheat are again available. The quality of western white wheat is considerably below that of 1939, with only 76 per cent grading No. 2 or better as compared to 97 per cent last year, and 90 per cent for the average of the last six years. The durum crop early appeared to be of high quality, but weather damage as a result of rains late in August materially reduced the percentage of high gradings.

Canadian wheat has likewise proved to be of high quality. Inspections through December indicated 91.5 per cent of the hard red spring crop grading No. 3 Northern or better; the corresponding figure was 91.8 per cent for 1939. Protein content is indicated to be almost exactly the same as last year, when it was high.

Early indications from Australia suggest that the small crop will prove of excellent quality. The large Argentine crop has suffered considerable damage from heavy rains at harvest. With respect to other countries little is known about crop quality.

Other grains and potatoes.—Statistics for this group are even less nearly complete than for wheat, particularly in Europe. Under the abnormal conditions imposed by war, some increase in substitutions between food and feed crops will occur, and most European countries have taken steps to control this. Some increase may also occur in diversion of agricultural crops to industrial uses, such as the manufacture of alcohol from potatoes, but on the whole we expect such changes from normal use to be minor ones.

Rye crops throughout most of Europe were damaged far less than wheat by the severe winter of 1939–40. Reductions from the excellent outturns of last year were general, though most marked in the Danube states. The German and Polish crops may well be below those of last year, but these harvests are believed still to be large, thus relieving somewhat the pressure on current wheat stocks. Production of rye in Spain, though small, was the best in many years.

Potato harvests in Europe for 1940 were generally excellent, and are expected to make up, at least in part, for the reduced wheat crop. Favorable weather, especially during the summer, and increased plantings, resulted in a huge crop. In Germany, the most important producer, the crop was larger than last year and nearly as large as the record one of 1937. Semiofficial reports indicate that shipments of potatoes have been made by Germany to Belgium and northern France. Of the Scandinavian countries, only Denmark experienced yields below average. Apparently Poland and the Baltic States also harvested good crops, and Hungary and Rumania as well. French production is unknown; although favored by seasonable weather, the crop may well be low because of war interference. The Netherlands obtained an excellent crop, much needed in the face of curtailed imports of other foods.

Corn yields in the Danube countries were excellent, and offset to some degree the poor wheat crop. Increased quantities will be used as food in place of wheat. Yugoslavia, whose wheat crop was very short, had an excellent corn crop, and is expected to be the principal exporter of this region. It is not yet clear whether any of the surplus of Bessarabia, now part of the USSR, will be exported to Europe as in previous years. In any event, the Danube region is expected to be a large exporter of corn this year. Italy, Portugal, and Turkey likewise report good crops; but Turkish exports are forbidden except under license.

The Argentine corn supply is enormous,

with a large new crop in prospect. In September the Grain Regulating Board acquired most of the existing stocks. Efforts to overcome the present glut include projects to increase the local feed use of corn, to distill alcohol from corn, and particularly to substitute corn for coal as fuel. The corn crop of the United States, largely because of the contraction of acreage to the lowest in 45 years, was below that of the past few years; but because of the huge carryover the total supply is almost equal to that of 1939–40.

Barley production in Europe was reduced by a proportion somewhat smaller than wheat, and somewhat greater than *oats*. In line with increased post-civil-war production of other cereals, barley production in Spain rose sharply to near-normal levels. Danubian harvests of barley were somewhat below those of 1939, but the oat crop appears to be normal. Reports from the United Kingdom indicate large crops of both barley and oats, due mainly to the increased plow-up. Production of feed grains in North America has not differed greatly from production last year. The exception is in oats, where the present crop of normal size is far above the short crop of last year.

INTERNATIONAL TRADE

Of the 40 countries whose monthly trade statistics on wheat have for years been carried regularly in our surveys of the world wheat situation, only 13 have published any trade reports since the beginning of the current crop year. Such data as are now available are presented in condensed form in Table VII.

In view of the heavy reduction in official trade data and of the present serious incompleteness of Broomhall's shipments statistics, it might be supposed that an analysis of the international trade in wheat over the past five months would prove impossible. Fortunately, such is not the case. Three of the four major exporting countries have continued to publish monthly trade statistics; the fourth (Australia) has released information on purchases and sales of wheat by the government wheat board which furnish a basis for estimating stocks and trade. Russia, occasionally a large exporter, has thus far showed no intention of shipping heavily this year despite her good-sized crop. The Danube countries, which make up the only other large exporting bloc, have much smaller total wheat supplies than usual this year. Hence, it is possible to present a broad picture of the export side of the world's trade in wheat during August–December 1940 by simply filling in minor gaps in the statistics with sophisticated guesses. This is done in the following paragraphs, which also bring out some of the qualitative information which lies behind the approximations.

Volume and distribution of exports.—The volume of international trade in wheat during August–December 1940 was undoubtedly smaller than in the corresponding period of any year since 1900–01, with the possible exception of 1917–18. In actual magnitude, August–December exports were something like 100 million bushels (35 to 40 per cent) smaller this year than in 1939 and about 50 million bushels (almost 25 per cent) smaller than in 1935 or 1937, when international trade in wheat was at the lowest previous level since 1917–18. In the following table our tentative appraisals for the current period are compared with official data for the same period in 1935, 1937, and 1938, and with corresponding figures (in most cases officially reported) for

WORLD NET EXPORTS OF WHEAT AND FLOUR, AUGUST–DECEMBER, 1940, WITH COMPARISONS

(Million bushels)

Country or group	1935	1937	1938	1939	1940
Canada	97.2	49.5	82.0	78.0	55.0
United States	(...)[a]	39.3	34.0	19.8	15.0[b]
Australia	36.1	30.6	31.1	23.0	33.0
Argentina	39.2	18.1	22.2	79.6	37.0
Total	172.5	137.5	169.3	200.4	*140.0*
Danube exp.	12.9	34.0	38.7	51.4	15.0
USSR	26.2	31.4	33.2	(...)[a]	4.0
India	.5	8.6	1.9	1.8	.0
Others	18.4	14.6	15.4	*17.6*	*14.0*
Grand total	230.5	226.1	258.5	*271.2*	*173.0*

[a] Net importer during the crop year.

[b] United States net exports based on imports for consumption (see Table VII). This year *general* imports of Canadian wheat into warehouses under the 42-cent duty category have been abnormally large, and it seems preferable to use the data on imports for consumption.

1939. Figures involving a substantial element of approximation are in italics.

The export figures included for Canada and the United States are not the customs data that we have formerly used in similar tabulations (and shown as series A in Table VII), but rather adjusted export figures designed to represent more accurately the *real* volume of international trade.[1] The adjusted export series we henceforth designate as "real" exports. For Canada, the magnitude of "real" exports—over a period as long as six months—approximates fairly closely that of Canadian "overseas clearances" of grain plus customs exports of Canadian wheat flour plus United States imports of Canadian wheat for consumption and milling in bond.[2] Since the major part of the combined clearance series for Canada is available weekly, and is therefore more up to date than "real" exports, we show the clearance figures for August–December 1940[3] in the above tabulation in comparison with "real" exports for previous years.

It is probable that the Canadian clearance figure for August–December 1940 is from 15 to 25 million bushels smaller than the customs-export total for the same period, since stocks of Canadian wheat in the United States rose by 27 million bushels between August 1 and January 1 (see p. 227). But by any statistical measure—clearances, real exports, or customs exports—the Canadian export movement of August–December 1940 was exceedingly light as compared with any of the preceding 20 years with the single exception of 1937. The reduction applied to wheat grain, since Canadian exports of flour, mostly to the United Kingdom, were larger than in any year since 1930. About the usual amount of Canadian wheat and flour went to ex-European countries—mainly the United States and the West Indies—but Canadian exports to Europe were confined almost entirely to the British Isles, with the addition of a million bushels or so to Portugal and Greece.

Even at the low total of 55 million bushels, Canadian export clearances were larger than the net exports of any other country. Apparently Argentine exports[4] ranked second, with about 37 million. If Australia's exports came at all close to our estimate, these stood only a little below the Argentine total.

In view of the European war, the distance of Australia and Argentina from European markets, England's blockade of most of the Continent, and the scarcity of tonnage (not only for Europe but for the Orient as well), it is surprising that Argentina and Australia were able to export so much. Each of these countries exported more wheat in August–December 1940 than in the corresponding period of at least three of the five preceding years. Brazil usually takes 2 to 3 million bushels of Argentine wheat a month, but that market would not account for even half of Argentina's exports during the past five months. Of the remainder, the bulk went to the United Kingdom and Eire, though smaller quantities were sent to Uruguay,[5] Peru, Spain,

[1] In some years (notably 1939 and 1940) Canada has exported across her own boundaries much larger quantities of wheat than have immediately gone forward to a final destination, substantial amounts having entered and remained for months in bonded storage in United States elevators. Such wheat is not properly a part of international trade until it is shipped to a foreign country or admitted into the United States for consumption or milling in bond. In order to keep this wheat out of the statistics of international trade until it is removed from bonded storage, we have adjusted the Canadian customs exports figures by the amount of change reported over the corresponding period in stocks of Canadian wheat in United States elevators, deducting reported increases in those stocks and adding reported decreases. Similar adjustments have been made in the United States export totals, though in most years these have been small because little wheat normally flows from the United States to storage in Canada.

[2] This combination of series is now carried regularly in the *Monthly Review of the Wheat Situation*, published by the Dominion Bureau of Statistics of Canada. It is also shown, with customs imports deducted, as series B in Table VII. At times, and particularly in individual months, there are sizable discrepancies between combined clearances and real exports which appear difficult to explain on the mere assumption of small differences in the timing of reported exports and clearances.

[3] Since only the "overseas grain clearances" are published weekly, it has been necessary to supplement the reported figures for December with our own allowances for unreported flour exports and imports into the United States for consumption and milling during December.

[4] August–November official exports plus the shipments reported for December by Broomhall.

[5] Uruguay's recent imports of wheat suggest that she overexported during 1939–40—a most unusual occurrence.

Finland, and indirectly to unoccupied France (p. 234).

Australia found markets for wheat and flour exports during August–December in the United Kingdom, the Orient (China, Japan, India, British Malaya, and the East Indies), and Greece. In large degree these exports were in fulfilment of contracts made before August 1, by Britain, Japan, and interests (perhaps largely Japanese) in North China. We are inclined to guess that Australian exports were divided about equally between Europe and ex-Europe.

After the beginning of June, part of Australia's exports to the United Kingdom went to American Gulf and Atlantic ports for subsequent transshipment to Britain. Under this system, stocks of Australian wheat in United States ports rose to a peak of 1.2 million bushels on September 14, then declined to zero at the end of October. During June–July, shipments of Australian wheat to Europe via this indirect route totaled almost 1.5 million bushels, and another 2.5 million bushels was so moved after August 1.

United States net exports of wheat and flour were quite small during August–December. Only about 3 million bushels (chiefly from the Pacific Northwest) went to Europe, and that mainly in the form of grain which had been sold under subsidy to the United Kingdom prior to August 1. Of proposed Red Cross shipments of wheat and flour to Finland, Spain, and Greece, actual shipments through December were apparently almost negligible.

About the usual amount of United States wheat and flour was shipped from Pacific and Gulf ports to Central and South America during August–December; but this trade was definitely smaller than last year, when the government's "indemnity rates" on flour exports to these areas stood considerably higher.[1] Even when the rate was raised (following two earlier upward revisions) to a high of $1.05 per barrel on November 7, it was still 5 to 25 cents below the corresponding rates that prevailed up to December 21 in 1939,[2] a period during which United States wheat prices were only 2 to 5 cents lower in 1940 than in 1939. Moreover, the indemnity rate on flour exports to the Philippine Islands has been kept in recent months some 30 to 75 cents lower than last year. Partly for this reason, United States exports to the Philippines were significantly smaller in August–December 1940 than in the same period of 1939; but the reduction in absolute quantity was less than one million bushels in terms of grain.

Up to October 8, Pacific Coast exports of flour to China, Hong Kong, and Dairen were favored under the government's indemnity program as compared with exports from and to other areas; and during August–December United States exports of wheat and flour (mainly flour) to China approximated 6 million bushels as compared with only 1 million in the same period last year. Interests in North China found Pacific Coast flour prices attractive at the $1.20 per barrel rate in force up to September 18, and particularly in mid-September they gave large orders to Pacific mills. These orders were shortly followed by a reduction of 20 cents in the rate to China, Hong Kong, and Dairen. On October 8, these were dropped from the list of destinations to which subsidized flour sales could be made. This action shortly followed

[1] See our review of 1939–40, WHEAT STUDIES, December 1940, XVII, 175. Apparently very little wheat *grain*, if any, was sold under government subsidy from any region to any destination during August–December 1940, though subsidy payments were made on grain exported against earlier sales.

[2] Indemnity rates on flour, in dollars per barrel, were offered as follows in the two periods:

Date effective	Gulf and Atlantic ports	Pacific Coast ports to		
		China and Hong Kong	Philippine Islands	Other Pacific ports
1939				
July 24	1.40[a]	1.40	1.30	1.35[a]
Aug. 3	1.40	1.40	1.30	1.35
17	1.55	1.55	1.45	1.50
Sept. 5	1.35	1.35	1.25	1.30
8	1.25	1.25	1.15	1.20
25	1.10	1.10	1.00	1.05
Nov. 13	1.20	1.30	1.20	1.30
Dec. 18	1.10	1.30	1.20	1.30
21	1.00	1.20	1.10	1.20
1940				
July 18	.70[b]	1.20[c]	.70	.70[b]
Sept. 18	.85[b]	1.00[c]	.70	.85[b]
Oct. 8	.85[b]	0	.70	.85[b]
Nov. 7	1.05[b]	0	.70	1.05[b]

[a] Not applicable on sales to the British Isles until Aug. 3, 1939.

[b] To Americas only.

[c] From Apr. 23, to Dairen also.

Japan's adherence to the Axis (September 27), and certainly represented withdrawal of an aid to Japanese interests in the Orient. Whether or not it constituted an economic move against Japan as such, there is no reason to doubt that much of the wheat and flour sold to China in previous months under governmental subsidy had actually been sold to Japanese, who made the arrangements for shipment (usually in Japanese boats) to Japanese importers in northern China.[1]

Without benefit of subsidy, Pacific Coast dealers also sold about 1 million bushels of wheat to Russia during August–December for shipment to Vladivostok. Presumably these sales would not have taken place if Australia had been willing to sell wheat to the USSR at standard f.o.b. prices and if shipping had been available to carry the wheat from Australia.

In total, the four major exporting countries apparently exported net about 140 million bushels in August–December, slightly more than in 1937. Much less is known about the exports of other exporting countries over the past five months.

Broomhall reported Danubian shipments by sea as only 1.5 million bushels during August–December, but it seems probable that the exports of that region actually totaled about 15 million bushels. Hungary was almost certainly responsible for the major portion of these exports, which presumably went mainly to Germany, though in some small part to Switzerland. Bulgaria also exported significant quantities of wheat; but Yugoslavia and Rumania presumably sent out negligible amounts.

Russian wheat shipments via the Black Sea are reported to have totaled only 3.3 million bushels through December (Table VI); and these were partly offset by exports of American wheat to Vladivostok. We have heard no reports of any other Russian exports; but it is entirely possible that even fairly sizable Russian exports may have gone to neighboring countries via the Baltic without being reported either in the Russian press or in dispatches to the outside world. In the absence of any indication of such shipments, however, we place our estimate of Russian *net* exports in August–December at 4 million bushels. This implies slightly larger gross exports, which we assume went mainly to Greece, though perhaps partly to Sweden, Finland, and Germany.

The net exports of all other exporting countries were apparently small, at least as compared with the last seven years. India has presumably exported little, though her exact trade status is indeterminate. Native farmers in India are reported to have held back a substantial portion of the large wheat crop they harvested last March;[2] and advances in wheat prices in Calcutta and Bombay have led to some imports from Australia. Perhaps it is safe to assume that these imports roughly offset previous small Indian exports. We infer that Japan, the only other leading Oriental exporter, has thus far exported about as much flour as in August–December 1939. In spite of a reported bumper wheat harvest, there is said to have been "definite shortage of bread" in Tokyo in recent months, presumably in reflection of "the activity of the authorities in encouraging the substitution of bread for rice."[3]

Little is known of recent exports in the Mediterranean region. However, the Near Eastern countries may be supposed to have shipped little wheat. Iraq prohibited exports of wheat and flour from August 31 and later arranged to accept small imports;[4] Turkey banned wheat and flour exports except under permit, and the Minister of Commerce announced on September 12 that no export licenses would be issued for wheat, corn, or barley;[5] and Syria and Lebanon instituted measures to combat rising food prices and to prevent profiteering and hoarding of commodities such as flour, of which a shortage was reported.[6] On the other hand, Egyptian

[1] See the *Commercial Review* (Portland), Oct. 15, 1940 and Dec. 10, 1940.

[2] Broomhall's cable service, Jan. 3, 1941.

[3] *Foreign Commerce Weekly*, Dec. 14, 1940, p. 517.

[4] *Foreign Commerce Weekly*, Nov. 2, 1940, p. 204, and Dec. 7, 1940, p. 446.

[5] *Foreign Crops and Markets*, Sept. 23, 1940, p. 390. This policy may later have been modified to permit some exports to Greece; see *Corn Trade News*, Nov. 27, 1940.

[6] *New York Times*, Oct. 17, 1940, p. 4.

exports (mainly to Greece) were apparently significant; and particularly after mid-October exports from French North Africa to France were probably sizable though not large (p. 234). In the export tabulation above (p. 229), we have included under "others" a considered guess of 7 million bushels for the net exports of Egypt, Morocco, Tunis, and Algeria; but this figure, like that for the Danube basin, may be appreciably in error.

Course of exports.—Although Broomhall's weekly shipments have recently been so incompletely reported as to warrant little attention, the series for North America and Argentina, supplemented by our approximations to Australian exports (roughly 1.5 million bushels weekly during August–December 1940) give a fair indication of the level and course of shipments from the four major exporting countries during 1940–41 as compared with previous seasons.

Chart 3 requires little comment. It clearly shows that Argentine wheat shipments roughly followed their normal seasonal course this year at a level far below that of 1939–40, and that North American shipments declined between mid-July and mid-October instead of increasing as is customary. As in 1939, North American shipments were notably low in October and then rose sharply in November. The precise factors responsible for this somewhat unusual course of North American shipments are not clear; nor could we reasonably expect them to be, since the timing of overseas exports to Europe is now dependent almost wholly upon the decisions of British officials pertaining to the use of shipping space and ship convoys.

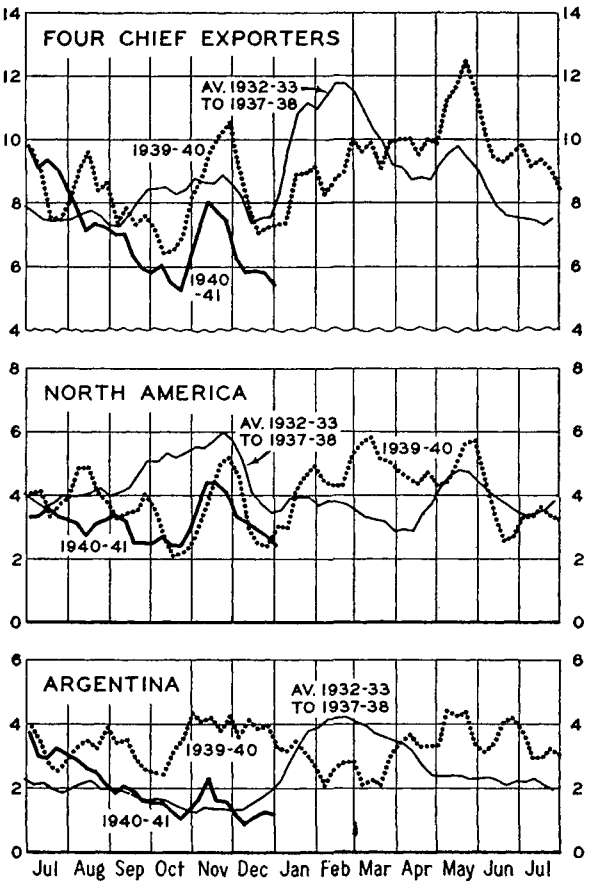
Distribution of imports.—The distribution of world wheat imports during August–December 1940 can be broadly inferred from such export statistics as are available combined with information derived from general sources.

The outstanding feature of the trade has been the extremely low level of European imports and specifically of the imports of Continental Europe ex-Danube. One might hazard the guess that the importing countries of Continental Europe were not able to secure from all sources net imports in excess of 35 million bushels over this period, unless there have been substantial shipments from Russia of which we have had no news. During August–December 1934–39, as shown in the table on page 234, these countries never took less than 63 million bushels of wheat and flour, and in 1938 the total was 92 million. This year's total, in the face of poor Continental wheat harvests, probably amounted to roughly half of the quantity usually taken.

Nor were most of the Continental imports of August–December 1940 directed to the countries in greatest need of them. Almost half of these imports presumably went from the Danube basin by river or rail to Germany—a

CHART 3.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR FROM OVERSEAS EXPORTING COUNTRIES, FROM JULY 1940, WITH COMPARISONS*

(Million bushels)



* Based mainly on Broomhall's weekly data (Table VI) but including, for Australia, smoothed monthly official exports in September–June 1939–40 and our approximations for July–December 1940.

country well supplied with grain stocks. Italy probably had a minor share in the Danubian exports, and Greece may have secured a trifle. More important for Greece, however, were Russia's shipments, which are believed to have been exported against a Greek contract calling for about 3.8 million bushels; moderate Australian exports in partial fulfillment of another contract for 3.8 million bushels;[1] and small quantities of Egyptian wheat, perhaps against an early sale of 1.5 million bushels.[2]

EUROPEAN NET IMPORTS OF WHEAT AND FLOUR, AUGUST–DECEMBER 1934–39

(Million bushels)

Importing area	1934–38 av.[a]	1934	1935	1936	1937	1938	1939
British Isles	92	93	93	91	88	97	..[b]
Germany, Austria, Czechoslovakia	13	10	6	4	18	29	..[b]
Italy	2	2	..[c]	6	1	3	..[b]
France	4	..[c]	8	3	7	2	..[b]
Belgium	19	20	17	20	20	16	19
Netherlands	10	9	10	8	10	13	12
Scandinavia	8	12	7	7	5	8	9
Finland	1	2	1	1	1	1	..[b]
Switzerland	7	8	8	8	6	8	10
Spain	3	..[d]	..[d]	4[e]	4[e]	5[e]	6[e]
Portugal	1	..[d]	..[d]	..[d]	..[d]	2	..[d]
Greece	6	4	6	8	5	5	5
Total Continent..	74	67	63	69	77	92	93[e]
Total Europe.....	166	160	156	160	165	189	173[e]

[a] Not deducting net exports.
[b] Data not reported.
[c] Net export.
[d] Less than 500,000 bushels.
[e] Our rough approximation.

Aside from the imports of Germany, Italy, and Greece, only those of Spain, Portugal, Finland, and perhaps France may reasonably be supposed to have reached the 1934–38 average this year. Spain, Portugal, and Finland secured small quantities of overseas wheat, under the British navicert system. France obtained imports almost solely from her northern African dependencies, though at least on one occasion (in mid-October) some Argentine grain was reported to have reached France after transshipment at a Moroccan Atlantic port, subsequent transportation overland to a Mediterranean port, and final shipment to Marseilles via Algiers.[3] How much wheat France was able to import from northern Africa during August–December is an open question. Apparently by mid-October a fair amount of produce was being carried to Marseilles by fast vessels at night; and in the following month the Vichy government is reported to have announced that the food situation had become less critical as a result of a sharp increase in shipping between northern Africa and France, and that shipping was "approaching the peace-time normal."[4] Still later, in December, the *New York Times* reported that "a considerable quantity of food has been convoyed to France from Algiers and several French convoys even have passed unmolested through the Strait of Gibraltar."[5] These scattered reports show that since early October France has been obtaining substantial and increasing imports from northern Africa; and we judge that through December French imports of wheat from that region may well have been as large as, or even larger than, the 1934–38 average of roughly 4 million bushels.

Without doubt, the greatest curtailment of wheat imports this year has been suffered by Belgium, Netherlands, the Scandinavian countries (unless these have received a substantial amount of Russian grain), and probably Switzerland. Belgium, the Netherlands, Norway, and Denmark, after being occupied by Germany last spring, were immediately made subject to the British naval blockade. That definitely prevented all but a possible trickle of grain imports from overseas. Denmark and Sweden may have imported some wheat from Russia, and some shipments from the Danube basin or Germany may have gone overland to the Low Countries or Scandinavia; but no such shipments have been rumored. It therefore seems probable that these four coun-

[1] It is reported that the Australian government also made a gift of 10,000 tons of flour to Greece to show Australia's sympathy with the Greeks in their fight against Italy. *Corn Trade News*, Nov. 20, 1940.

[2] The Russian and Australian sales were widely reported in various sources; the Egyptian sale is referred to in *ibid.*, July 24, 1940.

[3] Apparently this shipment, involving "10,000 tons of food, meat, and cereals from Buenos Aires" was first reported in the *Times* (London) and later in Broomhall's *Corn Trade News*, Oct. 30, 1940, and other sources.

[4] *San Francisco Chronicle*, Nov. 13, 1940, p. 1.

[5] Dec. 13, 1940, p. 4.

tries, which imported 37 million bushels on the average in August–December 1934–38, obtained only negligible imports during the same period of the current season.

Sweden, recently self-sufficient in wheat, has had little real need of wheat imports this year (despite a small crop): for this reason, and also because Britain may have interpreted Sweden's behavior as not that of a "good neutral," we assume that no British navicerts have been issued for wheat shipments to this country.

Apparently the fact that Switzerland is landlocked and can receive shipments only via Axis-controlled territory was a major stumbling block to early Swiss negotiations with England. However, in mid-October the *London Grain, Seed and Oil Reporter* stated that "the negotiations as to navicerts [to Switzerland] have been satisfactorily concluded";[1] and in mid-December another trade journal reported that Switzerland was trying to charter boats to carry wheat from Argentina to Lisbon. From these and other meager indications we tentatively infer (1) that Swiss imports of wheat through October and probably even up to mid-November were exceedingly small, and (2) that since mid-November Swiss imports have probably been moderately light, limited on the one hand by scarcity of shipping facilities and on the other hand by British naval controls.

Little need be said about British imports. During the period under review Britain has retained control of the seas; and at all times she has had available adequate shipping facilities to supply her population with necessary imports.

Nor is there reason to believe that a large amount of the wheat and flour exported to Britain from overseas countries this year has been sunk on passage. On this point there is little quantitative basis for judgment, but figures available for the World War afford some rough indications. During November–July 1916–17, when German submarine attacks on merchant shipping were most successful, an average of about 535,000 gross tons of British, Allied, and neutral vessels were sunk monthly; and 7.3 per cent of the wheat shipped to the United Kingdom was lost on passage. After the convoy system was definitely established, the monthly sinkings dropped to 323,000 tons during August–July 1917–18;[2] and the loss on wheat shipments declined to 2.2 per cent. Such figures as are now available for August–December 1940[3] suggest that the average monthly loss of British, Allied, and neutral vessels over this period approximated 360,000 gross tons. At the above loss rates on wheat in the World War, this figure could be interpreted to imply that about 5.0 per cent of the wheat exported to the United Kingdom in August–December 1940 may have been sunk en route. In the absence of reliable indications as to wheat sinkings over the past five months, we venture to accept this figure as an indication of the average percentage loss on overseas wheat exports to Europe.

With such an allowance for losses en route, we are inclined to guess that the combined imports of the United Kingdom and the Irish Free State approximated 85 to 90 million bushels in August–December 1940[4]—appreciably more than in the same months of 1939, but somewhat less than in most of the five preceding years.

In total, it seems probable that non-European countries have so far imported somewhat less wheat and flour during the current season than in the corresponding period of 1939–40; but the quantities involved are not yet known and cannot reasonably be approximated. The United States has exported more to Eastern Asia this year than last; but United States exports to the Philippine Islands and to Central and South America have been lighter this year. Argentina has reported smaller shipments to Brazil than in either of the two

[1] Oct. 18, 1940.

[2] Data from Great Britain, Royal Commission on Wheat Supplies, *First Report* .... (CMD. 1544, London, 1921), p. 37; and J. A. Salter, *Allied Shipping Control, An Experiment in International Administration* (Oxford, 1921), pp. 355–59. See also a brief discussion of shipping losses in M. K. Bennett, "Wheat and War, 1914–18 and Now," WHEAT STUDIES, November 1939, p. 89.

[3] Data, through November 17, from *Fairplay* (London); later figures from current American newspapers.

[4] A better approximation can probably be made when more data become available on the distribution of overseas export clearances in July–November 1940.

preceding years and an additional small reduction from 1939 in shipments to other non-European countries.

UTILIZATION

To judge the level of wheat utilization this year, we have only the partial evidence on United States wheat stocks on January 1, such evidence as is available with regard to production, trade, and prices in different countries, and reported governmental regulations on wheat milling, bread making, and bread rationing in Europe. Despite its fragmentary character, this information furnishes some indication of the recent flow of wheat into consumption.

Major exporters.—Incomplete stocks data for January 1 suggest that domestic wheat disappearance in the United States was slightly higher during July–December this year than last. The quantity of wheat milled for domestic retention was roughly 3.5 million bushels smaller this year (Table V), but the amount used for winter-wheat sowings was probably almost as much larger. Moreover, there is some indication that a little more wheat was fed to livestock this year. Through September, farm prices of wheat were in many cases as low as or lower than farm prices of corn, and through November wheat sold lower in relation to corn than it had in either of the two preceding years. On the basis of reports from trained observers, Nat C. Murray estimated in November that during 1940–41 farmers would feed 107 million bushels of wheat on farms as compared with 92 million last year.[1]

In Canada, wheat grindings for domestic retention during August–November were about 8 million bushels smaller than in the corresponding period of 1939. This reduction presumably represented heavy drafts upon the large stocks of flour remaining at the end of the past crop year,[2] and not decline in flour consumption. Losses in cleaning, and the quantity (but not percentage) of unmillable wheat, will probably run fairly high this year because of the enormous size of the Canadian crop; and some increase is now anticipated in the quantity of wheat fed in western Canada, despite the high grading of 1940 wheat marketings. For the crop year as a whole, these increases may about offset prospective reductions in wheat seeding in the Prairie Provinces and in total Canadian mill grindings for domestic retention (Table VIII).

In Australia, continued drought during August–November dried up pastures and forced farmers to increase their feeding of various grains, including wheat. Thus it seems probable that total domestic utilization of wheat in Australia has been fairly high since the beginning of August and materially higher than in the same period of 1939.

In the face of embarrassingly large supplies of corn, feed use of wheat and wheat utilization in total were probably somewhat lower in Argentina during August–December 1940 than in the corresponding months of either of the two preceding years.

Europe ex-Russia.—Scattered bits of information on wheat utilization in Europe ex-Russia fit into a shadowy picture of increased economy in the use of wheat, with per capita wheat utilization not only substantially below normal but also below the level of August–December 1939, with food use of wheat much less significantly reduced, and with bread consumption still better maintained.

In certain areas scarcity of meat, fish, fats, eggs, milk, milk products, and sugar has resulted in increased consumption of bread, though perhaps more often of potatoes. In any case, the bread of recent months is not the same as the bread of 1938–39 or even 1939–40. Virtually every country has now adopted milling and baking regulations which (1) increase the amount of flour obtained from a given quantity of wheat,[3] (2) restrict to one or two

[1] Jackson and Curtis, *Monthly Grain and Cotton Report*, Nov. 1, 1940.

[2] See our review of 1939–40, WHEAT STUDIES, December 1940, XVII, 195.

[3] Few changes were reported in 1940 in minimum extraction rates for flour required by the different countries; see WHEAT STUDIES, January 1940, XVI, 213. However, Eire raised her minimum extraction rate from 70 to 75 per cent (*Corn Trade News*, Oct. 9, 1940), and Italy increased her rate from 78 to 80 and later to 85 per cent (*Foreign Commerce Weekly*, Nov. 2, 1940). In most Continental countries, the minimum extraction rate for flour varies between 78 and 85 per cent. In the United Kingdom the extraction rate for domestic wheat remains at 70 per cent and the rate for mixed imported or mixed domestic and imported wheat is 72 per cent.

standard types the kinds of flour that may be produced, (3) forbid the sale of bread until it is 12 to 24 hours old, and (4) seriously reduce the quantities of sweet breads, rolls, coffeecakes, and pastries that may be produced. Moreover, in several countries (notably Spain, Italy, and Belgium, but also such exporting countries as Hungary and Yugoslavia), the governments now require compulsory admixture of maize or rye or potato flour with wheat flour.[1] These measures, designed to curtail the use of wheat (and sugar) have been reasonably effective in accomplishing this purpose, while at the same time they have resulted in the production of less palatable bread without much reduction in quantity.

Bread rationing, potentially a still more effective means of consumption control, seems thus far to have been used to reduce bread-grain consumption materially only in Spain, German Poland, and Belgium. Such rationing was so widely extended throughout Continental Europe by the end of October that English experts could say: ".... after 14 months [of war], the British Isles alone of the European family of nations does not find it necessary to restrict or ration the consumption of bread or flour."[2] Although probably technically correct, this boast fails properly to distinguish between restrictive and unrestrictive rations. At that time Italy was rationing (and very liberally) only the amount of bread served in restaurants, and Switzerland and Greece were rationing flour but not bread.[3]

In fact, careful study of the "bread rations" in force in Europe on October 30, and of those since adopted, discloses that many of these have little in common besides their name. This may be illustrated by reference to the table on page 238, which summarizes what we have thus far been able to learn (perhaps in a few particulars incorrectly) about the bread and flour rations in force in Europe ex-Danube on about January 1, 1941.[4]

At one extreme are the bread rations of Poland, Belgium, and Spain, which appear to limit per capita purchases of bread to approximately two-fifths to two-thirds of the national average in prewar years. These rations are clearly quite restrictive, especially in so far as they apply to heavy workers[5] and particularly in view of the present scarcity of various other foods, which might be expected to swell the demand for bread.[6] Near the other extreme is the liberal bread ration of Germany, which involves not only the allowance of 2,400 grams (85 ounces) weekly for "normal consumers," but also allowances of 3,360 grams (119 ounces) for self-producers (farmers), 3,800 grams (134 ounces) for "heavy workers," and 4,800 grams (170 ounces) for "heaviest workers." The German ration, if uniform-

[1] German milling regulations, which during most of 1939–40 specified that 10 per cent of light rye flour should be mixed with wheat flour, have not required any such admixture since May 1940. Italian bakers were required to add 10, then 15, and later 25 per cent of corn flour to the wheat flour used for bread (*Neue Zürcher Zeitung*, Nov. 21, 1940). For macaroni and other pastes 20 per cent corn flour has apparently been required since October 1. Since October 15 Hungary has required that cooked potatoes be used in the following amounts in the production of bread: 25 per cent in standard wheat bread, 15 per cent in dark wheat bread, 10 per cent in rye bread. Potato flour may be substituted for the cooked potatoes, using 25 kilograms of potato flour as the equivalent of 100 kilograms of potatoes (*ibid.*, Oct. 19, 1940). Belgium has required rye flour to be mixed with wheat flour; Spain and Yugoslavia have required admixtures of corn flour; and Eire has recently specified that barley be added to bread flour.

[2] *Corn Trade News*, Oct. 30, 1940.

[3] Greece apparently introduced rationing of flour, rice, and sugar in June 1940 on account of navigation difficulties in the Mediterranean (*Corn Trade News*, June 19, 1940). We do not know whether or not this rationing is still in effect, or whether it has been further extended.

[4] In the absence of many sources of information previously open to us and in the face of notably incomplete information in available sources that formerly carried more complete information, we have been forced to rely in increasing degree upon assembling and judging diverse reports carried currently in various newspapers, trade journals, etc. Some of the ration figures published below are from such sources; and in several instances we have not been able to determine whether the specified ration applied to bread alone, or to bread and flour, or to all bakery goods, flour, and pastes.

[5] We are not certain as to what extent some of the countries allow increased rations to the poorer classes or to heavy workers. At least Germany, France, Denmark, and Belgium provide for increased rations to certain types of heavy workers, and Spain recently revised her rationing system to permit the lower-income classes to buy more bread than the higher-income classes. With further tightening of rations, countries which have not yet made this distinction will probably do so.

[6] Potatoes are apparently not rationed in any of these countries, and maize is not rationed in Spain where it is important as food.

ly administered, implies virtually no restriction on bread consumption; but in view of the racial and class discriminations prominent in Germany today, it is reasonable to suppose that members of "inferior" races and persons

WEEKLY PER CAPITA "BREAD" RATIONS IN EUROPE ABOUT JANUARY 15, 1941

Bread type and country	Ration (grams)	Ration (ounces)
Wheat bread		
France[a]	2,450	87
Netherlands[b]	2,000	71
Belgium[c]	1,575	56
Spain[d]	840	30
Wheat and rye bread		
Germany[e]	2,400	85
Norway[f]	2,275 (1,300)	80 (46)
Denmark[g]	2,525 (525)	90 (19)
Sweden[h]	1,950	69
Poland[i]	1,000	35
Finland[j]	2,100	74
Wheat flour and pastes		
Italy[k]	500	17
Switzerland[l]	375	13

[a] Includes flour and wheat pastries. Heavy workers and farm laborers allowed 111 ounces. In unoccupied France, the basic ration may have been reduced to 74 ounces on Jan. 1.

[b] For wheat bread, or 89 ounces for rye bread; pastes and flour allowed in addition up to 6 ounces (bread equivalent). Larger rations for youths between 14 and 21 years.

[c] Includes flour and wheat pastries. Heavy workers in certain industries allowed as much as 112 ounces.

[d] Ration for individuals in families with incomes between 300 and 900 pesetas per month; those in families with incomes of more than 900 pesetas are allowed only 20 ounces, while those in families with incomes of less than 300 pesetas are allowed 43 ounces.

[e] Includes flour and all bakery products; heavier workers allowed 134 to 170 ounces weekly.

[f] For soft bakery products; 49 ounces of hard bakery products or 62 ounces of flour (roughly 80 ounces in bread equivalent) allowed *instead*. Figures in parentheses represent ration for wheat bread alone.

[g] Includes flour and bakery products; figures in parentheses represent wheat-bread ration. Heavy workers apparently allowed 26 additional ounces of rye bread.

[h] For soft bakery products; 42 ounces of hard bakery products or farina, or 53 ounces of flour (roughly 69 ounces in bread equivalent) allowed instead.

[i] Ration uncertain, but it apparently ranges between 35 and 62 ounces for different classes.

[j] Ration in effect in June 1940; we have seen no confirmation of this figure in recent months.

[k] Rice, pastes, and flour; bread rationed only in cafés.

[l] Flour, bread-grain groats, macaroni; bread unrationed.

of "unenlightened" political views find it difficult to secure adequate amounts of bread.

Quantitatively, the bread rations of the other Continental countries fall somewhere between these two extremes. France's ration of 87 ounces weekly tends to be somewhat restrictive, but probably not materially so, since heavy workers and farmers are allowed 111 ounces per week.[1] Similarly, in Holland, the existing bread ration may operate as a restriction upon the bread consumption of certain persons but presumably not upon the consumption of most. Italy's rationing system is even more liberal (since bread is still unrationed in that country, except in restaurants), though Italians have good reason to complain about the quality of their bread and Italian farmers may well feel disgruntled at the government's allowance of only 7 bushels of wheat per capita for farm retention, as compared with 9 bushels in 1939–40. Switzerland and Greece ration flour but not bread.

In northern Europe, Norway and perhaps Denmark have somewhat more restrictive bread rations (as compared with normal consumption) than have Sweden and Finland. But in none of these four countries can the current rationing be expected to reduce *total* bread consumption materially from the prewar level. Nevertheless, the present rationing in these countries tends generally to curtail the consumption of *wheat* products and to expand rye-bread consumption.

The wide diversity in the bread-rationing systems of the different Continental European countries suggests a similarly wide diversity in the intentions underlying these systems. For example, very different motives prompted the establishment of "bread rations" in Sweden and Belgium. From September 3 to October 1, 1940, Sweden rationed only storable bread products, such as flour and hard bread, with the principal intention of preventing speculative hoarding. On October 1, in the face of a poor outturn of winter wheat and of proved difficulties in obtaining grain imports, Sweden extended her rationing system to include soft bakery products. This step reflected no immediate scarcity of bread grain but a threat of reduced abundance and even of possible future shortage. As in Germany and several other countries, the aim in Sweden was to reduce waste and to prevent feeding of bread-grain products rather than to restrict

[1] Small additional amounts of macaroni, etc., are provided under the rationing system. *Neue Zürcher Zeitung*, Oct. 18, 1940.

normal food consumption of such products. In contrast, Belgium instituted bread rationing after her surrender to Germany in order to postpone a near shortage of bread-grain supplies. In Belgium, the aim was to prevent feed use of bread grains, to reduce food consumption, and to encourage substitution of potatoes and coarser cereals for wheat and rye. This aim was shared by Spain and Poland, and in all three countries it was reflected in bread rations materially below the average consumption levels of prewar years.

Even in those countries which have not introduced restrictive rations for bread, the consumption of bread and particularly of wheat bread, may have been curtailed as a result of increases in bread prices. We do not yet have available enough information on the course of bread, potato, and other prices in most European countries to be able to judge the probable consumption effects of recent price changes. Broadly it appears that prices of all food products are substantially higher in Europe[1] now than they were a year ago, that wheat prices have increased more than the corresponding prices of flour, and that bread prices have advanced less than flour prices.[2] The United Kingdom, in particular, has spent large sums in subsidizing bread consumption at low prices to consumers; and France, Spain, Italy, and a number of other countries have kept flour and bread prices low relative to wheat prices through varied systems of governmental controls, price-fixing, and direct subsidization.

We tentatively assume that, throughout a large part of Europe, increases in bread prices have been accompanied by similar or larger increases in the prices of many competing foodstuffs. But since farm prices of wheat have risen more than the prices of a number of other farm foods, and since, in any case, potatoes, rye, and the coarse grains have continued to sell below wheat, there has probably been a widespread tendency in the rural areas to substitute potatoes and other cereals for wheat and wheat bread. Moreover, even in the cities, where bread prices have been kept from rising as much as the prices of wheat paid to producers, increased costs of living and, in some countries, widespread unemployment and poverty have presumably induced many consumers to eat less wheat bread and more potatoes and rye bread. Corn, as well as rye, has apparently been an important substitute for wheat in the Danube basin and Spain.

Practically regardless of the degree of restriction implied in the bread rations of individual Continental European countries, these countries have all taken steps (1) to require delivery to special governmental agencies of all the wheat and rye produced in 1940 (minus specified farm allowances), (2) to prevent the feed use of any millable bread grain, and (3) to mete out severe punishments to persons found guilty of hoarding or feeding bread grains. Although in several countries similar provisions were in force during September–December 1939, the measures now in operation are generally more stringent and presumably also more strictly enforced. Despite some evasion of these rules by peasants, there is good reason to suppose that on the Continent, and in the United Kingdom as well, less wheat (and less wheat and rye in the aggregate) went for livestock feed during August–December 1940 than in the corresponding period of any recent year.

In the United Kingdom, feed use of wheat was further restricted but not prohibited in the period under review. The first reduction was effected on September 2, with a still more drastic cut specified from October 1. The latter provided that millable wheat should not be used for any feed but poultry feed, and that this use should only slightly exceed one-tenth of the millable wheat produced domestically minus seed requirements. Under this provision, the total feed use of wheat in the United Kingdom during 1940–41 would probably approximate only 9 million bushels[3]—an exceptionally low figure.

[1] Germany is a notable exception. [2] See p. 246.

[3] Various statements and announcements of different officials suggest that the 1940 crop may have approximated 63 million bushels. If so, and if about 5 per cent should be classified as unmillable, the millable portion would come to roughly 60 million bushels. Of this, almost 4 million might be used for seed and between one-ninth and one-tenth of the remainder (or about 6 million bushels) might be used for poultry feed.

To summarize, wheat utilization in Europe ex-Russia was probably significantly lighter in August–December 1940 than in the corresponding period of 1939. Feed use of wheat was presumably substantially lower, not only on the Continent but also in the United Kingdom. Food use was apparently reduced most, and was most strikingly below normal, in Belgium, central Poland, and Spain. In the Danube basin, the reduction from 1939 was presumably large, but the level may not have been especially low. Somewhat smaller declines probably occurred in all other Continental countries ex-Russia with the single exception of Germany. A small reduction in Eire probably followed the tightening of milling restrictions on October 1, but in the United Kingdom wheat disappearance has probably been somewhat higher this year in reflection of increased substitution of bread for strictly rationed and higher-priced foods and in reflection of a significant but not large amount of war damage. Only in the United Kingdom has the quality of flour and bread been well maintained thus far without resort to rationing.

Other countries.—In contrast with the reduced wheat utilization in Europe ex-Russia, wheat disappearance outside of Europe and the four major exporting countries has presumably been moderately heavy over the past five months. During the current crop year, this disappearance may be as high as or even higher than it was in 1939–40.

India's large 1940 crop insured ample wheat supplies to that country, and the current low export prices and shortage of shipping facilities preclude substantial exports of Indian wheat. Thus, even if the new Indian crop is a very moderate one, wheat consumption in India will probably be fairly heavy this year; and since we no longer include Indian stocks in the world total carryover, world *statistical disappearance* of wheat will in any case be increased.

The Near Eastern countries (Turkey, Syria and Lebanon, Palestine, Iraq, and Iran) harvested larger wheat crops this year than even in 1939, and face reduced export possibilities because of the war in the Mediterranean, peasant and dealer holding, and governmental action in restricting exports (p. 232). In spite of the reported good crops, there is evidence of effective tightness in wheat supplies in the Near Eastern countries. Probably partly responsible for this tightness is speculative holding of wheat and flour by farmers, dealers, and private consumers, and precautionary increases in grain reserves held by military and governmental agencies. Nevertheless, there has probably been some increase in wheat consumption in this region, attributable to the relative abundance of wheat and reduced supplies of certain kinds of imported foods.

In the Orient, shortage of rice and fair-sized wheat crops in the Japanese-controlled area hold the promise of increased consumption of wheat in 1940–41, at least as compared with the two preceding years. However, exchange and shipping difficulties have recently tended to curtail Oriental imports, and some shortage of bread has been reported in Tokyo.[1] In northern China, the wheat harvest of 1940 is believed to have been somewhat larger than the moderately small harvest preceding, and wheat imports have thus far been lower than in the corresponding months of 1939–40 (when they were distinctly moderate); this suggests a level of Chinese wheat consumption about the same as or slightly higher than during the current season.

Finally, in the Southern Hemisphere, the apparent disappearance, if not the actual consumption, of wheat will presumably be larger this year than last in reflection of increased crops in the Union of South Africa, Uruguay, and perhaps Chile. Although New Zealand's crop is believed to be somewhat smaller than in 1939, any reduction will probably be largely offset by increased imports from Australia. Whether Brazil will take advantage of the cheapness of Argentine wheat to expand consumption or stocks is an open question, especially in view of the fact that Brazilian restrictions on wheat imports were tightened in mid-October.[2]

[1] *Foreign Commerce Weekly*, Dec. 14, 1940, p. 517. The same source also noted that Japanese authorities have been encouraging the substitution of bread for rice.

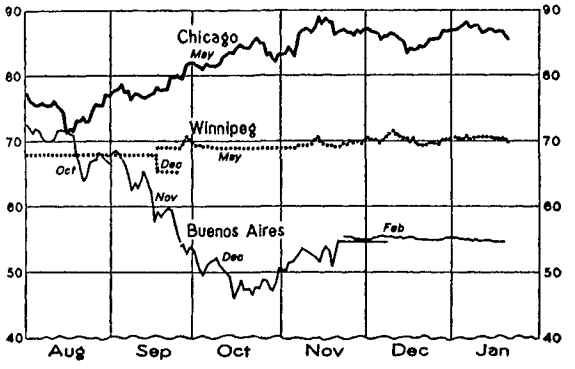
[2] See *Foreign Crops and Markets*, Sept. 23, 1940.

Recent Prices and Spreads

No wheat market, spot or futures, adequately reflected the changing phases of the international wheat position during August–December. The Liverpool futures market remained closed. Prices at Chicago, Winnipeg, and Buenos Aires were dominated by domestic factors, and primarily by specific governmental regulations. An outstanding feature of the period was the diversity of price movement in the three leading markets, especially up to the end of October. Broadly, as shown by Chart 4, Chicago prices tended upward while prices at Winnipeg remained stable at about the legal minimum levels and Buenos Aires prices moved sharply downward.

Chart 4.—Wheat Futures Prices, Daily from August 1940*

(U.S. cents per bushel)



* Closing prices, from Chicago *Daily Trade Bulletin* and Winnipeg *Grain Trade News*.

Buenos Aires futures.—From mid-August to early November Buenos Aires wheat prices were but little influenced by governmental regulations, though existing restrictions on wheat exports were moderately depressing. The sharp downward drift of prices to mid-October reflected the growing promise of a large new wheat crop, for which prospective export outlets were far from adequate, and evidence that old-crop stocks were larger than had been realized. Most of the net decline occurred during the four days following September 4, on September 16, and from September 21 to October 3. These recessions seem to have been largely induced by crop and acreage reports. In addition, however, further relaxation on September 12 of the limited export embargo imposed at the end of July[1] was widely interpreted as an official admission that old-crop supplies had previously been underestimated.

After mid-October, Buenos Aires prices fluctuated for a while about a horizontal level. Subsequently there was moderate recovery on reports that England had agreed to take 160 million dollars worth of Argentine produce (divided equally between pastoral and agricultural products), and on general anticipation that a fixed minimum price would soon be established for the 1940 wheat crop. By decree of November 21, the basic price for wheat delivered at Buenos Aires was put at 6.75 pesos per quintal (roughly 55 U.S. cents per bushel), effective immediately; the Grain Regulating Board was authorized to buy wheat from producers at that price beginning December 1 and to resell to millers at 9 pesos (73 cents per bushel); and wheat millers were required to pay to the board 2.25 pesos per quintal (18 cents per bushel) on all wheat purchased from sources other than the board. Thereafter, Buenos Aires futures remained at or slightly above the fixed minimum level.

In terms of United States currency, Buenos Aires prices in mid-October were lower than they had been at any time since December 1934. Canadian, United States, and Australian prices, on the other hand, were higher than in the same period of 1938–39 and close to or above the corresponding levels in 1939–40 prior to the December advance.

North American prices.—At Winnipeg, wheat futures prices have continued since late June to follow a horizontal course approximating the legal minimum level. On September 18, when the minimum limits were reduced some 3 cents per bushel, market prices of cash wheat and of the October and

[1] The export embargo (effective from July 29) provided that wheat might be exported, under permit, to any destination to fulfill sales already made, and to neighboring countries against future sales if the supplies should prove larger than needed for domestic use. On September 12, these regulations were modified to permit shipments to any country on future sales, provided the supplies should prove more than adequate to cover both domestic requirements and the needs of neighboring countries. On November 13, with the approach of the new harvest, all restrictions on wheat exports were removed.

December futures dropped correspondingly. Not until September 26 did Winnipeg prices rise even slightly above the fixed minimum limits, and then the increase proved quite temporary, for prices returned to the minimum levels before October 10. However, new strength appeared on November 7; and thereafter Winnipeg futures stood 1/8 to 2 cents per bushel above the legal minimum figures.

The fact that Winnipeg futures prices remained so close to the minimum legal limits during August–December leaves little to explain in the price movements of that period. That market prices did not rise significantly above the legal limits is attributable to the extreme bearishness of the international wheat position and of the Canadian wheat position in particular. With speculation reduced to a minimum by the price regulations and the readiness of the Canadian Wheat Board to purchase unlimited amounts of 1940 wheat during the crop year, small purchases and sales at times had considerable price effect. Until mid-September the small remaining quantities of 1939 wheat apparently acted as a special drag on the market; but this influence was largely removed after the Wheat Board, reversing an earlier decision, announced that it would thereafter accept the delivery of such 1939 wheat within quota limits.[1] In the futures market, buying was generally limited to purchases by millers against domestic sales of flour, to purchases by exporters against sales to countries other than the United Kingdom, and to small purchases by spreaders and speculators.

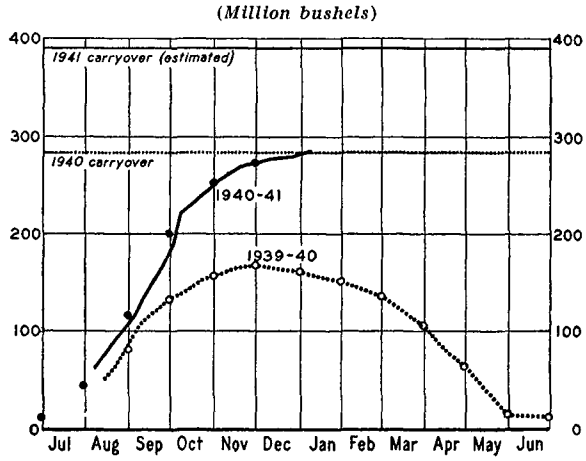
Renewed strength at Winnipeg after November 7 was primarily associated with post-election attention to inflationary possibilities in the United States. The Canadian Wheat Board apparently remained out of the Winnipeg market as a selling agent, and the hedging sales of elevators and such sales as were made by spreaders were too light to drive Winnipeg prices back to the minimum levels, even in the face of continued light demand.[2]

[1] The influence of this factor is convincingly described in the weekly letter of James Richardson & Sons, Oct. 1, 1940.

[2] In early December, however, there was significant improvement in the domestic milling demand.

The general course of Chicago wheat prices from mid-August to mid-January was determined by two major influences: (1) the American wheat-loan program; and (2) general market sentiment as affected by changing political and war news from Europe and by current interpretations of the prospective inflationary effects of the American defense program. As the amount of wheat reported under loan rose (Chart 5), and there appeared to be increasing evidence that much of the unpledged wheat was being held for higher prices, Chicago wheat prices climbed to, and later appreciably above, the loan rates.

CHART 5.—WHEAT PLEDGED UNDER CCC LOANS, 1939–40 AND 1940–41, COMPARED WITH ESTIMATED CARRYOVERS*



* Loan data from weekly press releases of the U.S. Department of Agriculture and monthly and semi-monthly statements of the Commodity Credit Corporation. The lines show the course of loans as reported weekly in 1940–41 and semi-monthly in 1939–40; the hollow and solid circles indicate the volume of loans reported monthly. Carryover data in Table VIII.

The influence of the loan program in cutting down the amount of "free wheat" for sale has this year been continually referred to in the market reports as an important price factor. With the amount of wheat under loan approaching a peak of over 285 million bushels (including old-crop wheat) at the beginning of January 1941, as compared with a peak of 167 million in the preceding year, there can be little question that the loan program was a major price-supporting factor (Chart 5). Even when Chicago wheat prices rose to 5 cents above the loan values in early

October and subsequently to 10 cents above after mid-November,[1] the announced weekly loan figures continued to mount. However, virtually all of the increase recorded in government-held wheat collateral after mid-October represented increased pledgings in the northwestern spring-wheat states and in Oregon and Washington, where market prices stood only 1 to 3 cents above the basic loan rates. The high market premiums implied by the level of Chicago wheat prices were equaled only for soft wheat in the St. Louis area; although at Kansas City, market premiums of 5 to 7 cents above the loan rates were paid for hard winter wheat after mid-October.[2]

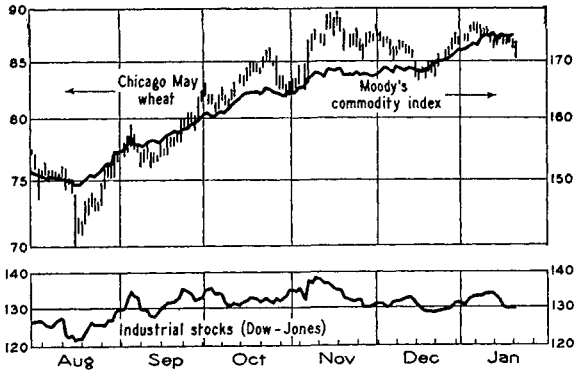
Aside from the market influence produced by the temporary removal of large quantities of wheat under government loan during August–December, there is some indication that firm holding of unpledged wheat contributed to general market strength in this period. Even with 285 million bushels pledged under loan, there still remained enough unpledged wheat to fill the total estimated requirements for consumption and export in 1940–41 plus 90 to 100 million bushels for carryover (not counting the wheat being held for crop-insurance reserves). Clearly, then, there were large quantities of unpledged wheat that farmers and other owners might have offered more freely on the market if they had not had other reasons for holding firmly. Through December, farmers having wheat eligible for a loan could hold at virtually no risk to themselves simply in the vague hope of obtaining higher prices. And some of these and other owners were probably considerably influenced by sporadic talk of "inflation" and by the fact that many other commodity prices were rising.

The period from mid-August to late November was a period in which most sensitive commodity prices were moving upward (Chart 6), partly because of increased current demands associated with industrial expansion, but partly because of widespread anticipation that prolongation of the European war and execution of the huge American defense program would necessarily result in a higher level of commodity prices in the not too distant future. Yet in most markets, bullish speculation in its usual form was conspicuous for its absence. Moreover, the Dow-Jones average of industrial stocks prices—normally an excellent indicator of bullish and bearish sentiment—moved upward only moderately over this period, with the major advance concentrated in the three weeks beginning in mid-August.

Wheat futures prices at Chicago followed the same general pattern during August–December as the Moody index of sensitive commodity prices, though the four principal

CHART 6.—CHICAGO MAY WHEAT PRICES AND INDEX NUMBERS OF PRICES OF SENSITIVE COMMODITIES AND STOCKS, DAILY FROM AUGUST 1940*

(Cents per bushel; per cent; logarithmic vertical scales)



* High and low prices of the Chicago future; index of closing prices of 15 sensitive commodities, base December 1931 = 100, compiled by Moody's Investors Service; index of closing prices of 30 industrial stocks, compiled by Dow-Jones News Service. The scales represent a change of 10 per cent in stocks prices by the same vertical distance as a change of 5 per cent in either the wheat price or the Moody index.

[1] The following tabulation shows some of the specific loan rates on basic wheat, in cents per bushel, during each of the past three seasons. These may be roughly compared with the weekly prices in Table X.

Market and grade	1938–39	1939–40	1940–41
Chicago, No. 2 Hard Winter	77	80	81
Chicago, No. 2 Yellow Hard Winter	75	78	79
Kansas City, No. 2 Hard Winter	72	77	77
St. Louis, No. 2 Red	73	80	81
Minn., No. 1 Dark Northern Spring	81	87	87
Portland, Seattle: No. 1 Hard White	68	74	74
Portland, Seattle: No. 1 Other Pacific	67	73	73

[2] As of December 31, the amount of 1940 wheat under loan in Ohio, Indiana, Illinois, and Missouri represented 20 per cent of the 1940 production in those states, as compared with 41 per cent in Kansas, Oklahoma, and Texas, and 51 per cent in North Dakota, South Dakota, Montana, and Minnesota. In Oregon and Washington, the corresponding figure was 29 per cent.

upward movements and the temporary reactions therefrom were all relatively greater in the Chicago wheat market (Chart 6). From the low point in mid-August to the peak of prices on November 14, the Chicago May wheat future advanced more than 18 cents. Yet this advance was associated with a decline rather than an increase in the volume of open interest in Chicago wheat futures; and on November 16, the open interest was close to the record-low level of 53.6 million bushels on June 23, 1936. Moreover, after December 19 successive new lows were established, the lowest reported to date being 47.7 million bushels on January 21.

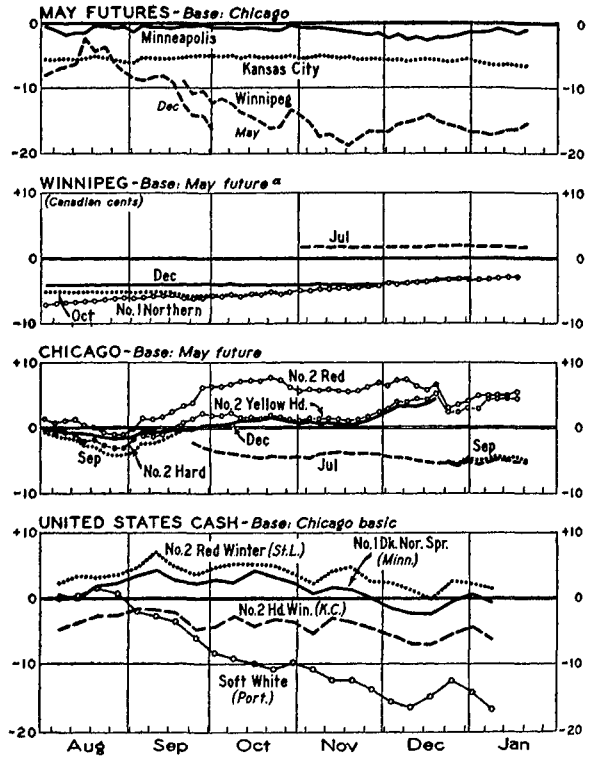
At its peak of about 89 cents per bushel, in mid-November, the price of the Chicago May future was 10 cents above the loan rate on No. 2 Yellow Hard Winter wheat at Chicago and 8 cents above the loan rates on No. 2 Hard and No. 2 Red Winter. Maintenance of the Chicago price at this level, fully covering loans plus carrying charges to their maturity, could be expected eventually to result in redemption and sale of large amounts of loan wheat. At prices only a few cents lower, little or no redemption of loan wheat could be expected. Thus, by mid-November, the price of the Chicago May future had risen about as high as could be expected on the basis merely of scarcity induced by the loan program. When other price-supporting influences failed to carry the Chicago May future still higher, an irregular reaction set in, under which the price declined almost to 83 cents in mid-December. Thereafter, continuing moderate scarcity of cash wheat encouraged recovery toward levels at which some redemption of loan wheat might be expected. In this advance, however, the May future went only slightly over 88 cents per bushel and then turned downward, somewhat as it had done in November. The price decline after early January was very gradual, with daily fluctuations generally small, in reflection of a light demand balanced by offers about equally light. At the close on January 24, the price of the May future, at 86 cents per bushel, was about midway between the December low and the January high.

North American price spreads.—The price spreads among different futures at Winnipeg and the spreads between Winnipeg and Chicago futures over the past five months have so largely reflected the artificial stability of Winnipeg prices at the fixed minimum levels that they hold no interest for students of market developments.

In contrast, some of the recent intermarket and inter-option price spreads in United States markets warrant brief comment. As is apparent from Chart 7, cash wheats have recently commanded premiums over wheat futures at Chicago, and the nearer futures have consistently sold higher than the more distant deliveries. Tightening of the cash wheat position developed as prices moved upward in September; and since October 1 there has been little change except in connec-

CHART 7.—NORTH AMERICAN WHEAT PRICE SPREADS, WEEKLY FROM AUGUST 1940*

(U.S. cents per bushel)



* Price differences based on Tuesday and Friday closing quotations, except for United States cash wheats; these are weekly averages of daily quotations at Chicago (taken as the base), Seattle and Portland, and weekly averages of all reported cash sales of the designated grades at Minneapolis, Kansas City, and St. Louis.

tion with what seems to have been a squeeze in the Chicago December future in the delivery month. The situation this year with respect to cash premiums and negative carrying charges among futures is broadly similar to the situation in the late fall and early winter of 1939. In both years, the government's loan program tended to increase the relative value of cash wheat and to wipe out the normal carrying charges among near and distant futures.

Wheat futures at Kansas City sold, as usual, some 5 to 6 cents under corresponding futures at Chicago; but Minneapolis prices were unusually low relative to futures in the other two markets. Roughly similar price relationships, however, had prevailed during 1939–40, in 1933, and on several previous occasions. Then, as recently, the relatively low level of Minneapolis prices reflected unusually abundant supplies of hard red spring wheat[1] and exceptionally large quantities of good-quality wheat, high in protein content. The same factors were responsible for the unusually small premiums commanded by No. 1 Dark Northern Spring wheat at Minneapolis as compared with Chicago basic cash wheat and No. 2 Hard Winter wheat at Kansas City (Chart 7). Equally striking were the high premiums commanded by No. 2 Red Winter wheat at St. Louis. Since early August, this wheat has consistently sold even above No. 1 Dark Northern Spring at Minneapolis—a relationship which prevailed during part of 1939–40, but previously not since 1933.

As usual, prices of Pacific Northwest wheats at Seattle and Portland moved less vigorously than Chicago wheat prices; and as the latter rose from mid-August to mid-November, western wheats went to increasing discounts under the wheats in midwestern markets. After mid-November there was but little change in these spreads, except for temporary strength of Chicago basic cash in December.

This strength was associated with an apparent squeeze in Chicago December wheat. Although the Chicago elevators were filled with grain, much of the stored wheat was pledged against government loans. The squeeze was made possible by the small quantity of free wheat available for delivery on Chicago December contracts. Cash wheat and the December future at Kansas City were temporarily close to a shipping difference under Chicago prices near the middle of December.

Price levels in different countries.—In the face of record heavy world wheat supplies, prospects for moderate wheat consumption, and anticipations of burdensome wheat carryovers in the principal exporting countries in 1941, wheat prices in practically all countries stood higher in domestic currencies in December 1940 than they had in several other recent years. Pertinent available comparisons are shown in the accompanying table (p. 246).

In virtually all European countries except Germany, domestic wheat prices in December 1940 were at the highest levels reached in at least a decade. These high prices, fixed in every case by governmental action, mainly reflected the common desires of the different governments to encourage prompt marketing as against hoarding or feeding of the short domestic wheat supplies of 1940, to insure adequate returns to farmers confronted with rising prices of the goods they purchase, and to stimulate heavy sowings of wheat for the 1941 harvest. Moreover, despite increases in the prices of other commodities since August 1939, the purchasing power of wheat on farms has risen, at least in the Danube basin and in a number of importing countries. Indeed, in December 1940 deflated wheat prices in Europe were perhaps generally higher than they had been a year earlier (Table IX). Germany stands out as a notable exception; for in that country the purchasing power of wheat to producers in December 1940 appears to have been lower than in any of the four preceding years. Wheat prices to European producers were increased more in most countries than the prices charged to millers, and flour and bread prices

[1] During the past five years, the distribution of United States wheat supplies by classes has been as follows, in million bushels:

Class	1936	1937	1938	1939	1940
Hard red winter	317	410	449	423	450
Soft red winter	234	278	273	235	245
Hard red spring	85	120	188	193	246
Durum	16	32	48	52	54
White	117	124	127	100	106
Total	769	959	1,085	1,003	1,101

to consumers rarely reflected the full increase in the price paid to wheat growers. In the United Kingdom, straight flour at London now sells at about the same price as in 1939–40 and slightly less than in 1938–39 (quota payments included); whereas British farmers are getting for their wheat 32 and 45 per cent more respectively than they did one and two years ago. Moreover, imported wheats of all types are now being sold by the British government to millers at a net price of 6/8 per hundredweight, as compared with net prices a year ago ranging between 5/2 for Rosafé and 6/7½ for No. 1 Manitoba.[1] Presumably the most abnormal margin between wheat and bread prices[2] was to be found in the United Kingdom, where the government's bread subsidy reached about $160,000,000 during the first year of the war. But Italy, Spain, and a number of other European governments were also keeping bread prices down relative to wheat prices, either by special controls over milling and prices or by direct or indirect subsidy.

In view of the current European war and its uncertain duration, it is not surprising that European wheat prices should be high at a time when a record world wheat carryover is in prospect. But the fact that wheat prices have been maintained at a moderate (rather than low) level in each of the four overseas exporting countries, where wheat stocks are definitely burdensome, is more surprising. In every one of these countries, the level of wheat prices in December 1940 was considerably higher in both domestic currency and United States money than it had been in 1931–33 or 1938, when the wheat position itself was less easy than in the current season. Moreover, even in terms of purchasing power over other commodities, export wheat prices in the United States, Canada, and probably Australia stood higher in December 1940 than in December 1931, 1932, or 1938. The higher recent prices resulted not from free appraisal of the international wheat situation by private traders dealing in competitive markets, but from decisions of national governing bodies eager to prevent the bearish world wheat situation from reacting too unfavorably upon the incomes of wheat farmers.

The methods employed by the different governing bodies to accomplish this purpose differ more in detail than in fundamentals: all involve government-supported minimum prices and all seem likely to necessitate heavy governmental expenditures and to result in serious future problems of governmental marketing of substantial wheat holdings. As noted before, the United States has relied

PRICES OF DOMESTIC WHEATS IN DECEMBER, 1931–40*

Years	United Kingdom (*shillings*)[a]	Germany (*RM*)[b]	France (*francs*)[b]	Italy (*lire*)[b]	Hungary (*pengö*)[b]	Yugoslavia (*dinars*)[b]	Rumania (*lei*)[b]	Bulgaria (*leva*)[c]	United States (*cents*)[d]	Canada (*cents*)[e]	Australia (*pence*)[f]	Argentina (*pesos*)[g]
1931–33 av. ..	5.36	19.6	128.5	99.0	11.3	...	424	...	58.0	48.0	33.6	5.50
1934–35 av. ..	5.29	20.2	92.9	101.2	17.4	154	468	300[h]	107.5	74.7	35.8	7.62
1936–37 av. ..	8.75	20.7	163.5	131.0	20.0	174	501	310	115.0	116.0	57.3	11.39
1938	4.29	20.5	208.5	148.0	20.5	160	418	340	66.9	52.8	29.0	5.96
1939	7.10	20.4	202.0	148.0	20.4	193	452	350	98.3	76.4	39.2	7.63
1940	14.58	20.4	220.0	175.8	23.7	313	880	430	83.0	67.7	46.6	6.75

* Monthly average prices except as noted; fixed prices are those in effect in December.

[a] Gazette prices per hundredweight of 112 pounds.

[b] Market prices per quintal at Berlin through 1932, at Paris and Milan through 1935, at Beograd through 1935 and in the northern region of Yugoslavia during 1936–39, at Budapest and Braila through 1939; fixed prices to producers thereafter.

[c] Fixed prices per quintal to producers.

[d] Prices per bushel of No. 2 Hard Winter at Kansas City.

[e] Prices per bushel of No. 3 Manitoba at Winnipeg.

[f] Average f.o.r. prices per bushel, three major ports through 1938; f.o.b. prices of the Wheat Board in 1939 and 1940 reduced by 5 pence to secure greater comparability with preceding figures.

[g] Prices per quintal in Buenos Aires, mainly for 78-kilo wheat.

[h] 1935 only.

[1] On last year's prices of imported wheat, see our review of 1939–40, WHEAT STUDIES, December 1940, XVII, 187–88.

[2] The price of bread has remained unchanged in the United Kingdom since October 1938.

upon its wheat loan program to maintain wheat prices. In Canada, the Wheat Board is authorized to buy all of the 1940 wheat crop and all wheat remaining from the 1939 crop at a basic price of 70 Canadian cents (64 United States cents) per bushel for No. 1 Northern wheat at Fort William–Port Arthur. The Argentine system is roughly similar, involving a fixed minimum basic price of 6.75 pesos per 100 kilos (54.6 U.S. cents per bushel), at which the Grain Regulating Board is authorized to buy new-crop wheat of 78-kilo weight, f.a.s. Buenos Aires. In Australia, the government is guaranteeing to farmers a fixed minimum basic price of 3/10 (about 62 U.S. cents) per bushel for bagged wheat f.o.b. ports.[1] A supplementary guarantee provides that if export wheat prices advance, the first increase of 2*d.* (2.7 U.S. cents) will go to the farmers, the second increase of the same amount to the government, with continuing alternation of additional benefits.

Aspects of the Outlook

This year, regional and national wheat problems demand more attention than the world wheat situation as a whole. In Europe, a number of countries face privation and hunger because of their inability to draw freely upon the unprecedentedly heavy wheat surpluses overseas; and the four major overseas exporters face divergent prospects in reflection of differences in their wheat holdings and in their distances from European markets.

The outlook for Europe.—Within Europe, there are almost as many different national wheat, bread-grain, and food problems as there are countries, but the various problems fall naturally into four groups: (1) those of the United Kingdom; (2) those of the principal neutral countries and Greece; (3) those within the German-Italian–controlled area; and (4) those of the Danube exporting nations. All are subject to modification and change as a result of unpredictable political and military developments over the next six months; but we can do no better now than to discuss some aspects of the problems as they appear today on the basis of two assumptions regarding the course of the war.

The first basic assumption is that Britain will be able to hold out under continued German bombings and even against an attempted German invasion; and that the war will go on, with no clear prospect of early termination, through the spring and summer of 1941. The second assumption is that Britain will retain control of the seas and, either with or without United States aid, will continue her effective naval blockade of the Axis-controlled area of Continental Europe.

Granted Britain's continued naval control of the seas, the food problem of the United Kingdom is largely one of adequate merchant shipping facilities. Britain must import food if her population is to be fed. The food imported may be reduced in quantity and quality as compared with 1939–40,[2] but large supplies of basic foodstuffs—especially wheat and flour—must continue to flow in. There is no present reason to doubt Britain's ability to maintain the inward flow of quantitatively adequate[3] food supplies during the remainder of 1940–41, though the composition of the supplies may not be the same as usual. Moreover, it appears highly probable at present that American merchant vessels, perhaps under American convoy, would carry food to Britain if the need should arise. Consequently, it seems reasonable to suppose that the United Kingdom will import as much wheat and flour this year as the Ministry of Food (in consultation with other Ministries) regards advisable.

If the Ministry faced only the question of providing imports for current bread consumption, an outside observer might easily estimate the volume of British wheat and flour imports in 1940–41. But other questions are involved. Will it be deemed advisable to maintain the year-end carryover of wheat and flour stocks in Great Britain at the same high

[1] The guaranteed price applies only on a total marketed crop of not more than 140 million bushels. The 1940 crop falls far below that figure.

[2] This development is implied by reductions in recent months in the meat and butter rations allowed in England, and by Lord Woolton's appeal to the English people at the end of December to eat more potatoes and porridge in place of bread and to consume less meat.

[3] On vexing questions of changing qualitative adequacy of food supplies in Britain as elsewhere, we are not prepared to comment.

level as on August 1, 1940? Or will the Ministry decide to reduce those stocks, or perhaps to increase them? Consideration must also be given to the bombing losses in England and to the serious storage congestion in Canada. On the two assumptions that wheat utilization and destruction within the United Kingdom will account for about the same disappearance of wheat this year as last (reduced feed use offsetting heavier losses) and that British stocks will be reduced little from their high level on August 1, 1940, British imports might be expected to reach 180 to 190 million bushels in 1940–41—a total roughly 12 per cent smaller than the average for 1928–1938. But if the decision should be made to reduce the carryover drastically, the imports of 1940–41 might not exceed 150 million bushels. A larger percentage than usual of British imports seems likely to be in the form of flour (p. 230).

The various "neutral" nations—Eire, Spain, Portugal, Switzerland, Finland, and Sweden —will presumably be allowed to import under the British navicert system such quantities of wheat and other basic foodstuffs as are clearly required to meet limited current domestic needs, if and as long as Britain regards these countries as "good neutrals." But the navicert system may be expected to prevent "excessive" imports (for stock-building, for example); and exchange and credit difficulties, scarcity of shipping space, and current high freight rates will presumably tend to keep the imports of most of these countries close to minimum requirements.

Sweden's food and bread-grain position seems fairly secure quantitatively as a result of sizable domestic supplies, and we doubt if foreign bread grain will be imported in 1940–41 except in small quantities under trade agreement with the USSR. Finland, Eire, Switzerland, and Portugal will presumably buy additional quantities of overseas wheat during the latter half of the crop year; and Finland, at least, will probably share in shipments made by American relief agencies. During January–July Swiss imports seem likely to be larger, Irish imports perhaps smaller, than in the early months of 1940–41.

Food problems in Spain are probably more acute than in any of the other neutral nations, and this country has been especially handicapped by a lack of foreign credits. However, a fair-sized loan from Britain was recently secured; arrangements were made with Argentina to buy 350,000 tons of grain (mostly maize) on credit; and negotiations are reported for additional credits to cover a second purchase of 350,000 tons of Argentine wheat and maize.[1] Moreover, there has been talk of the possibility of the United States shipping wheat to Spain, either on a loan or as a relief measure. In total, Spanish imports of foreign wheat during 1940–41 might well reach or exceed 20 million bushels, and the other five neutral nations together might take an additional 25 to 30 million—provided, of course, that all of these countries remain "good neutrals" and that shipping space does not become too difficult to secure.

Greece, formerly neutral but now an ally of Britain, will presumably obtain necessary supplies so long as German and Italian troops are kept outside of the heart of the country. If Greek independence is maintained throughout the crop year, imports of wheat and flour may run at least as large as in 1939–40.[2] Some of the imports will be drawn from such nearby countries as Russia, Turkey, and Egypt, but the major portion will probably come from Australia. American relief shipments are likely to be significant but not large.

It is within (but not throughout) the Axis-dominated area of Europe that quantitative food shortage mainly threatens. Included in this area are Germany, Bohemia-Moravia, Slovakia, German Poland, Denmark, Norway, the Low Countries, occupied and unoccupied France, and Italy. Within this area as a whole, there is a marked deficiency of meat, fats, milk and milk products, eggs, fish, fruits and all types of luxury foods (including coffee, tea, and cocoa). Such shortages are peculiarly important with respect to the qualitative aspects of the food supply; their incidence is uneven from region to region. Again within the whole area, the deficiency with respect to wheat alone is apparently small as compared with normal use if one allows for only mini-

[1] *New York Times*, Jan. 5, 1941, p. 36.

[2] See tabulation in footnote 1, p. 251.

mum year-end working stocks, for probable wheat imports from the Danube basin and northern Africa, and for the effects of required diversion of wheat from animal feed to human food. It is probable that there is an unfillable deficiency of feed grains and other feedstuffs to maintain even the markedly reduced herds of livestock and flocks of poultry that now remain in this area; but there may nevertheless be a significant margin of potential food supplies above total quantitative food requirements in the area as a whole.

If the German government should set itself the task of supplying an adequate number of food calories to the entire population of the Axis-controlled territory of Europe ex-Danube, the task might possibly be performed satisfactorily during the current crop year, though problems of transportation and distribution under war conditions would be formidable obstacles. Some additional livestock would probably have to be sacrificed, with diversion of some grains from feed to food. In a war economy such changes in diet are to be expected, and food substitutions are normal rather than abnormal.

The willingness of the German government to set itself the less ambitious task of preventing serious widespread hunger in the more vulnerable sections of this area has not yet been tested. So far, hunger does not seem to have developed anywhere on a sufficiently large scale to constitute a major problem. The threat remains—in German Poland, Belgium, unoccupied France, Norway, and perhaps the Netherlands—but nowhere is widespread hunger and emaciation yet reported.[1] The German government is reported to have agreed to supply 1 million tons of potatoes to northern France and Belgium,[2] and at one time it apparently let Vichy officials understand that substantial wheat shipments could flow from German-occupied France to free France.[3] These agreements, of minor importance, do not establish the presumption that German policy is veering toward prevention of widespread hunger in the occupied territories. Almost certainly the large German "war reserves" of grain will not be sharply curtailed to feed the civil populations of surrounding countries, and without drafts upon these reserves the potential food supplies of some of the countries seem dangerously small. The indicated agreements probably merely suggest that the rulers of Germany, presumably in self-interest, have not yet decided irrevocably against reduction if not prevention of acute suffering in the German-dominated area.[4] Or perhaps the agreements should simply be taken to indicate that within undetermined limits the German government is willing to ship potatoes, of which she has a surplus, to the occupied areas as a partial offset to the sizable supplies of meat, butter, fish, cheese, and luxury foods which she has previously drawn from those countries.

The United States constitutes the principal potential outside source of relief shipments to the Axis-conquered nations in Europe. Various groups of Americans are deeply concerned over the possibility of widespread "famine" in Europe during the next few months, and representatives of these groups strongly urge that America should facilitate shipments of food and other supplies to the civil populations of such countries as Belgium, Holland, Finland, Norway, Poland, Spain, and France.[5] But apparently even larger groups are willing to endorse the decision of the British government that food supplies sent to the German-occupied territories of Europe would

[1] With the almost complete "blackout" of information which now exists with regard to German Poland, we cannot be sure of any statement made about that area.

[2] *New York Times*, Nov. 28, 1940, p. 4, and Dec. 8, 1940, p. E5.

[3] *Corn Trade News*, Nov. 6, 1940, p. 2 (statement by the French Minister of Agriculture); *New York Times*, Dec. 12, 1940, p. 14. Up to December 12, the anticipated wheat shipments had not arrived and we have seen no subsequent report of delivery.

[4] This is also suggested by such "straws in the wind" as (1) the reported "German proposal that the U.S.S.R. should tackle the question of meeting the grain deficiency in Holland, Belgium and France" (*Corn Trade News*, Oct. 23, 1940, p. 1), and (2) the reported assertion of a leading Nazi newspaper, the *Essener National Zeitung*, that there would be no hunger catastrophe in Europe this year because local shortages could be met by redistribution of food supplies within Europe (*New York Times*, Oct. 8, 1940, pp. 37, 39).

[5] For an outstanding presentation of a plan for relief of the first five of these countries, by ex-President Hoover, see *Collier's*, Nov. 23, 1940, p. 12, and *New York Times*, Nov. 16, 1940, p. 6.

"be of material assistance to Germany's war effort" and therefore cannot be permitted to pass through the British blockade.[1] The policy later announced by the American State Department to rush plans for sending food to the destitute in unoccupied France, Spain, and several other neutral countries, but not to the German-occupied regions,[2] appeared to win widespread support. Unless the announced policies either of Britain or of the United States change, perhaps under shift of public opinion, food-relief shipments of grain to such major danger spots as Belgium and Poland now seem unlikely in the current crop year.

If the British do not permit overseas shipments to any part of the Axis-dominated area except perhaps unoccupied France, what can be expected of wheat imports and wheat consumption in this region in 1940–41 as a whole? Virtually all of the wheat exported this year from the Danubian countries will go to the Axis area (a little, perhaps, to Switzerland and Greece). Unoccupied France may receive a total of 15 to 20 million bushels of wheat from French North Africa and an uncertain amount of American relief shipments, if French-British relations continue as they appear to be now. Russia may or may not make substantial exports of wheat to Germany and Scandinavia this spring.

The Danubian countries apparently have smaller export surpluses of wheat than in any of the four preceding years. In Yugoslavia and Rumania there is probably no genuine export surplus, and Germany has apparently agreed to allow these two countries to send her increased quotas of other products in place of the expected deliveries of wheat.[3] But Hungary and Bulgaria appear to have sizable wheat surpluses, and together may well export as much as 20 to 30 million bushels. Whether Germany would obtain larger or smaller supplies of Danubian wheat if her armies should occupy a major part of the Danubian area seems conjectural; the result would depend at least partly upon the measures adopted for securing grain deliveries.

From all parts of the Danube basin except Bulgaria have come reports of unusual shortages of wheat, shortages hard to explain in the light of the statistical evidence on crops and exports over the past few years. Sporadic bread shortages have been reported in Belgrade; the Hungarian Food Minister is said to have announced recently that Hungary faces a serious wheat shortage; and reports from Rumania stress heavy substitution of corn for wheat this year.[4] Such indications might result either from genuinely small supplies or from effective hoarding of grain by peasants and other owners, including government agencies endeavoring to collect export supplies. To meet the apparent shortage, most of the Danubian governments have taken steps to penalize hoarding and to curtail domestic wheat consumption. High extraction rates are required in flour milling, and at least Hungary and Yugoslavia specify that corn flour or potatoes must be mixed with wheat flour for bread-making.[5] However, we judge that no true food shortage will threaten any of these important agricultural countries unless private hoarding is magnified, or the transportation system is disrupted, or Germany forces larger exports than can safely be made.

The position of the USSR with respect to Germany remains obscure. Apparently such supplies of grain as have gone to Germany under previous trade agreements were not large; but it is possible that increased grain exports will be effected under the new treaty signed on January 10, especially if German

[1] *New York Times*, Dec. 11, 1940, p. 20.

[2] *New York Times*, Dec. 12, 1940, p. 16. Secretary Hull's position was reported to be "that the Germans had taken food from these regions and that, having occupied them, it was their responsibility to care for the populations."

[3] Both Yugoslavia and Rumania now have export embargoes on wheat; and Yugoslavia has provided for imports up to 3.7 million bushels. *Corn Trade News*, Sept. 4, 1940, and Broomhall's cable service, Dec. 21, 1940.

[4] *New York Times*, Dec. 21, 1940, p. 2, and Jan. 1, 1941, p. 2.

[5] *Neue Zürcher Zeitung*, Oct. 19, 1940; Broomhall's cable service, Dec. 24, 1940; *International Review of Agriculture*, October 1940, XXXI, 671S; *London Grain, Seed and Oil Reporter*, Oct. 18, 1940.

[6] The treaty of August 20, 1939 definitely called for one million tons of feed grains. Whether wheat is specified in the new treaty is not clear; but this treaty is said to provide "for an amount of mutual deliveries considerably exceeding the level of the first year of operation of the agreement." Besides grain, Germany will receive from Russia industrial raw materials, oil products, and other foodstuffs. *New York Times*, Jan. 11, 1940, p. 8.

troops remain near the Russian-Rumanian border. However, since the new treaty extends to August 1, 1942 it may not call for heavy grain exports in the current season. And even if sizable exports of grain should be made in the spring and early summer of 1941, wheat might represent a negligible fraction of such exports. Even if Germany went to the extreme length of moving her troops into Russia and even if she should gain a firm foothold in the Ukraine, it is not certain that she could secure more wheat and other grain than under her present plans of peaceful co-operation with the Soviet Union. In view of the many uncertainties involved, and the fact that thus far we have heard of only small Russian exports of wheat this year (p. 232), we are inclined to guess that Russia's net exports of wheat in 1940–41 may not exceed 10 million bushels.

Italy stands little chance of securing this year more than a moderate share of exports from the Danube basin and Russia. Yet the Italian food-supply position seems considerably less comfortable than the German. It is true that bread has not yet been rationed in Italy except in restaurants; but only about a pound of macaroni (including rice and wheat flour) is allowed per week to each person, and the quality of the available pastes, bread, and flour is poor. Moreover, Italy faces shortages of feedstuffs and of such other basic foodstuffs as meat, vegetable oils, butter and lard, and these shortages magnify the food problem. Probably Italy could get through the current crop year without substantial curtailment of current cereal consumption, if the government could safely count on exceptional grain and other harvests in 1941; but the fact that "security stocks" must be kept against the possibility of prolonged warfare and one or more poor harvests forces such curtailment.

Among the segments of Axis-dominated Europe, unoccupied France has the most uncertain status. She is neither "inside" nor "outside." All news from that section is carefully censored, and few observers in other countries can hope fully to understand current developments at Vichy. Nevertheless, at least three elements in the food situation seem to be established: (1) the division of France determined upon by the German government was such that the unoccupied area was left with almost a third of the population of former France and only about a fourth of the major food crops; (2) the closed frontier between occupied and unoccupied France, transportation difficulties, and probably political considerations have prevented substantial shipments of food from the occupied to the free zone; and (3) although during August–September Britain was apparently endeavoring to keep all North African exports from going to France, in more recent months Britain has apparently interfered less with such shipments and has even approved the sending of American food-relief supplies to unoccupied France. All this suggests—though perhaps wrongly—that in the free zone food may be an important political weapon this year, and that the volume of French imports may depend largely upon whether the Vichy government moves closer to Germany or to England in its attitudes during the next few months.

Under the conditions and assumptions outlined above, European net imports of wheat in 1940–41 might approximate 300 million bushels, of which something like 50 to 60 million would probably come from near-by exporting areas—the Danube basin, Russia, northern Africa, and the Near East.[1] The European market for overseas exports of wheat would thus be limited to about 250 million bushels in terms of imports (perhaps 265 million or more in terms of net exports

[1] Net-import comparisons for the past seven years are as follows, in million bushels:

Country or group	1933–34	1934–35	1935–36	1936–37	1937–38	1938–39	1939–40
United Kingdom	218	200	205	199	195	230	222[a]
Greece	10	15	15	22	18	13	12
Six neutrals[b]	44	40	36	50	49	62	
Germany,[c] Italy	19	33	14	99	52	56	
France	17	..[d]	8	12	16	..[d]	206[a]
Netherlands, Belgium, Denmark, Norway	86	87	77	76	75	82	
Total	394	375	355	458	405	443	440[a]
Near-by exports[e]	100	80	93	127	120	148	109[a]
Difference	294	295	262	331	285	295	331

[a] Our rough approximation.
[b] Eire, Finland, Sweden, Spain, Portugal, Switzerland.
[c] Including net imports of Austria and Czechoslovakia.
[d] Net exports.
[e] Net exports from net-exporting countries of Europe ex-Danube, the Danube basin, Russia, northern Africa, and the Near East.

which allow roughly for shipping losses). Although this would be the lowest level of overseas exports to Europe since the World War, it would be only slightly lower than the level in 1935–36 and only moderately lower than that in 1937–38.

The overseas exporters.—Facing a reduced European demand for wheat, the four major overseas exporting countries appear to stand little chance of offsetting this loss through increased exports to non-Europe. Presumably Brazil, the West and East Indies, the Philippine Islands, and many others will take about the same volume of imports as usual; and virtually the only possible outlet for enlarged exports is in the Orient—China, Manchukuo, Japan. There, in spite of short supplies of domestic food grains, the outlook for commercial trade is poor because of low purchasing power, inadequate foreign credits, scarcity of shipping space, and high freight rates.

Japan will presumably rank as a net exporter of wheat flour again this year, even if all her supplies of wheat are needed at home. Manchukuo, a country which imported fairly heavily in 1939–40, shows signs of reducing her imports considerably this year—perhaps partly because the American export subsidy on wheat and flour shipments to Dairen was dropped on October 8, but mainly because of general exchange and shipping difficulties. Thus China holds out the only possible hope for enlarged exports to the Orient. Through December Chinese imports were apparently a little larger this year than last; but during the remainder of the current crop year commercial imports will presumably be handicapped by shipping difficulties and by the absence of American export subsidies to China. On the other hand, the large loan which the United States recently made to China increased the possibility of sizable Chinese imports, and there is the additional chance that Chinese imports may be swelled by substantial shipments of flour for relief purposes.[1] But until some specific step is taken toward sending relief wheat to China, we cannot reasonably allow for sizable exports of that nature. And without such shipments it seems unlikely that Chinese imports will expand enough to offset fully the reduction in Manchukuoan imports.

In total, then, non-European imports of wheat in 1940–41 cannot be expected to exceed (if indeed they even reach) their level in 1939–40, unless American relief shipments to China are substantial. And if non-European imports are not increased this year, world net exports ("real" exports) are quite unlikely to exceed 450 million bushels, of which perhaps something like 385 million may come from the overseas exporting countries.

In the Southern Hemisphere, *Australia* is faced with the problem of disposing of large, though not record, wheat supplies in the face of a relatively poor Oriental demand and of great shipping difficulties operating against large shipments to Europe. Probably somewhat more wheat than usual will be used domestically, in spite of anticipated reduced seedings, but this would still leave a sizable surplus for export and carryover (Table VIII). Since export possibilities are not encouraging, we doubt that Australian shipments will appreciably exceed 6 million bushels monthly over the next seven months, bringing crop-year exports to only 75 or 80 million and leaving Australian stocks on August 1, 1941 over 80 million bushels. Such stocks would be considerably smaller than those of the preceding year and slightly smaller than those of 1934, but they would nevertheless be definitely burdensome.

Argentina may not have heavily excessive wheat supplies as judged by peace-time standards (Table VIII). But the sharply narrowed Continental European import market and current shipping difficulties so limit export possibilities that the moderately large supplies in Argentina must be regarded as definitely excessive. Faced with even more excessive supplies of maize, Argentina cannot be expected to utilize wheat more heavily than usual this year for feeding; and since seed use will probably be contracted we do not ex-

[1] These could be supervised as to final destination more carefully than subsidized commercial exports to China, and thus would not be open to the objection that United States wheat was being given to Japanese invaders in northern China (pp. 231–32).

pect total domestic utilization (including heavy waste) to exceed 105–110 million bushels.

How much of the remaining surplus of about 240 million bushels in Argentina will go to export and how much to year-end stocks is an open question. Through December, Argentina apparently shipped about 37 million bushels. During January–July she may export at least 40 million to Brazil, other near-by countries, Spain, Portugal, and Finland; and Eire may be able to buy a few million. But the crucial question is: how much wheat will Britain take? Faced on the one hand with political considerations making it necessary to relieve the strains on Argentine domestic economy, and on the other hand with difficulties of shipping from such a remote area and with pressure from Canada to take larger Canadian exports, the British government is forced to make a difficult decision. Apparently the British-Argentine trade pact announced in October 1940 did not specify the quantity of wheat Britain would take during the following year, but did specify British purchases of $80,000,000 worth of *agricultural* produce.[1] Our guess is that during January–July British takings of Argentine wheat may average almost one million bushels weekly. If so, Argentine exports of wheat and flour during August–July 1940–41 would total 100 to 110 million bushels, leaving excessive stocks of 130 to 140 million on August 1, 1941. This implies a level of stocks about 100 million bushels lower than in 1939 and about the same as in 1929, but considerably higher than in any other year.

Canada's wheat position is definitely critical. Only a small fraction of her huge wheat supplies for the current year (p. 226) can be absorbed domestically; and the outlets for exports are narrow. Through December Canadian overseas clearances of wheat and flour plus imports of Canadian wheat for use and milling in the United States totaled only about 55 million bushels—roughly 11 million monthly. If this low average should be maintained throughout the rest of the crop year, Canadian export clearances of wheat and flour would not exceed 135 million bushels in 1940–41. But the outlook for world imports outlined above and various other considerations suggest a higher average during January–July than during August–December; and we tentatively expect crop-year total clearances (including flour and United States imports) to approach 160–170 million bushels. Canadian customs exports will probably be larger still—perhaps 180 million—but even these will appear notably low as compared with earlier years of large supplies; and they seem sure to leave a carryover in Canada of at least 500 million bushels. Such a carryover would be almost twice as large as the previous record one of 273 million bushels in 1940 and would be the equivalent of a large Canadian crop. With storage space already congested with old-crop wheat, the marketing of the 1941 crop may present problems never before encountered. This outlook will probably induce the Canadian government to take steps to effect reduction of the wheat acreage planted next spring.

United States domestic wheat utilization in 1940–41 is now forecast by the United States Department of Agriculture at 685 million bushels, 10 million higher than that of the preceding year. In the light of incomplete stocks data on January 1, this forecast appears as reasonable as any that could now be made. As compared with last year, the amount of wheat milled for domestic retention seems likely to be slightly larger in 1940–41, seed use may be increased by 2 to 3 million bushels, and residual disappearance (including feed use and errors) may be roughly 5 million bushels larger (Table VIII). This would leave 415 million bushels for export and carryover.

Wheat exports from the United States during the next six months will depend mainly upon governmental policy toward wheat and flour export subsidies and relief shipments to the Orient, upon Anglo-American agreement with respect to relief shipments to Europe, and upon decisions of the Chinese government relative to wheat purchases with funds made available under the recent American loan. As noted above (p. 250), a forecast of large relief shipments to either Europe or the Orient does not seem justified, although small shipments of this type are expected; nor does our trade

[1] *The Times of Argentina*, Oct. 21, 1940, p. 21.

forecast make allowances for any marked change in existing subsidy provisions. Under such conditions, United States net exports of wheat and flour, which apparently averaged about 3 million bushels monthly during August–December, might average only about 2 million during January–July. The August–July total would thus be in the neighborhood of 30 million bushels.[1] Exports of this size would probably be associated with a July 1 carryover of about 390 million bushels—roughly the same magnitude as the peak carryovers of United States grain in 1932 and 1933.

This year it is important to consider also the proportion of the carryover likely to be held by governmental agencies. Presumably the Federal Crop Insurance Corporation, which owned 14.8 million bushels of the 1940 wheat carryover, will hold several million more this year. But the major questions are how much wheat will be held in the name of the CCC and the FSCC on July 1, 1941 and how much will remain on farms under governmental loan. The outcome depends upon the future course of wheat prices and the selling-holding reactions of farmer-owners during the next five months, both uncertain. Several points in the outlook, however, are reasonably clear.

In early January 1941 the amount of 1940 wheat stored under government loan (as reported for January 14) was 275 million bushels; and presumably the CCC continued, as on November 30, to own outright over a million bushels and to hold collateral against 10 million bushels of 1939 wheat resealed on farms last spring. Of the total wheat stocks in the United States on January 1, something over 285 million bushels, almost 40 per cent, were thus pledged under government loan or owned outright by the CCC. It would be possible for the CCC and the FSCC to hold collateral against or title to the same amount of wheat on July 1, 1941.

On December 30, the Department of Agriculture announced that, as existing loans matured, the CCC would take delivery of all unredeemed 1940 wheat stored in warehouses and of all unredeemed 1939 wheat resealed on farms last spring; but that extensions of existing loans would be available for 1940 farm-stored wheat in areas where the grain would store without deterioration. It was also stated that the CCC planned not to sell any 1940 wheat in good condition except at prices not less than loan values plus charges. This important announcement indicated that by early May at least 235 million bushels of the 285 million now under loan will have been redeemed by farmer-owners or delivered to the CCC. By that date only a small part of the outstanding loans on 1940 farm-stored wheat—those taken out prior to July 1, 1940—will have matured, and even those may have been extended.

Whether as much as a quarter to a third of the wheat now under loan will be redeemed and sold over the next few months will depend mainly on the level of wheat prices. If farmers are to redeem this wheat on a large scale, wheat prices at the major terminals must be equal to the loan values plus accumulated storage costs and about 2 cents per bushel for interest plus some small profit. Even at the level of prices reached in early January there was virtually no inclination to redeem loan wheat; though at Chicago and St. Louis, at least, some observers believed that relatively small additional advances would attract redemption of warehouse-stored wheat against loans about to mature. Prices in the Northwest and in Washington and Oregon have been still further below the redemption levels.

Will it be necessary for wheat prices generally to rise to levels covering loan values and costs over the next few months in order that millers and other users of wheat may secure adequate supplies? This seems likely to depend upon the rate at which available free wheat is released for sale. The margin between the total quantity of unpledged wheat on January 1 and prospective January–June wheat requirements for domestic milling,

[1] This statement refers to the net "domestic" export series designated as B in Table VII (described in footnote *a* to that table). Whether net "general" exports, designated as series A in Table VII and carried also in Table VIII, will run as high is problematical, since during August–November these net exports were about 10 million bushels smaller than the "domtstic" export total. We are inclined to guess that during July–June net exports in "general" trade will not exceed 25 million bushels.

seed, feed, export, and minimum working reserves seems so small that the course of marketing of the unpledged wheat may be a decisive price factor. Presumably some of this wheat will flow to market more or less regularly, following a rough seasonal pattern, but some may be held longer or liquidated more rapidly in accordance with farmers' views as to the outlook for wheat prices. If prices in other commodity markets continue their recent upward trends, the percentage of unpledged wheat held back in anticipation of higher prices will probably be larger than if other commodity prices show less strength. More important, the selling of unpledged wheat and also the volume and kind of speculation in Chicago wheat futures will probably depend in large degree upon developing prospects for the agricultural program which will be adopted by the present Congress. Finally, after early April the new-crop outlook may exercise more influence than at present, bearing particularly upon expectations of the imposition of wheat-marketing quotas in 1941–42.[1]

The present low level of the open interest in Chicago wheat futures suggests that either moderate hedging pressure, reflecting increased wheat marketings, or moderate mill purchases, will be likely to have more than the usual price effect over the next few months. However, the large quantity of wheat now under loan and the recently announced policy of the CCC as to acceptance of delivery and subsequent sale of the great bulk of that wheat seem likely to limit declines or advances in the Chicago market. At present, the most reasonable price expectation for the next few months is that Chicago futures prices will fluctuate within narrow limits. General price stability is likely to be the outstanding feature in January–April of all of the leading futures markets—Chicago, Winnipeg, and Buenos Aires.

If as much as 50 or 100 million bushels of loan wheat should be redeemed and sold before the end of April, under the incentive of prices above loan values plus costs, the supply of free wheat on the market would be ample. The premium for spot wheat would tend to disappear, and the July future would rise to about the same price as the May. Such a result is not likely to be produced by mere fear of shortage. It seems not impossible, however, that redemption of 50 million bushels or more of loan wheat might be induced if prices should receive strong support either from threat of severe crop damage or from expectation of governmental measures that would afford prices on new-crop wheat considerably above those that have ruled in the market recently.

If, as now seems probable, American wheat prices do not rule high enough during the next few months (and particularly during March and April) to encourage redemption of more than a few million bushels of loan wheat, cash wheat of minimum contract grade at Chicago will probably continue to sell at several cents per bushel above the price of the May future until April or May, and the price of the May future will probably continue a few cents per bushel above that of the July. We suppose, however, that with a short supply of free wheat in the carryover (possibly as low as 100 to 110 million bushels) the May future is unlikely to go to as high a premium over the July as might be expected if the entire carryover totaled only 100 to 110 million bushels.

[1] It now appears extremely likely that a farmer referendum on wheat marketing quotas for 1941–42 will be mandatory under the Agricultural Adjustment Act of 1938. At present the 1941 carryover and the 1941 wheat crop are both expected to be so large than even with a reduction of something like 200 million bushels from current prospects for the crop and carryover, a referendum must occur.

The authors are indebted to other members of the Institute staff for suggestions and criticisms, to Marion Theobald for the tables, and to P. Stanley King and Jean Hoover Ballou for the charts.

APPENDIX TABLES

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, 1935–40*

(Million bushels)

Year	World ex-Russia[a]			United States	Canada	Argentina, Australia	Europe ex-Russia				French North Africa[d]	India	Others ex-Russia[a]	USSR
	Total[a]	Northern Hemisphere	Southern Hemisphere				Total	Lower Danube[b]	Mediterranean[c]	Others				
1935 ..	3,557	3,184	373	626	282	286	1,575	302	490	783	70	363	355	1,133[e]
1936 ..	3,509	3,038	471	627	219	401	1,480	384	374	722	50	352	380	*1,128*
1937 ..	*3,815*	*3,347*	468	876	180	395	*1,587*	361	*451*	725	72	364	391	1,722
1938 ..	*4,551*	*3,945*	606	932	360	523	*1,848*	466	*449*	933	72	402	414	*1,502*
1939 ..	*4,228*	*3,824*	*404*	751	521	330	1,711	454[g]	456	801[g]	100	371	*444*	.....
1940[f] ..	*3,986*	*3,582*	*404*	784	561	*320*	*1,400*	*325*[g]	*441*	*634*[g]	*75*	403	*443*	.....
1940[h] ..	*4,082*	*3,637*	*445*	817	551	368	*1,400*	*300*[g]	*433*	*667*[g]	*68*	403	*475*	.....

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

[a] Excludes China, Iran, and Iraq.
[b] Hungary, Yugoslavia, Rumania, Bulgaria.
[c] Portugal, Spain, Italy, Greece.
[d] Morocco, Algeria, Tunis.
[e] Not comparable with later years.
[f] As of about Sept. 20, 1940, for 1939 boundaries.
[g] Danube increased, other Europe decreased, by 10–15 million bushels in comparison with earlier years by change in Hungarian-Czechoslovakian boundary.
[h] As of about Jan. 20, 1941, for 1939 boundaries.

TABLE II.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING COUNTRIES, 1935–40*

(Million bushels)

Year	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Brazil, Peru	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1935...	465.3	161.0	281.9	144.2	141.5	15.1	31.8	7.41	84.2	73.1	96.4	47.9	20.0	33.5	16.9
1936...	519.9	106.9	219.2	151.4	249.9	9.2	28.6	8.36	87.8	107.4	128.7	60.4	12.2	29.8	8.1
1937...	685.8	189.9	180.2	187.3	207.6	16.6	30.3	9.58	72.2	86.2	138.2	64.9	20.9	33.2	17.6
1938...	688.1	243.6	360.0	155.4	367.4	15.5	35.5	9.19	98.8	111.3	177.2	79.0	23.2	34.9	14.0
1939...	569.7	181.7	520.6	210.2	119.5	9.9	31.6	....	113.1	105.7	163.6	71.2	38.8	42.6	18.6
1940[a] ..	555.8	227.7	561.1	*120.0*	*200.0*	....	....	....	.....	.....	109.8	....	....	....	....
1940[b] ..	589.2	227.5	551.4	91.9	275.7	....	....	....	75.0	69.3	89.3	....	23.9	*27.6*	*17.0*

Year	United Kingdom	Eire	France	Italy	Germany	Austria	Czechoslovakia	Switzerland	Belgium[c]	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1935...	65.4	6.69	285.0	282.8	171.5	15.5	62.1	5.97	17.1	16.7	14.7	1.87	23.6	158.0	22.1
1936...	55.3	7.84	254.6	224.6	162.7	14.0	55.6	4.47	17.2	15.4	11.3	2.09	21.6	121.5	8.7
1937...	56.4	6.99	257.8	296.3	164.1	14.7	51.3	6.18	16.8	12.7	13.5	2.50	25.7	*110.0*	14.7
1938...	73.3	7.40	360.1	300.7	205.0	16.2	66.7	7.81	22.0	15.9	16.9	2.64	30.2	*96.0*	15.8
1939...	61.6	9.52	287.0	293.2	206.3[d]		*40.0*[e]	6.36	13.8	15.3	15.4	2.86	31.4	105.7	19.0
1940[a] ..	....	....	.....	268.2	.....		....	....	....	....	....	....	....	121.3	....
1940[b] ..	....	....	.....	268.2	.....		....	....	....	....	....	2.60	16.7	121.3	....

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East[f]	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
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	23.7	8.86
1936...	78.4	8.0	5.27	2.43	5.26	19.5	141.6	20.3	45.7	45.2	8.2	35.2	13.6	16.1	7.17
1937...	70.8	8.1	6.30	2.79	7.66	30.0	135.8	24.1	45.4	50.4	10.3	41.4	11.0	10.7	6.04
1938...	79.8	9.2	7.05	3.14	9.40	36.0	156.7	27.3	45.9	45.2	10.4	34.3	11.8	17.1	5.56
1939...	83.4	9.4	7.77	3.13	8.34	38.3	169.3	28.1	49.0	61.1	12.6	34.8	14.8	15.3	8.01
1940[a] ..	....	....	....	....	....	34.2	170.1	....	49.8	61.3	....	*30.9*	12.9	*14.0*	....
1940[b] ..	....	....	....	2.79	5.99	34.2	191.1	....	49.8	66.1	....	32.0	13.0	17.2	....

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

[a] As of about Sept. 20, 1940, for 1939 boundaries.
[b] As of about Jan. 20, 1941, for 1939 boundaries.
[c] Including Luxemburg.
[d] Including the Sudeten area.
[e] Bohemia-Moravia and Slovakia.
[f] Syria and Lebanon, Palestine, Cyprus.

TABLE III.—WHEAT RECEIPTS IN NORTH AMERICA, MONTHLY, JULY–DECEMBER, 1935–40*

(*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.
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	42.9	53.4	21.9	8.5	8.1	134.8
1937.....	111.9	62.2	35.2	22.6	16.1	10.6	258.6	3.1	20.5	45.0	17.8	9.8	5.3	98.4
1938.....	101.2	61.1	38.5	27.3	19.1	14.9	262.1	3.1	39.6	122.2	62.0	21.2	9.5	254.5
1939.....	99.0	43.9	39.0	19.8	12.2	11.5	225.4	8.0	54.1	178.2	78.7	36.7	15.3	363.0
1940.....	103.9	46.2	39.9	18.5	10.0	9.6	228.1	20.0	35.2	101.5	68.4	37.3	39.0	281.4

* United States data unofficial, compiled from *Survey of Current Business;* Canadian data computed from official figures given in *Canadian Grain Statistics.*

TABLE IV.—WHEAT VISIBLE SUPPLIES, AUGUST–JANUARY 1940–41, WITH COMPARISONS*

(*Million bushels*)

Date	Total[a]	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[b]	United States						
Aug. 1											
1937.....	194.4	89.3	.1	27.8	4.1	121.4	25.6	12.0	37.6	14.5	20.9
1938.....	231.2	96.4	.3	17.1	1.0	114.8	36.5	14.1	50.6	21.5	44.3
1939.....	533.2	149.3	.5	84.9	6.6	241.3	34.9	25.5	60.4	18.0	213.5
1940.....	.....	160.1	.1	235.6	27.1	422.9	....	....	....	98.5	55.7
Jan. 1											
1938.....	314.4	94.5	1.9	49.2	4.7	150.3	31.4	13.0	44.4	82.0	37.7
1939.....	563.0	128.8	.4	157.1	7.9	294.2	24.7	18.4	43.1	82.7	143.0
1940.....	.....	132.8	.8	301.0	38.4	473.0	....	....	....	77.0	132.4
1940-41											
Sept. 1...	.....	180.0	.6	257.8	31.5	469.9	....	....	....	90.2	43.3
Oct. 1....	.....	186.5	.6	330.4	37.3	554.8	....	....	....	80.2	33.2
Nov. 1....	.....	176.4	1.2	388.9	38.9	605.4	....	....	....	68.0	21.9
Dec. 1....	.....	166.6	.2	404.8	48.4	620.0	....	....	....	60.2	19.4
Jan. 1....	.....	169.8[c]	.3	424.1	53.7	647.9	....	....	....	76.0[d]	49.2

* 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,* Broomhall's *Corn Trade News* (for Afloat to Europe, U.K. ports, and Australia), and *Boletin Informativo* for Argentina. Dots (...) indicate that data are not available.

[a] Not comparable with totals formerly published, since a more inclusive series (official) is now employed for Argentina.

[b] Excluding, for comparability, stocks in transit by rail which are now included in officially published totals.

[c] Two markets, Enid, Oklahoma, and Amarillo, Texas, added to the total at the beginning of January 1941.

[d] Approximate.

TABLE V.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, JULY–DECEMBER 1940, WITH COMPARISONS*

(*Thousand barrels*)

Month or period	Production						Net exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total								
	1938	1939	1940	1938	1939	1940	1938	1939	1940	1938	1939	1940
July	8,507	8,432	8,504	9,021	8,942	9,018	447	947	446	8,574	7,995	8,572
Aug.	9,160	9,522	8,881	9,714	10,098	9,583	452	698	507	9,262	9,400	9,076
Sept.	9,699	11,191	9,288	10,285	11,867	9,850	444	741	452	9,841	11,126	9,398
Oct.	9,634	9,428	9,960	10,216	9,997	10,562	572	663	724	9,644	9,334	9,838
Nov.	8,838	8,298	8,737	9,372	8,800	9,265	466	610	786	8,906	8,190	8,479
Dec.	8,416	8,119	....	8,925	8,610	8,778[a]	607	464	700[a]	8,318	8,146	8,078[a]
July-Dec.	54,254	54,990	....	57,533	58,314	57,056[a]	2,988	4,123	3,615[a]	54,545	54,191	53,441[a]
July-June[b] ...	104,638	104,448	....	110,963	110,761	.....	7,171	7,163	....	103,792	103,598	103,600[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 1940*

(*Million bushels*)

Week ending	Total[a]	Shipments from							Shipments to Europe				To ex-Europe		
		North America	Argentina[b]	Australia	South Russia	Danube	India	Other countries	Total[a]	United Kingdom	Orders	Continent	Total[a]	Brazil	Others
Sept. 7	6.02	4.00	1.82	...	.00	.20	...	.00	4.11	...	...	...	1.91	...	...
14	4.89	2.67	1.96	...	.00	.26	...	.00	3.68	...	...	...	1.21	...	...
21	5.42	2.94	2.34	...	.00	.14	...	.00	3.83	...	...	...	1.59	...	...
28	3.46	1.93	1.41	...	.00	.12	...	.00	2.28	...	...	...	1.18	...	...
Oct. 5	3.75	2.70	1.05	...	.00	.00	...	.00	2.86	...	...	...	.89	...	...
12	5.02	2.77	2.25	...	.00	.00	...	.00	3.09	...	...	...	1.93	...	...
19	3.93	2.55	1.38	...	.00	.00	...	.00	2.71	...	...	...	1.22	...	...
26	2.17	1.95	.22	...	.00	.00	...	.00	1.56	...	...	...	.61	...	...
Nov. 2	4.26	2.74	1.52	...	.00	.00	...	.00	2.53	...	...	...	1.73	...	...
9	6.52	4.22	2.30	...	.00	.00	...	.00	4.55	...	...	...	1.97	...	...
16	5.30	4.23	1.07	...	.00	.00	...	.00	3.87	...	...	...	1.43	...	...
23	6.98	4.68	2.14	...	.16	.00	...	.00	5.32	...	...	...	1.66	...	...
30	6.32	4.19	1.62	...	.51	.00	...	.00	5.21	...	...	...	1.11	...	...
Dec. 7	4.58	3.30	1.00	...	.28	.00	...	.00	3.57	...	...	...	1.01	...	...
14[c]	4.89	2.62	.87	...	1.18	.00	...	.22	3.57	...	...	...	1.32	...	...
21[c]	5.08	3.63	.77	...	.54	.00	...	.14	3.60	...	...	...	1.48	...	...
28[c]	5.13	2.65	1.73	...	.65	.00	...	.10	4.02	...	...	...	1.11	...	...
Jan. 4[c]	3.52	1.98	1.30	...	.11	.00	...	.13	2.20	...	...	...	1.32	...	...
11[c]	3.45	2.73	.62	...	.00	.00	...	.10	2.56	...	...	...	.89	...	...
18[c]	3.71	3.33	.26	...	.00	.00	...	.12	3.17	...	...	...	.54	...	...

* Here converted from data in Broomhall's *Corn Trade News*. Dots (...) indicate that data are not available.

[a] Excluding Australia. [b] Including Uruguay. [c] Preliminary.

TABLE VII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM JULY 1940, WITH SUMMATIONS AND COMPARISONS*

(*Million bushels*)

A. NET EXPORTS (*In parentheses, net imports*)

Month or period	United States[a]		Canada[b]		Australia	Argentina	Hungary	Yugoslavia	Rumania	Turkey
	A	B	A	B						
July	3.34	3.31	13.26	12.05	...	13.51	...	.25	.12	.01
Aug.	1.96	2.69	13.99	11.56	...	10.66	...	.02	.03	.04
Sept.	(1.69)	2.39	11.98	9.62	...	7.56	...	.04	.00	.04
Oct.	2.35	3.81	13.03	10.81	...	6.56	...	...	...	...
Nov.	(.72)	3.51	20.35	13.71	...	7.40	...	...	...	...
Aug.-Nov.										
1940	1.90	12.40	59.35	45.70	33.00[c]	32.18	...	...	...	...
1939	19.58	20.67	71.36	55.75	19.79	61.92	20.48	5.24	12.07	.08
1938	27.43	27.42	71.49	71.82	24.87	18.01	13.12	3.83	16.71	.92

B. NET IMPORTS (*In parentheses, net exports*)

Month or period	Greece	Portugal	Egypt	Iraq	China	Cuba[d]	Brazil	Uruguay	New Zealand	South Africa
July	1.21	.13	(.21)	(.06)	1.64	.28	...	.00	.23	...
Aug.	1.02	.00	...	(.03)	1.40	.29	...	.00	.33	...
Sept.	...	.47	...	(.00)	1.20	.32	...	...	.31	...
Oct.	...	...	...	...	2.95[e]	.42	...	...	...	...
Nov.	...	...	...	...	...	.41	...	...	...	...
Aug.-Nov.										
1940	...	...	...	...	...	1.44	11.00[f]	...	...	...
1939	4.40	.25	.07	...	6.58	1.73	11.07	(2.14)	.38	.18
1938	3.80	.88	.03	(.78)	4.81	1.65	13.48	(.84)	.53	1.71

* Data from official sources and International Institute of Agriculture. Dots (...) indicate that data are not available. Official trade data no longer published for the United Kingdom, Eire, France, Italy, Germany, Czechoslovakia, Switzerland, Belgium, Netherlands, Denmark, Norway, Sweden, Finland, Poland, USSR, Bulgaria, Morocco, Algeria, Tunis, India, Manchukuo, and Syria and Lebanon.

(See p. 259 for lettered footnotes.)

TABLE VIII.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1935–36*

(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)											
1935–36.....	147	626	773[d]	466	88	+105	659	114	(28)[e]	(15)[e]	(13)[e]	142
1936–37.....	142	627	769[d]	471	97	+141	709	60	(23)[e]	(18)[e]	(5)[e]	83[f]
1937–38.....	83[f]	876	959	468	94	+137	699	260	107	31	76	153[f]
1938–39.....	153[f]	932	1,085	475	76	+173	724	361	109	40	69	252[f]
1939–40.....	252[f]	751	1,003	472	74	+131	677	326	42	26	16	284[f]
1940–41[g].....	284[f]	784	1,068	477	75	+141	693	375	...	...	...	...
1940–41[h].....	284[f]	817	1,101	475	77	+134	686	415	25	...	...	390
	B. CANADA (AUGUST–JULY)											
1935–36.....	202	282	484	45	34	+43	122	362	254	102	152	108
1936–37.....	108	219	327	44	34	+21	99	228	195	109	86	33
1937–38.....	33	180	213	43	33	+26	102	111	87	42	45	24
1938–39.....	24	360	384	47	35	+42	124	260	165	71	94	95
1939–40.....	95	521	616	49	36	+51	136	480	207	71	136	273
1940–41[g].....	273	561	834	49	35	+50	134	700	...	...	...	...
1940–41[h].....	273	551	824	44	33	+57	134	690	180	59	121	510
	C. AUSTRALIA (AUGUST–JULY)											
1935–36.....	57	144	201	33	13	+10	56	145	102	29	73	43
1936–37.....	43	151	194	32	15	+ 4	51	143	102	24	78	41
1937–38.....	41	187	228	30	15	+ 7	52	176	126	21	105	50
1938–39.....	50	155	205	31	14	+14	59	146	96	25	71	50
1939–40.....	50	210	260	32	13	− 1	44	216	86	20	66	130
1940–41[g].....	125	120	245	33	13	+14	60	185	...	...	...	...
1940–41[h].....	130	92	222	32	12	+18	62	160	80	33	47	80
	D. ARGENTINA (AUGUST–JULY)											
1935–36.....	85	142	227	69	23	+ 5	97	130	70	35	35	60
1936–37.....	60	250	310	67	25	+11	103	207	162	19	143	45
1937–38.....	45	208	253	71	25	+13	109	144	72	12	60	72
1938–39.....	72	367	439	74	21	− 8	87	352	122	18	104	230
1939–40.....	230	120	350	73	21	+ 6	100	250	180	62	118	70
1940–41[g].....	60	200	260	74	20	+11	105	155	...	...	...	...
1940–41[h].....	70	276	346	74	19	+13	106	240	105	32	73	135

* Based on official data so far as possible; see WHEAT STUDIES, December 1940, 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 1940.

[h] Estimates as of January 1941.

FOOTNOTES TO TABLE VII (*Continued*)

[a] Series A (carried in previous surveys) is derived by subtracting general imports of wheat and flour from total domestic exports and re-exports of wheat and flour plus flour shipments to possessions. Series B is derived by subtracting imports of wheat and flour for consumption from total domestic exports of wheat and flour plus flour shipments to possessions. Both series include grain imports for milling in bond and exports of flour milled from foreign as well as from domestic grain. Flour is converted to grain equivalent at 4.7 bushels per barrel.

[b] Series A (carried previously) shows total customs exports of wheat and flour minus customs imports of wheat and flour. Series B is derived by subtracting customs imports of wheat and flour from the total of overseas clearances of Canadian wheat grain plus customs exports of Canadian flour plus United States imports of Canadian wheat for consumption and for milling in bond. Flour is converted to grain equivalent at 4.5 bushels per barrel. For a description of the difference between customs exports and overseas clearances of wheat, see Canada, Dominion Bureau of Statistics, *Monthly Review of the Wheat Situation*, Feb. 23, 1940, p. 3.

[c] Our estimate, described in text, p. 229.

[d] Gross imports of flour from the United States.

[e] Gross imports.

[f] Exports from Argentina and the United States to Brazil.

TABLE IX.—EUROPEAN DOMESTIC WHEAT PRICES, DECEMBER 1940, WITH COMPARISONS*

(Indicated currency per quintal; except as noted for the U.K.)

December	United Kingdom (shillings per cwt.)		Germany[a] (R M)	France[a] (francs)	Italy[a] (lire)	Bulgaria[a] (leva)	Rumania (Braila) (lei)	Hungary (Budapest) (pengö)	Yugoslavia (northern) (dinars)
	Standard	Gazette							
	A. DOMESTIC CURRENCY								
1936	10.0	8.92	20.8	143.0	118	300	480	19.3	170
1937	10.0	8.58	20.6	184.0	125	320	522	20.8	178
1938	10.0	4.29	20.5	208.5[b]	135	340	418	20.5	160
1939	11.0	7.10	20.4	202.0[b]	135	350	452	20.4	193
1940	14.5	14.58	20.4	220.0[b]	155	430	880[a]	23.7[a]	313[a]
	B. DEFLATED								
1936	11.2	10.0	27.0	172	142	508	667	23.2	239
1937	10.5	9.0	26.8	182	124	492	661	23.7	225
1938	11.6	5.0	26.6	191	124	507	516	24.1	208
1939	10.3	6.6	25.8	...[c]	...[c]	500	435	23.0	214
1940[d]	11.2	11.3	18.4	...[c]	...[c]	558	647	22.8	261

* Price data from official sources and the International Institute of Agriculture. Prices are deflated by general indexes of wholesale prices (1929 = 100) from the *Federal Reserve Bulletin*, and the League of Nations *Monthly Bulletin of Statistics*.

[a] Fixed price to producers; in Germany for the Berlin area.

[b] Less a tax of from 11 to 49 francs per quintal.

[c] Wholesale price index no longer available.

[d] Latest available index used; i.e., November for U.K. and Germany, August for the Danube countries.

TABLE X.—SELECTED WHEAT PRICES, WEEKLY FROM SEPTEMBER 1940, WITH COMPARISONS*

(U.S. cents per bushel)

Week ending	United States							Canada (Winnipeg)[a]				Argentina (B.A.)		Australia f.o.b.
	Futures (Chicago)		Cash					Futures		Cash		Futures	Cash	
	Dec. (July)	May	Basic cash (Chi.)	No. 2 H.W. (K. C.)	No. 2 R.W. (St. L.)	No. 1 Dk.N.S. (Mnpls.)	Soft White (Port.)[b]	Dec. (July)	May	Wtd. average	No. 3 Man.	Nov. (Feb.)	78-kilo	
1939 40														
Sept. 2..	70	71	71	68	73	81	71	60	63	57	52	55[c]	55	..
Oct. 7..	82	82	84	82	86	88	77	65	69	62	59	54	52	..
Nov. 4..	87	86	88	85	92	91	81	64	68	62	60	50	49	48
Dec. 2..	91	88	91	86	94	93	79	67	71	67	64	59[d]	53	49
Jan. 6..	103[e]	105	106	104	109	110	87	81[e]	80	75	72	68[d]	67	65
1940-41														
Sept. 7..	77	78	76	74	81	80	74	68	..	65	61	67	66	67
14..	76	77	76	74	83	80	73	68	..	66	62	64	63	67
21..	77	78	78	76	82	81	74	66	..	64	60	60	59	67
28..	80	80	82	77	85	84	76	65	69	63	60	56	56	67
Oct. 5..	82	82	84	79	88	86	75	66	69	64	60	51	51	67
12..	83	82	84	81	89	86	75	65	69	63	60	51	51	66
19..	85	84	86	82	91	90	76	65	69	63	61	46	47	65
26..	86	85	86	83	92	90	76	65	69	63	61	47	48	64
Nov. 2..	84	83	85	81	88	87	75	65	69	63	61	48	50	65
9..	87	86	87	82	89	88	76	65	69	64	62	52	53	68
16..	89	88	89	86	93	91	77	66	70	64	63	52	53	67
23..	88	87	89	85	93	90	76	65	69	64	62	53	52	68
30..	88	87	89	85	92	89	75	66	70	64	63	55[d]	..	68
Dec. 7..	89	86	90	85	92	89	75	66	70	65	62	55[d]	55	68
14..	89	86	90	83	91	88	74	67	71	66	62	55[d]	55	68
21..	88	84	89	82	89	86	74	66	70	65	61	55[d]	55	70
28..	80[e]	86	88	83	91	88	76	67	70	65	62	55[d]	..	70
Jan 4..	82[e]	87	90	86	92	91	76	72[e]	70	65	62	55[d]	..	70
11..	82[e]	87	92	86	94	91	75	72[e]	70	65	63	55[d]	..	68
18..	82[e]	87	91	84	92	90	75	72[e]	70	..	..	55[d]	..	68

* For methods of computation see WHEAT STUDIES, December 1940, XVII, 217. For the United States, prices are from *Daily Trade Bulletin* and *Foreign Crops and Markets;* for Canada, *Grain Trade News* and *Canadian Grain Statistics;* for Buenos Aires, *Revista Oficial* and *Daily Trade Bulletin;* for Australia, Broomhall's cables. Dots (...) indicate no quotations.

[a] Converted at constant official exchange rate (90.9090 U.S. cents per Canadian dollar) from Sept. 11, 1939.

[b] Western White (Seattle) until June 2, 1940.

[c] October future. [d] February future. [e] July future.

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