AgEcon SEARCH
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

The World's Largest Open Access Agricultural & Applied Economics Digital Library

This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
http://ageconsearch.umn.edu
aesearch@umn.edu

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

WHEAT STUDIES
of the FOOD RESEARCH INSTITUTE

VOL. XIV, NO. 8 (Price $.60) MAY 1938

WORLD WHEAT SURVEY AND OUTLOOK MAY 1938

Helen C. Farnsworth and Holbrook Working

The period from January to mid-May was characterized by increasing evidence of economic depression in the United States, reflected also in other countries, and by startling developments in the field of international political relations. Within the wheat situation, there was little change in accepted appraisals of current wheat supplies, international trade, or the outlook for 1938 carryovers. Against this background, wheat prices in world markets tended slightly downward from mid-January to the end of February, then declined more rapidly to early May. These movements were initiated largely in United States markets, where the disposition to hold wheat was weakened by the accentuated poor outlook for business and by growing prospects for increased wheat supplies in 1938–39.

World net exports may still be forecast at 535 million bushels this year. Broomhall's shipments, which totaled 398 million bushels through April, seem likely to reach 510 million by the end of July, with about 415 million destined for Europe and 95 million for ex-Europe. United States net exports will probably slightly exceed 100 million bushels in July–June and reach 110 to 115 million in August–July. Only Australian exports will be heavier.

Total year-end stocks in 1938 may be about 100 million bushels larger than in 1937. The net increase will be chiefly in the United States, where the carryover seems likely to total about 190 million bushels. Also in prospect for the United States is a large 1938 crop, which virtually assures government loans to wheat growers during the coming year. Prospects for carryovers and crops elsewhere suggest that wheat supplies in the world ex-Russia may be larger than in 1937–38 by 175–375 million bushels. Wheat prices during May–July may move chiefly under the influence of prospects for the harvest in North America, which may alter greatly. Price responses to crop developments, however, are likely to be moderate.

STANFORD UNIVERSITY, CALIFORNIA

WHEAT STUDIES

OF THE

FOOD RESEARCH INSTITUTE

Entered as second-class matter February 11, 1925, at the Post Office at Palo Alto, Stanford University Branch, California, under the Act of August 24, 1912.

Published eight times a year by Stanford University for the Food Research Institute.

Copyright 1938, by the Board of Trustees of the Leland Stanford Junior University.

WORLD WHEAT SURVEY AND OUTLOOK MAY 1938

Helen C. Farnsworth and Holbrook Working

Wheat supplies for 1937–38 now appear but slightly larger than they did four months ago. Including initial stocks and prospective Russian exports, total supplies in the world ex-Russia this year are roughly 90 million bushels larger than in 1936–37; but otherwise they are the smallest since 1927–28. In spite of the increase in total supplies as compared with 1936–37, world visibles have stood lower this year, reflecting not heavier consumption but a large increase in invisible stocks, mainly in the United States.

Recent developments in international trade have been about in line with expectations expressed in January. Through early May, world wheat shipments totaled no more than 398 million bushels. At this figure they were only a little larger than the record postwar low shipments of 1935–36 and 85 million less than last year's corresponding total. Although European import takings have been smaller this year than last, through early May they were about up to the average for the four preceding years. Non-European takings were considerably below average and the smallest since 1924–25; but the reduction from 1935–36 and 1936–37 is mainly due to recovery of the United States from her abnormal position as a net importer in those two years.

The export trade of 1937–38 will long be remembered for the notably small flow of wheat from Canada and Argentina. Exports from these countries through April fell more than 50 per cent below the average for recent years. Moreover, in absolute terms, both Canadian and Argentine exports were exceeded by exports from Australia and also by exports from the United States. For the first time on record, Australia ranked as the world's largest exporter in August–April, with the United States a close competitor. Russian and Danubian shipments were heavier than usual in this period, and in the aggregate were considerably larger than either Canadian or Argentine exports.

Wheat prices in international markets advanced sharply for a few days at the beginning of January and then tended to decline. The downward tendency was slight to the end of February, with the trend attributable chiefly to weakening of holding disposition in the United States. Growing appreciation of the prospects for a liberal carryover and for increased wheat supplies in 1938–39 contributed to this tendency. From the end of February to early May the downward trend was more rapid, as holders suffered discouragement from striking improvement in crop prospects for winter wheat in the United States and from the poor business outlook in the United States and abroad. In early May all Chicago futures reached the lowest prices since April 1934. The Liverpool May future, however, was still above its average for the season of 1935–36.

United States markets were especially influential in determining the general course of world wheat prices during January–April, as during earlier months of 1937–38, although the impetus toward price changes came in several instances from variations in immediate demand by European importers. In the United States, wheat prices moved in unusually close correspondence with prices of industrial stocks and — less remarkably — in close correspondence with prices of sensitive commodities as a group. Wheat prices responded in part to changing views on pros-

CONTENTS

	PAGE
Wheat Supplies	*321*
Evidence on Consumption	*322*
International Trade	*325*
Prices and Spreads	*330*
Outlook for Trade	*338*
Outlook for Carryovers	*341*
Prospects for 1938 Crops	*343*
New Controls in United States	*346*
Outlook for Prices	*349*
Appendix	*353*

pects for general price inflation in the United States, largely influenced by efforts of the Administration to promote business recovery.

Price differences between the various wheats on the international market were extreme. However, these differences tended generally to decrease during January–April, although in early April Canadian wheats were temporarily near their highest level relative to other wheats, and Australian wheats were temporarily near their lowest relative price position.

The outlook for trade in 1937–38 now appears about the same as in mid-January. We maintain our earlier forecast of world net exports at 535 million bushels. However, the margin between net exports and shipments seems likely to be a little smaller than previously anticipated, and we therefore raise our forecast of shipments (Broomhall's series) to 510 million bushels—415 million for Europe and 95 million for ex-Europe. The net imports of European net-importing countries will probably approximate our January forecast of 415 million bushels, but non-European imports may be a little larger than was earlier anticipated, probably reaching a total of about 110 million bushels. Our various trade forecasts do not allow for further substantial purchases for immediate importation by European governments anxious to build up "emergency" stocks of wheat. Such purchases, if made, would represent a net addition to European net imports and to world net exports, and would slightly alter the indicated distribution, but not the total, of world year-end stocks.

United States net exports will probably somewhat exceed 100 million bushels in July–June and reach 110–115 million in August–July. Although mill grindings for domestic retention are more likely to approximate 470 million bushels than the somewhat larger figure previously suggested, total domestic disappearance may still be forecast at roughly 670 million. Consequently, the carryover as of next July 1 will probably reach but not exceed the figure we proposed in January—190 million bushels. This is 100 million larger than the official estimate of last year's carryover of old-crop wheat.

Year-end stocks in other countries are expected to differ only slightly from their level in 1937. Canadian and European stocks will be a little smaller, Australian and Argentine stocks a little larger. Total stocks in the world ex-Russia are now forecast at about 635 million bushels against 530 million in 1937.

With a prospective increase of about 100 million bushels in the world carryover, and the present outlook for a 1938 world crop ex-Russia 100 to almost 300 million bushels larger than that of 1937, total wheat supplies may be expected to equal 4,550 to 4,750 million bushels in 1938–39. Such supplies would exceed those of the current year by 175 to 375 million bushels but would fall about as much below the extremely burdensome level of world supplies in 1930–31 to 1933–34.

In the United States, the Agricultural Adjustment Act of 1938 may have noteworthy consequences for wheat growers and for trade and prices. Provision is made for government loans to farmers on wheat, under conditions that in effect would provide for government purchase at a minimum price. In the next few months such loans may influence the marketing of the 1938 wheat crop, but the outcome will depend greatly on the course of wheat prices. In addition, with less prospect of immediate effects, provisions are made for possible drastic restriction of acreage, establishment of marketing quotas, and insurance of wheat yields. The eventual results of the legislation, not now predictable, will depend partly on what supplementary legislation Congress sees fit to pass, partly on administrative decisions under the present law, and partly on the willingness of farmers to approve marketing quotas and to pay insurance premiums.

Price movements during May–July may be determined chiefly by crop developments, and more particularly, by progress of the wheat crops in North America. Increases in estimates of production may have only moderate further price-depressing influence before late July; and only rather exceptional evidence of crop damage would be likely to stimulate a sharp price advance. Prices of new-crop futures in mid-May seem in reasonable adjustment to the somewhat uncertain prospect of emergence of a substantial world wheat sur-

plus in 1938–39. Such a judgment hinges in part on appraisal of the significance for wheat prices of recent changes in prices of other commodities. These have been large for most sensitive commodities, but diverse in amount; and the present commodity price structure is unstable.

Wheat Supplies

The net change in the wheat supply position in the past four months has been relatively small, but such as to suggest a slightly easier international balance. Since mid-January, revised estimates of 1937 crops have been published by a number of important wheat-producing countries. All told, these revisions make a net increase in the estimated world crop ex-Russia of 38 million bushels (Table I). Of this, over two-thirds is in the Northern Hemisphere. In the Southern Hemisphere, an increase of almost 20 million bushels in the official estimate of the Australian crop was in large part offset by downward revision of estimates for Argentina, South Africa, and New Zealand.

As shown by the accompanying tabulation in million bushels, total wheat supplies for 1937–38 are now placed 41 million bushels

Year	Crops	Initial stocks	USSR exports	Total supplies	Disappearance
1927–28 ...	3,705	647	2	4,354	3,657
1932–33 ...	3,874	1,001	17	4,892	3,759
1933–34 ...	3,810	1,133	34	4,977	3,774
1934–35 ...	3,490	1,203	2	4,695	3,738
1935–36 ...	3,553	957	29	4,539	3,763
1936–37 ...	3,507	776	5	4,288	3,758
1937–38					
Jan.	3,764	531	40[a]	4,335	3,720
May	3,802	530	45[a]	4,377	3,741

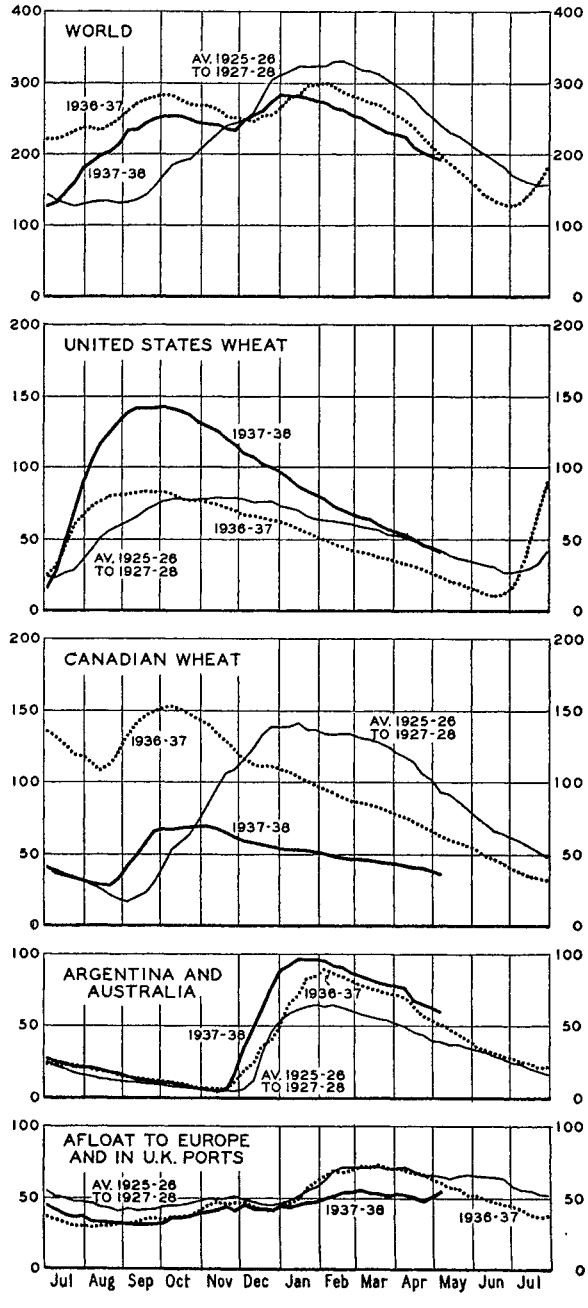
[a] Forecast.

higher than in January. They now appear only about 90 million larger than the short supplies of last year, but smaller than in any preceding year since 1927–28. The increase as compared with 1936–37 may be attributed almost wholly to the much better harvest in the United States. In Europe, aggregate supplies were about the same this year as last, while a total reduction of almost 200 million bushels in Canada and Argentina was offset only in small part by a moderate increase in Australia.

In the face of larger total supplies this year, "world" visibles have generally run somewhat lower (Chart 1). This reflects, not heavier world wheat disappearance in the current season, but rather the limited scope

Chart 1.—Visible Wheat Supplies, Weekly from July 1937, with Comparisons*

(*Million bushels*)



* Weekly data for certain series summarized by months in Table IV.

of the statistical series designated as "world visibles." In this series are included only terminal elevator stocks in the United States, terminal and interior elevator stocks in Canada and corresponding stocks in Australia, port stocks in Argentina and the United Kingdom, and stocks on ocean passage to Europe. The excluded domestic wheat supplies of Continental Europe have been somewhat larger this year than last, and in the United States (where the bulk of the surplus lies) non-visible stocks in city and country mills, in country elevators, and on farms have been much larger this year, without offsetting reduction in non-visible stocks in Canada.[1] Thus the increase in world wheat supplies in 1937–38 has gone to swell not visible but invisible stocks, particularly in the United States though also in some other countries.

As of April 1, data on wheat stocks are available in more or less complete form for several of the more important wheat-consuming countries. In the following tabulation we summarize these statistics together with certain data on visible supplies and our estimates of total stocks (ex-seed) in Argentina and Australia—all in million bushels.

Position	1936	1937	1938
United States grain in N.A.	271	211	333
Canadian grain in N. America	263	129	85
Germany	86	40	71
U.K. ports and farms	16	19	16
Antwerp, Rotterdam	2	3	5
Afloat to Europe	37	57	42
Australia	92	93	115
Argentina	106	119	119
Total	873	771	786

These data, although exclusive of stocks in most Continental European countries, are a much more representative index of total world stocks than are "world" visible supplies. They indicate an increase in stocks as compared with April 1, 1937 of 115 million bushels, and a decrease of about 90 million as compared with the same date in 1936. Since aggregate stocks in positions not covered by the above tabulation are probably not very different from what they were last year and only moderately smaller than they were in 1936, the indicated changes seem reasonably representative of the stocks position in the world ex-Russia.

Evidence on Consumption

For most countries, statistical evidence on wheat consumption is limited at this time of year to data on domestic wheat production and trade. However, Germany, the United States, and Canada have published for certain recent months statistics on mill grindings and total national wheat stocks, which together furnish a much more adequate basis for judgment of consumption. Among the countries for which statistics are less satisfactory, only a few warrant special comment.

After study of the production and trade reports for these and other countries as well, we have reached the conclusion that wheat disappearance in the world ex-Russia in 1937–38 will approximate 3,740 million bushels. This suggests a level of consumption about the same as in 1934–35 but somewhat lower than in other recent years, and specifically about 15 million bushels below last year's (p. 321).

Importing countries.—In Germany, wheat disappearance through March was 11 million bushels, or about 7 per cent, smaller this year than last, but larger than in any of the three preceding years. Of the reduction from last year, 8 million bushels represent a recorded decrease in the domestic wheat grindings of the larger mills which report their operations monthly. In view of existing stringent milling requirements,[2] the indicated reduction in mill grindings of wheat through March appears quite moderate. For rye, corresponding re-

[1] On April 1, 1938 stocks in these positions in the United States totaled about 100 million bushels more than a year earlier. In Canada, on the other hand, non-visible stocks were only about 10 million bushels lower.

[2] For wheat these include provisions that (1) millers must add at least 7 per cent (and may add as much as 10 per cent) corn flour to all wheat flour; and (2) only one type of white wheat flour, apparently of 75–78 per cent extraction, may be manufactured. For rye, milling regulations provide that (1) millers must add 3 per cent potato starch meal and 3 per cent potato meal to all rye flour (prior to November 1 the requirement was 4 per cent corn flour instead); and (2) that in the production of rye flour, the extraction must approximate 80 per cent. Neither wheat nor rye may be used for feed or for distillation purposes in Germany.

ductions in domestic disappearance (about 16 per cent) and in reported mill grindings for domestic use (about 25 per cent) were larger, and also less consistent one with the other. It seems reasonable to assume that this year a smaller percentage of the rye flour has been produced in the larger mills, and that there has been some further slight shift in consumption from rye flour to wheat flour—a tendency which has apparently prevailed during the past three years.

Wheat consumption in the United Kingdom has apparently been at, or close to, a postwar record low level thus far in 1937–38. For many years per capita wheat consumption for food in the United Kingdom has presumably been declining; but at the low prices prevailing in recent wheat-surplus years, increased feed use of wheat obscured the underlying downward trend. At the high level of wheat prices last year, wheat was used sparingly for feed and wheat disappearance declined almost 5 per cent to the lowest level at least since 1929–30, and perhaps to the lowest in postwar years. This year there appears to have been a further slight decline; but the evidence is not yet entirely clear, since wheat stocks may have been somewhat larger at the beginning of 1937–38 than we now infer.

In France, too, there has probably been a long-term downward trend in human consumption of wheat, but this cannot account for the sharp reduction in domestic wheat utilization ex-seed apparent in the statistics for 1936 – 37 and 1937 – 38. Nor can domestic wheat stocks have been large enough at the beginning of 1936–37 to raise consumption to a level reasonably comparable with other postwar years. Indeed, the statistics, which suggest a reduction in wheat consumption ex-seed from an average level of 300 million bushels in 1923–29 to an average level of only about 265 million bushels in the past two years,[1] cannot reasonably be regarded as a comparable series. Presumably the French wheat crops of 1936 and 1937 were underestimated, or preceding crops overestimated. Officials of the French Wheat Office are doubtless of the opinion that such errors as exist in the crop statistics are errors of overestimation in the earlier postwar years. On the basis of a recent study of domestic wheat needs, the Wheat Office has estimated wheat requirements for 1937–38 as follows,[2] in million bushels: milling, 221; feed, 5; seed, 35. We are inclined to believe these estimates too low for milling (even if durum requirements be disregarded) and somewhat too high for seed use.

Italy reported a bumper wheat harvest in 1937 and then proceeded to take measures to insure economy in wheat consumption.[3] There is little reason to question that the corn-admixture regulations of the government have been effective in restricting wheat consumption this year. Since in 1935–36 and 1936–37 domestic consumption ex-seed averaged about 260 million bushels, one might have anticipated that the cereal admixture laws would reduce the level of consumption in 1937–38 to 250 million bushels or less. If consumption should actually be close to this figure and if the standing 1937 crop estimate is correct, year-end wheat stocks would be more than doubled this year, or in absolute terms increased by roughly 30 million bushels. But recent trade reports from Italy do not support the view that wheat stocks have been heavily accumulated. On the assumption that the increase in carryover will not amount to more than 15 million bushels, two alternative interpretations are possible: (1) that the 1937 crop has been overestimated or (2) that wheat consumption has actually increased this year by about 5 million bushels in spite of the new admixture regulations. Tentatively, we incline to the view that there may have been some overstatement of the Italian crop.

For Greece, the standing crop estimate for 1937 seems clearly overstated as compared with past years. Since September we have maintained our own approximation of the Greek crop at 29 million bushels in comparison with official figures of 37 million bushels in September and 32 million in January. Now, in view of the heavy Greek imports of recent months, even our more conservative figure seems likely to prove too high.

In other importing countries wheat disap-

[1] Allowing for an average annual reduction in stocks of about 20 million bushels in these two years.

[2] *Bulletin des Halles*, Mar. 19, 1938.

[3] WHEAT STUDIES, January 1938, XIV, 191.

pearance in 1937–38 seems likely to differ little from last year except in Spain. For this country, there are no official crop or trade estimates for the past two years, and the figures included in our summarized statement for the world ex-Russia are approximations based on wheat-production estimates suggested by the United States Department of Agriculture and Broomhall's data on wheat arrivals at Spanish ports. From these data, and general reports that wheat stocks as of August 1 were substantially larger in 1936 than in 1937, we infer that wheat disappearance in 1937–38 may have fallen somewhat below that of the preceding year. Whether or not this assumption is valid, it is one of the factors underlying the indicated net reduction in wheat disappearance this year in the world ex-Russia (p. 321).

Exporting countries.—Among exporting countries other than the United States, Rumania stands out as the only one wherein domestic wheat disappearance in 1937–38 now appears likely to differ from the calculated figure for last year by as much as 10 million bushels. In this country, a second successive good wheat crop and a poor harvest of corn appear to have been important in raising Rumanian wheat consumption above the low level characteristic of the three preceding years. On an August–July basis, a somewhat similar absolute increase seems to be indicated for India; but the more appropriate comparison of April–March figures suggests very little change.

Wheat consumption developments in Canada are of interest largely because the amount of wheat milled for domestic retention in August–March was over 2 million bushels (about 7 per cent) less this year than last. Of this reduction, almost half a million bushels was due to lower wheat requirements per barrel of flour this year, and a considerable part of the remainder probably reflected drafts upon flour stocks in the current season. On the other hand, total domestic wheat disappearance in Canada was substantially larger this year than last and was about equal to the average disappearance since 1930–31. According to the official estimate, about 3 million bushels more wheat will be fed in 1937–38 than in 1936–37, and slightly larger quantities will prove to be unmerchantable or will be lost in cleaning this year.

Data on United States wheat stocks as of April 1, 1938 permit the following calculation of wheat disposition during July–March, in million bushels, with comparisons:

	1933–34	1934–35	1935–36	1936–37	1937–38
Initial carryover	378	274	148	138	91
Crop	552	526	626	627	874
Net trade, July–March	–21	+ 1	+24	+24	–73
Total net supplies.	909	801	798	789	892
Stocks on April 1....	396	294	271	211	332
Domestic disappearance	513	507	527	578	560
Net domestic millings[a]	331	343	355	361	359
Winter-wheat seed ..	54	57	60	69	69
Feed and errors[b]..	128	107	112	148	132

[a] Mill grindings exclusive of wheat equivalent of flour exported.

[b] Also any spring-wheat seed planted before April 1 and small quantities of wheat used for various industrial purposes.

Domestic wheat disappearance through March was somewhat smaller this year than last, but it was larger than in any of the three preceding years. Net domestic millings continued, as through December, to run lower than last year. The residual covering feed and errors of estimation also continued lower than in 1936–37. But whereas in January, the residual for "feed and errors" appeared relatively low and no larger than in 1934–35 or 1935–36, by March this residual was substantially higher than in those two earlier years. Since it scarcely seems reasonable to assume that more wheat was fed to livestock during January–March 1938 than in the same months of 1935 or 1936, the indicated comparison probably reflects errors of estimation. For example, the January stocks estimate may have been relatively *more* complete this year (if so, use of wheat for feed may have been larger than we have hitherto estimated); or, on the other hand, the April stocks estimate may have been relatively *less* complete this year. Other interpretations are possible, but are all equally in the realm of speculation.

In any case, the April stocks estimate

clearly suggests the desirability of raising our January estimate of the "balancing item" for 1937–38 in the table on United States wheat disposition (Table IX). Accordingly, we have revised this figure upward from 95 to 107 million bushels. But how this increase should be distributed as between "wheat fed on farms" and "other uses and errors" it is impossible to say. Certainly there has been virtually no price incentive to feed wheat this year; on the other hand, the amount of unmerchantable soft winter wheat which had to be fed may have proved larger than our earlier estimate of feed use (70 million bushels) indicated. Since the reason for having a separate estimate of feed use has now passed, we may leave this question unsettled until the government report on feeding is published next summer.

The increase of 12 million bushels in the "balancing item" of the disposition table is almost offset by a similar reduction of our earlier estimate of net mill grindings. Flour production less net exports during July–March was about 77.4 million barrels (Table VI). Stocks of flour in all positions at the end of March 1938 were probably fairly low for that time of year, yet it seems necessary to suppose that they were at least 1 million barrels larger than on July 1, 1937.[1] If so, flour consumption during the first nine months of the year did not exceed about 76.4 million barrels. At this rate, consumption during the twelve months July–June would be about 102 million barrels.

Our earlier forecast of flour consumption for 1937–38 (about 1 per cent higher) was reached by interpreting the data on net retention of flour during recent years with maximum reasonable allowance for a supposed increase in consumption per capita since 1933–34. It now appears probable that flour consumption in the United States since 1933–34 has remained at about 154 pounds per capita. In the following tabulation our present estimates of flour consumption and of changes in flour stocks from 1932–33 are compared with our earlier estimates, in million barrels, except for consumption per capita which is in pounds:[2]

July–June	Computed net retention	Earlier estimates			Present estimates		
		Change in stocks	Consumption		Change in stocks	Consumption	
			Total	Per capita (*pounds*)		Total	Per capita (*pounds*)
1932–33..	105.5	+4.0	101.5	159	+4.0	101.5	159
1933–34..	95.9	—3.1	99.0	154	—3.1	99.0	154
1934–35..	98.7	—1.3	100.0	154	—1.3	100.0	154
1935–36..	100.6	— .5	101.1	155	— .1	100.7	154
1936–37..	102.3	+ .1	102.2	156	+ .9	101.4	154
1937–38..	.....	.....	103.3	156	.....	102.0	154

Wheat requirements per barrel of flour in the United States have thus far averaged just under 4.61 bushels per barrel, or about the same as in 1936–37 instead of about 1 per cent higher, as we had previously thought likely. We now forecast wheat milling for domestic flour retention during 1937–38 at 470 million bushels. This represents a reduction of 10 million bushels from our September forecast (repeated in January), of which about 6 million bushels is attributable to reduction in our forecast of flour consumption for 1937–38, and 4 million is attributable to reduction in our forecast of wheat used per barrel of flour.

International Trade

During January–April, the volume of international trade in wheat (including flour) was about in line with expectations at the beginning of the period. European import takings were significantly below 1936–37 but somewhat larger than in several other recent years. Ex-European takings were the smallest since 1924–25. Australian and United States wheats were the most abundant on European import markets, while Canadian and Argentine

[1] Statistics of flour stocks are not sufficiently complete or representative to indicate even approximately the changes in total stocks. Changes in total stocks must be inferred from the statistics of net retention and estimates of the trend of consumption. The trend of flour consumption during the latest year or two can seldom be judged very precisely, but from the records for earlier years it appears that total flour stocks tend to reach a minimum about July 1, a maximum about midwinter, and at the end of March tend to be 1.5 million barrels or more above the level of the following July 1. We estimate flour stocks at the end of March 1938 as only 1 million barrels above stocks on July 1, 1937, however, on the supposition that onset of business depression since that date and the downward tendency in prices have tended to keep flour stocks somewhat below seasonal normals.

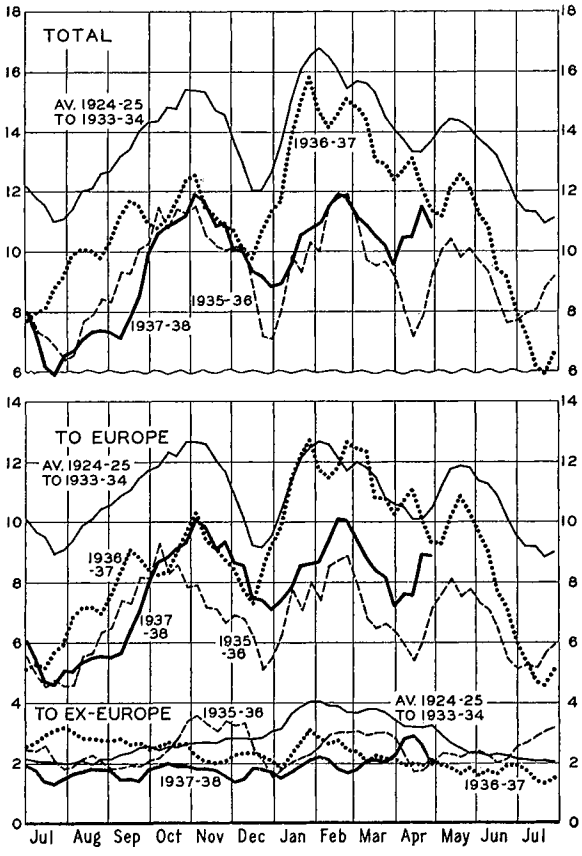
[2] For estimates of flour consumption and statistics of disposition from 1925–26, see Wheat Studies, December 1937, XIV, 117–18, 175.

varieties were relatively scarce. Exports from Soviet Russia and the Danube countries were heavier than usual in these months, but still averaged under 1.5 million bushels per week.

Volume.—Thus far in 1937–38 the volume of trade has closely approximated the post-war record low level of 1935–36 (Chart 2).

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

(Million bushels; 3-week moving average)



* Broomhall's data; see Table VII.

With an even poorer start this year, world wheat shipments totaled barely 398 million bushels through May 7—only about 10 million bushels more than in the corresponding weeks of 1935–36 and about 85 million less than last year.

European takings, though somewhat below those of last year or any ten-year average, have apparently run moderately higher this year than in 1934–35 or 1935–36. These conclusions are evident from incomplete official data on European net imports (Table VIII) as well as from Broomhall's weekly shipments data. The latter, shown below in million bushels for the 40 weeks from about August 1 to May 7, have the advantage of reflecting the flow of wheat to Europe through early May, whereas the official import data are available in incomplete form only through March.

Forty weeks	Total	To Europe		To ex-Europe		
		Reported	Adjusted[a]	Total	U.S.	Others
1932–33 ...	492	354	344	138	..	138
1933–34 ...	405	307	309	98	..	98
1934–35[b] ..	413	294	296	119	14	105
1935–36 ...	388	282	264	106	27	79
1936–37 ...	483	385	357	98	27	71
1937–38 ...	398	322	303	76	..	76

[a] Adjusted by subtracting from the reported data any increase in stocks afloat, or by adding any decrease.
[b] Forty weeks beginning August 5.

As a rule, "adjusted" shipments are more closely related to total European net imports than are reported shipments. For this reason, especially, it is interesting to note that "adjusted" shipments to Europe through May 7 were this year similar to the trade in 1933–34 and 1934–35, about 40 million bushels larger than the record low shipments of 1935–36, and about 55 million smaller than the shipments of 1936–37. *Net import* data through April will presumably show a smaller reduction as compared with 1936–37 and a greater increase as compared with the average for the three preceding years (see below).

From these comparisons it is clear that the near-record low level of world wheat trade in 1937–38 cannot be attributed to significant reduction of European imports below the low average level of the past four years. The source of the current reduction must rather be looked for in the trade of non-European countries.

According to Broomhall's shipments data, non-European countries have this year taken considerably less wheat than in any other similar period since 1924–25, and roughly 30 million bushels less than on the average in the four years 1933–37. As compared with 1934–35 and earlier years, imports into Ori-

ental countries have suffered the most striking reduction.[1] But this does not explain the substantial decrease in non-European takings from 1935–36 and 1936–37, when Oriental imports were already low. The more recent reduction is mainly attributable to the return of the United States to her normal position as a net exporter, after ranking for three years as a sizable net importer.

Imports.—Official data on European imports, now available for the principal countries through March, together with Broomhall's reported shipments to Europe, give a fairly clear picture of European trade in 1937–38 as compared with earlier years. Outstanding are the small British takings, the increased imports into Germany and Spain, and, as compared with 1936–37, the reduction in Italian imports. These features are shown below by data for August–March (partly preliminary for 1937–38) in million bushels.

These figures do not reflect the marked reduction in aggregate European takings from 1936–37 that is indicated by the more recent data on shipments to Europe. This is largely because European imports lag behind "shipments" and much of the difference between shipments this year and last appeared too late to be reflected in imports to the end of March.

This year, as in 1936–37, there were price and other incentives in August–December to encourage European importers to postpone fulfilment of all but their immediate requirements until the second half of the crop year. Without doubt, many importers and millers pursued this policy. Yet visible stocks of import wheat in European ports were not particularly low on February 1, 1938, as they had been a year earlier; nor do the net-import data shown below for August–March reflect any substantial withholding of import purchases, except perhaps in the United Kingdom.

Country	5-year average[a]	1935–36	1936–37	1937–38
British Isles	160	142	145	135
Belgium	28	26	28	27
Netherlands	19	14	14	16
Switzerland	13	11	11	10
Scandinavia, Baltic	22[b]	13[b]	12[b]	12[b]
Austria, Czech.	14	7	6[b]	4[b]
France	22[b]	7	6	10
Germany	7[b]	0	2	27
Italy	16	1	24	1
Greece	12	9	14	12
Spain, Portugal	1[b]	0	4[c]	10[c]
	314	230	266	264

[a] For 1930–31 to 1934–35.
[b] Not deducting net exports of any country in any year.
[c] Including our approximation for Spanish imports.

Last year, two important consuming countries of continental Europe—Germany and Italy—had seriously deficient supplies of domestic wheat which they made little attempt to supplement through foreign purchases prior to January. The import trade of these countries in 1936–37 was thus concentrated in unusual degree in the second half of the crop year, and more particularly in March–July when large supplies of Argentine wheat arrived in Europe. This year, Italy has not needed significant quantities of foreign wheat, and Germany has been meeting her own bread-grain deficiency through more or less regular monthly imports. Some months ago it seemed probable that France might this year enter the foreign import market in the second half of the season, partially compensating for the loss of Italy as a net importer. But now no such development appears to be in prospect (p. 339). Hence, at present it seems reasonable to believe that the striking similarity between European net imports through March 1936–37 and 1937–38 is more or less illusory, and that the contrasts between the import trade in these two years will become more visibly pronounced in subsequent months.

[1] The distribution of shipments to ex-Europe, as reported by Broomhall for 40 weeks ending about May 7, appears as follows in million bushels:

Forty weeks	Brazil	China, Japan	Central America[a]	Egypt	Others ex-U.S.[b]	Total ex-U.S.	U.S.
1932–33	22	80	27	3	6	138	..
1933–34	24	40	27	3	4	98	..
1934–35[c]	26	50	21	2	6	105	14
1935–36	26	24	22	2	5	79	27
1936–37	27	11	24	2	7	71	27
1937–38[d]	27	9	27	1	12	76	..

[a] Includes Venezuela, West Indies, Dutch East Indies, etc.
[b] India, Chile, Peru, Uruguay, Bolivia, Syria, Palestine, New Zealand, Vladivostok, etc.
[c] Forty weeks beginning August 5.
[d] Preliminary.

Among non-European countries, the largest importer—Brazil—has continued to import wheat fairly heavily this year despite the sizable stocks of Argentine wheat that she held on August 1, 1937. Yet changes in governmental policy announced since December,[1] and the smaller incentive which exists this year for building up or even maintaining the level of August 1 stocks, suggest that Brazilian imports in March–July may be substantially smaller this year than they were in 1937.

Other non-European countries, exclusive of the United States, have apparently increased their aggregate wheat imports this year as compared with 1936–37. Only a few have taken significantly less wheat, while a considerable number (including China, New Zealand, and various parts of both the East Indies and the West Indies) report increased imports at least through January or February. Japan, always a net importer previously, this year reports net exports through March of over 6 million bushels. Moreover, Egypt, whose small net exports last year were unprecedented for many years, has reported even more significant net exports in the current season.

Exports.—The present crop year will long be remembered for two abnormal features in the wheat-export trade—the notably small net exports of Canada and of Argentina. Up to May 1, Canadian net exports (including flour) totaled less than 70 million bushels and Argentine exports less than 55 million. For Canada, these exports were some 50 million bushels lower than the smallest of preceding postwar years, while the Argentine exports were about the same as the postwar record low exports of 1935–36. These and other approximate August–April net-export figures[2] are shown at the head of the next column, in million bushels, with comparisons:

Country	5-year average[a]	1935–36	1936–37	1937–38
United States	46[b]	...[c]	...[c]	80
Canada	162	169	161	69
Argentina	105	57	146	54
Australia	100	84	72	90
Danube[d]	33	17	74	50
USSR	44	28	3	38
India	1	1	9	11
Others[e]	23	32	28	28
Total	514	388	493	420

[a] For 1930–31 to 1934–35.
[b] Without deduction of net imports in 1934–35.
[c] Net imports.
[d] Hungary, Rumania, Yugoslavia, and Bulgaria.
[e] Morocco, Algeria, Tunis, Turkey, Iraq, and various other countries such as Poland, Sweden, and Japan for years in which they ranked as net exporters.

Although the United States has been a net exporter of wheat in 1937–38, after three years among the ranks of net importers, her net exports in August–April were only about 80 million bushels. At this level they were too small to offset the large reduction in Canadian exports. Consequently, the total flow of wheat from North America was smaller than in any preceding postwar year except 1934–35. Comparisons with the past two years may be seen in terms of weekly shipments in Chart 3.

In contrast to the light wheat shipments from North America and Argentina, shipments from Soviet Russia, the Danube countries, and India were relatively heavy in August–April. In fact, larger shipments had been recorded in postwar years only twice before from the Danube countries and India, and only three times from Russia. Moreover, in proportion to the total volume of world trade, these exports ranked even higher—the Danubian and Indian as the second largest in postwar years, the Russian as the third largest. A major part of the Danubian exports originated in Rumania; Hungary's exports were unusually small, while Yugoslavia's were only of about average size.

Australian net exports, not unusually large in absolute terms, were still fairly heavy in relation to the world's total. For the first time on record, Australia held premier position among exporting countries. Particularly since January have Australian wheats assumed importance in the world export trade,

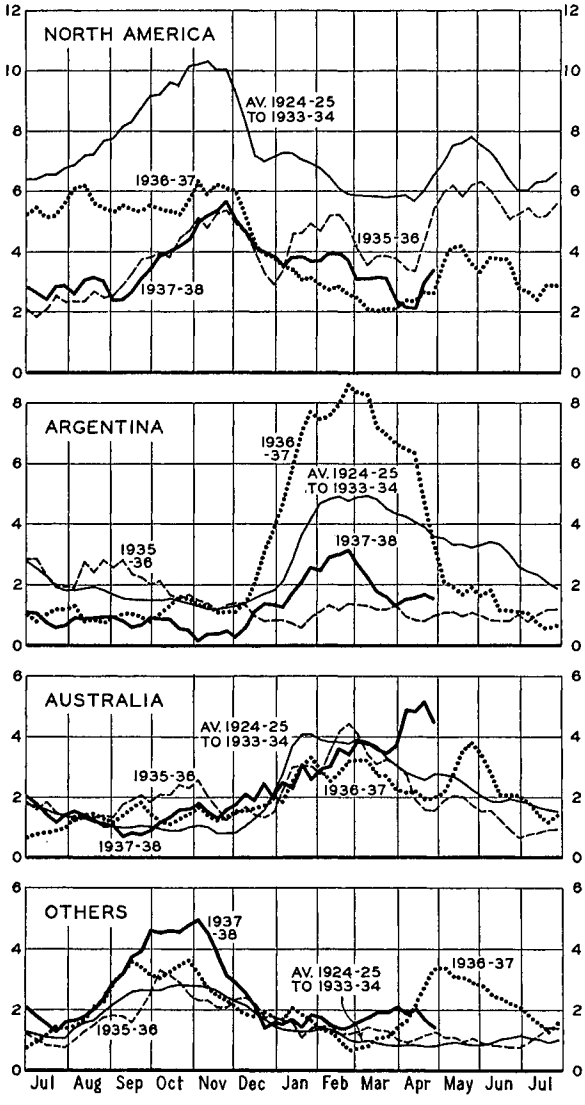
[1] *Commerce Reports*, Jan. 1, 1938, p. 18; *ibid.*, Jan. 29, 1938, p. 110; and *ibid.*, May 7, 1938, p. 419.

[2] Estimates for 1937–38 are based upon fairly complete net-export data through March (Table VIII), and our approximations for April as determined by (1) April gross exports for Canada, (2) reported weekly exports for the United States, and (3) Broomhall's weekly data on shipments for Argentina, Australia, Russia, India, and the Danube countries.

competing actively with American wheats on European import markets. This competition was accentuated during March–April, when for a week or two Australian holders pressed

CHART 3.—SHIPMENTS BY SOURCES, WEEKLY FROM JULY 1937, WITH COMPARISONS*

(Million bushels; 3-week moving average)



* See Table VII.

sales heavily. In contrast, owners of Argentine wheat have sold their small supplies with reserve—so definitely so, in fact, that they have been accused of keeping back wheat that "should" have been flowing to export.[1]

Some light is thrown on the general selling policy of Argentine and Australian wheat owners this year by the following data on the percentage of the exportable surplus exported by these countries in 1937–38 and other recent years. These figures clearly show the

Year	Argentina: Jan.–Dec. surplus[a] (*Mill. bu.*)	Argentina: Per cent exported in Jan–Apr.	Australia: Dec.–Nov. surplus[a] (*Mill. bu.*)	Australia: Per cent exported in Dec.–Apr.
1927–28	218	49	85	40
1928–29	270	38	121	59
1929–30	107	42	86	37
1930–31	158	38	175	47
1931–32	144	58	161	53
1932–33	160	42	168	57
1933–34	197	30	135	29
1934–35	163	42	121	43
1935–36	67	27	106	51
1936–37	152	74	108	45
1937–38	88	40	135	51

[a] Available for exports and carryover.

overselling of wheat by Argentina last year, and the restrictive export policy pursued by that country in January–April 1934 and 1936; but there is scant evidence of any important "holding movement" this year, unless the standing official estimate of the 1937 crop is too low.

Representing 51 per cent of the available surplus, Australian net exports during December–April appear relatively heavier than in six of the ten preceding years, yet not so strikingly large as in 1928–29 or 1932–33. It should be noted, however, that in so far as pressure of Australian exports actually existed this year, it fell to an unusual degree upon European markets, because of the reduced outlet for exports to non-European countries (pp. 326–27).

Among minor wheat-exporting countries, the three French dependencies of northern Africa are of first importance. So far this year Morocco has contributed only a negligible amount of wheat to the world trade—indeed, scarcely more than has Egypt. But Algeria and Tunis, with almost average shipments, have done considerably better. The aggregate net exports from northern Africa in August–April probably approximated 11 million bushels, a quantity which appears of fair size

[1] See *Times of Argentina*, Feb. 28, 1938, p. 25.

in view of the moderate harvests of 1937 and the notably short preceding crops.

Outside of this area the largest exporter is Japan, with net exports of about 6 million bushels through March. Turkey, reported to have had two successive bumper wheat crops in the past two years and also large yields of other grains, has proved a disappointingly small shipper. Official trade data, available through December, show net exports of only .85 million bushels in the first half of the crop year. Iraq, a near neighbor, has done no better, reporting similar net exports in August–December.

Within Europe ex-Russia ex-Danube, only three countries rank as net exporters this year—Sweden, Czechoslovakia, and Poland. Each has reported net exports of about one million bushels or less through March, quantities which may be either increased or decreased as the season advances.

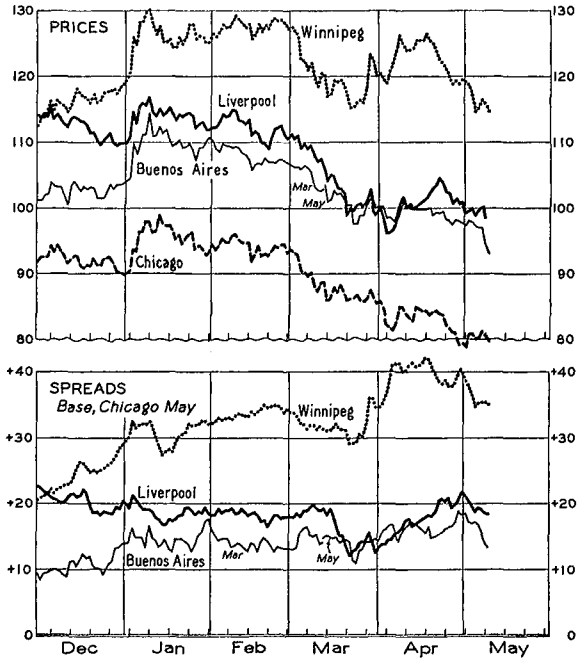
Prices and Spreads

The period since January 1, in sharp contrast with the previous four months discussed in our last "Survey," has been one of fairly close correspondence among wheat price movements in the principal world markets (Chart 4). The major export markets—Chicago, Winnipeg, and Buenos Aires—all remained on a basis permitting export sales to Europe; changes in costs of wheat shipment were moderate or slight; and changes in price relations on import markets, among the various classes of wheats on which the different futures prices were based, were smaller and less well sustained than during the previous four months.

Among prices of wheat futures at the principal markets, those at Chicago moved in the most representative manner. Chicago continued to occupy a central position among futures markets, as it had done even more conspicuously during the previous four months. The principal reasons were three: (1) importers remained heavily dependent on continuing exports from the United States; (2) United States wheats in import markets occupied an intermediate position, in quality and price, between the hard spring wheat represented by the Winnipeg future and the soft Australian wheat represented by the Liverpool future; and (3) Argentine wheat, represented by the Buenos Aires future, though similar to United States hard winter wheat, was available to Europe in so much smaller quantities that other markets could largely ignore price movements initiated in Buenos Aires.

Chart 4.—Wheat Futures Prices and Spreads, Daily from December 1937*

(*U.S. cents per bushel*)



* Prices and spreads at the close except for Liverpool, for which prices shown are as of the opening next day; Liverpool–Chicago spreads are between the Liverpool close and the Chicago quotation 15 minutes earlier.

Relations of wheat to other prices.—The course of wheat prices in recent months has resembled that of a number of other sensitive commodities. More remarkably, wheat price movements to the end of March showed quite as close a correspondence with a representative index of prices of industrial stocks as with an index of prices of sensitive commodities. These relations, from December 1937, appear in Chart 5. Scales for the chart have been so chosen that changes of 10 per cent in wheat prices and in the commodity index appear about equal, and equivalent to a change of 20 per cent in the index of stocks prices. The

scale for wheat prices is double that which we usually employ in our "Survey and Outlook" numbers, and double the scale used in other charts in this issue.

CHART 5.—CHICAGO MAY WHEAT PRICES AND INDEX NUMBERS OF PRICES OF SENSITIVE COMMODITIES AND STOCKS, DAILY FROM DECEMBER 1937*

(Cents per bushel; per cent)

* Closing 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.

Among the fifteen commodities represented in Moody's index of prices of sensitive commodities, several showed little correspondence with the course of prices for the group as a whole: notably corn, wool, coffee, and sugar. Changes in prices of the metals conformed only moderately well with the course of the index. The commodities moving in closest correspondence with the index, however, were diverse as to both origin and uses. In addition to wheat, they included cotton, cocoa, hides, rubber, and silk.

A general concomitance between movements of prices of wheat and of other sensitive commodities occurs frequently, and the extent of this correspondence during recent months is less noteworthy than the correspondence of these two series with the index of industrial stock prices. This general relation has been observable since last August. It is a matter of common observation that in broad movements extending over several months, prices of stocks and of commodities usually take the same general course, but with the changes in stocks prices preceding commodity prices by several months. In changes from week to week, prices of stocks and of commodities commonly show little relationship. The broad price advance which culminated in the spring of 1937, for example, was shared by both stocks and commodities, but in week-to-week changes the two series frequently moved in opposite directions. Accordingly, the correspondence of movement observable in recent months must be taken to indicate either the existence of more than the usual dependence of commodity and stock prices on common influences, or more than the usual tendency for sympathetic responses among price movements.

Underlying the movements of prices of both stocks and commodities has been a condition of troubled uncertainty regarding the business outlook, aggravated by an increasingly tense political situation in Europe. With the depression which began at the end of last summer only a few months old, the grounds for expecting an early revival owing to the action of forces normally operating in the swings of the business cycle have seemed slight, except in the minds of those who have continued to view the reaction in the United States as merely a "recession" interrupting the upward course of an uncompleted recovery. The concurrent downward tendency in business in several European countries, following a substantial period of prosperity, could not be viewed as merely an interruption in the upward phase of the business cycle there. On the other hand, the presence of huge surplus gold reserves in the United States has seemed to many virtually to assure a major advance in commodity prices generally at no very distant date. A year ago such an advance seemed in progress. A new upward start might begin at any time, bringing with it a business boom.

Statements made by President Roosevelt in his address to Congress on January 3 were viewed as threatening inflation. The encouragement thus given to a commodity price ad-

vance was supported by the vigor with which wheat prices rose, under special circumstances of the international wheat situation. In the absence of support from more substantial developments, prices of commodities generally, and of stocks, then reacted. On February 15 the President promised a statement later in the week on Administration plans for advancing prices. Anticipations aroused by this promise and the later announcements seem to have been the chief influence in the advance of prices of commodities and stocks during February 17–23. Again the recovery was short-lived. The subsequent reaction in stocks prices was doubtless accelerated by the fact that in London prices of stocks had tended downward throughout February.

Germany's movement of troops into Austria on March 11 and associated developments precipitated severe liquidation in European security markets and a flight of capital to the United States that at first advanced securities there; but stocks and commodities in the United States soon followed the down-turn abroad. Of the British reaction, the London *Economist* said on March 19 (p. 636): "Throughout the Stock Exchange one response, and one only, has been made to the events of the past seven days—an overwhelming desire to seek increased liquidity. Cold calculations of the cost of further armament expenditure are not a bull point for gilt-edged; while the Premier's sudden conviction that an industrial setback is now inescapable has undoubtedly affected the average holder of equities."

The first few days of April witnessed a sharp recovery of stock prices, generally regarded as a technical reaction from the precipitous decline of the previous two weeks. On April 8 came definite announcement that plans were under way for an enlarged program of federal spending to combat the depression in the United States, giving stimulus to renewed talk of inflation. On the same day President Roosevelt received a severe blow from Congress when the House voted to recommit the government reorganization bill which he had strongly sponsored. To those who regard the present administration's attitude and activities as the main obstacles to business recovery, this appeared the most encouraging news in many months. Opinion was divided as to which of these developments caused the sharp rise in stock prices that followed. The fact that commodity prices advanced little on these developments, or on the subsequent announcement (April 14) that some $1,400,000,000 of "sterilized" gold would be released to expand the credit base, suggests that renewed expectations of an early inflationary movement were not strong.

Wheat prices during January–February.—A sharp advance of wheat prices during January 3–8 carried Chicago prices up about 8 cents, Liverpool 6 cents, and Winnipeg 10 cents (Chart 4). Thereafter, prices fluctuated on a slightly downward trend to the end of February in all the principal markets except Winnipeg, where the May future showed a horizontal trend.

The price rise of early January started with a modest advance of half a cent during the market session at Chicago on January 3, which was followed by an advance of 2 cents at Liverpool between the opening of the market and 3:15 P.M. on January 4.[1] Thereafter the price rise developed chiefly through advances at North American markets during their sessions, followed by Liverpool at its opening next day. Importers had bought wheat sparingly during December and were in need of supplies. The tendency of prices to turn upward on January 3 touched off a burst of buying. During January 4–11, purchases of Australian cargoes reported on the British market averaged 1,555,000 bushels per business day, as compared with an average of only about 176,600 bushels per day for the remainder of the month. Reported export sales from North America averaged 707,000 bushels per day during January 4–11, as compared with an average of 147,000 bushels daily during the remainder of January. With winter wheat in the United States threatened by severe drought in the Southwest, the Chicago market readily took encouragement from the

[1] The price change to 3:15 P.M. is particularly significant in this connection because it covers substantially the whole of that major part of the Liverpool market session which precedes the opening of North American markets.

expanded purchases of importers. A few local but severe dust storms emphasized the threat of damage from the drought.

The subsequent downward course of wheat prices to the end of February is probably attributable less to specific price-depressing influences than to a gradual weakening of holding disposition in the United States in the absence of important developments to encourage continued holding. In past years, when a liberal carryover has been in prospect in the United States, a price advance in January has usually been followed by such a decline.[1]

At the reduced price level of the end of January, importers again entered the market heavily in the purchase of Australian wheat. During February 1–9 cargo purchases reported on the British markets averaged about 950,000 bushels daily. The moderate price advance during this period was led by Liverpool and received only mild support from price changes during the sessions in North American markets, despite continued drought in the United States Southwest.

From February 9 prices again sagged, and on February 15 broke sharply at Chicago under the influence of heavy general rains in the Southwest. Erratic fluctuations followed for a few days under the conflicting influences of further general rains and the bullish interpretation placed on governmental price-raising efforts in the United States noted on the previous page. Liverpool meanwhile was weaker than other markets (February 16–21), then came back into line; and on February 23 and 24 substantial purchases of Australian wheat were reported on the British market for the first time since February 9.

Prices during March–April.—Weakness developed in North American markets from the first of March, and on March 4 the May future at Chicago dropped 2½ cents from the previous close, while the Winnipeg May dropped 3½ cents. The primary incentive for this decline came from the private estimates of the 1938 crop of winter wheat in the United States, released on the previous day. These ranged from 650 to 668 million bushels. They were only moderately above the official forecast of 630 million bushels based on the condition as of December 1 but suggested striking recovery in the crop prospects since it had been considered that serious deterioration had occurred during December and January. Favorable reports on the progress of winter wheat continued to be received, and prices declined almost continuously through March 14, when the Chicago May future closed 7⅞ cents below its close on March 1. Winnipeg meanwhile had declined 10⅝ cents, and Liverpool 7⅛ cents.

Liverpool wheat futures continued to decline until March 21, under sudden pressure of Australian offers; but other wheat futures markets held up well during March 14–31, even in the face of general weakness in commodities and in stocks. Indeed, old-crop futures at Winnipeg began on March 28 a rise that was to continue erratically to April 18. This movement of Canadian prices, however, reflected only a change in appraisal of the degree of shortage represented by the small remaining supplies of Canadian bread wheats, and was of little significance for the wheat price situation as a whole.

During April 2–6 the Chicago May future broke about 4½ cents on private crop reports that brought to general attention the evidence that crop prospects had improved greatly. Galvin's report, made public on the morning of April 2, estimated winter wheat production at 755 million bushels—87 million above the highest private estimate a month earlier. Other private estimates issued three days later were lower, yet the average of all was 717 million bushels. Reports of severe frosts in the Southwest on the nights of April 1 and 2, and subsequent confirmation of damage from them, had little market influence in these circumstances.

The low price levels reached on this decline were followed by import purchases on April 8 currently estimated at nearly 10 million bushels and heavier, apparently, than on any previous day of the season. About one-third of the purchases were from the United States. With such encouragement, prices recovered, and at Chicago during April 8–23 they ruled only 2–3 cents under the level that had prevailed during the latter half of March. Wel-

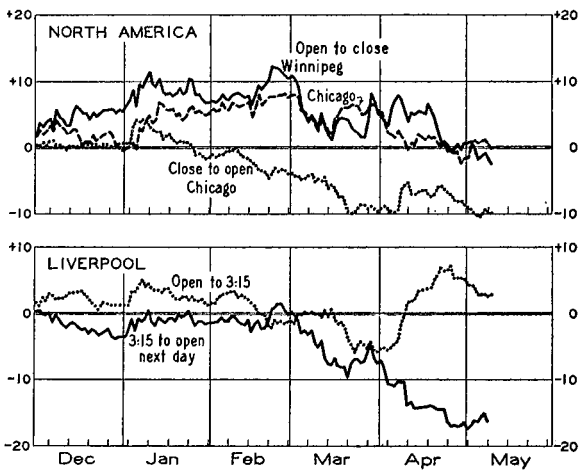
[1] See chart and comments in our last "Survey," WHEAT STUDIES, January 1938, XIV, 214–15.

come rains, both in the Southwest and in spring-wheat territory of the United States, then brought renewed price declines to the end of April.

Origin of price movements.—Most of the significant facts revealed by analysis of the cumulated interval changes at Chicago, Winnipeg, and Liverpool, shown in Chart 6, have been noted above. The advance of early January was initiated nearly as much in Liverpool as in Chicago. The advance of early February was initiated chiefly in Liverpool, and the subsequent decline wholly in that market. The declines during the first half of March and during early April were initiated wholly in North American markets.

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

(U.S. cents per bushel)



* Progressive summations of price changes over designated daily intervals, from December 1. An advance of 5 cents during one month in the curve designated "Open to close, Chicago," for example, indicates that the sum of the net price changes between the opening and the close of the market on all trading days of the month shows that price increases during trading sessions aggregated 5 cents more than decreases during trading session. The total price change during the month is this sum plus (or minus) the sum of the daily changes between the closing price and the opening price next morning, represented by the change in level of the line designated "Close to open, Chicago."

A few other features are worthy of note. During March 15–22, Liverpool declined during most of its sessions and Chicago prices declined correspondingly overnight (Chart 6); but during its sessions Chicago tended to recover, and Liverpool in its opening prices tended to decline further instead of following the price recoveries at Chicago. Thus the divergence of price movement in which Liverpool declined over 6 cents a bushel relative to Chicago during March 15–22 (Chart 4, lower section) developed primarily through independent weakness of opening prices at Liverpool. In the subsequent relative advance of Liverpool during April 4–22, the strength appeared during its session to 3:15 P.M. in price advances which Chicago failed to follow.[1] Through most of the period from January 8 to March 15 there was observable a tendency which is perhaps symptomatic of a weakening of the holding disposition of non-professional traders: Chicago tended generally to be relatively weak overnight, commonly opening slightly lower than due on the basis of Liverpool.

Price relations in British markets.—Price spreads among Liverpool futures during January–March were never large nor were their changes striking, yet they reveal some significant features of the international wheat situation. Relatively firm holding of Australian wheat until mid-March is indicated by the advance of the March future relative to the May during January and the decline of the July future relative to the May from mid-February to mid-March (Chart 7, top section).

Free selling of Australian wheat from about the middle of March eased the near supply position, and led to a readjustment of price relations in which the March future fell below the May and the May retained only small premiums over the July and the October. During April, however, the near supply position again tightened, as is indicated by the widening of the spread between the May and October futures. The May at one time reached a premium of 5 cents over the October. Buying for "security stocks" of wheat by the British Government, currently denied but later admitted, probably had much to do with this change.

Price differences among the chief classes of

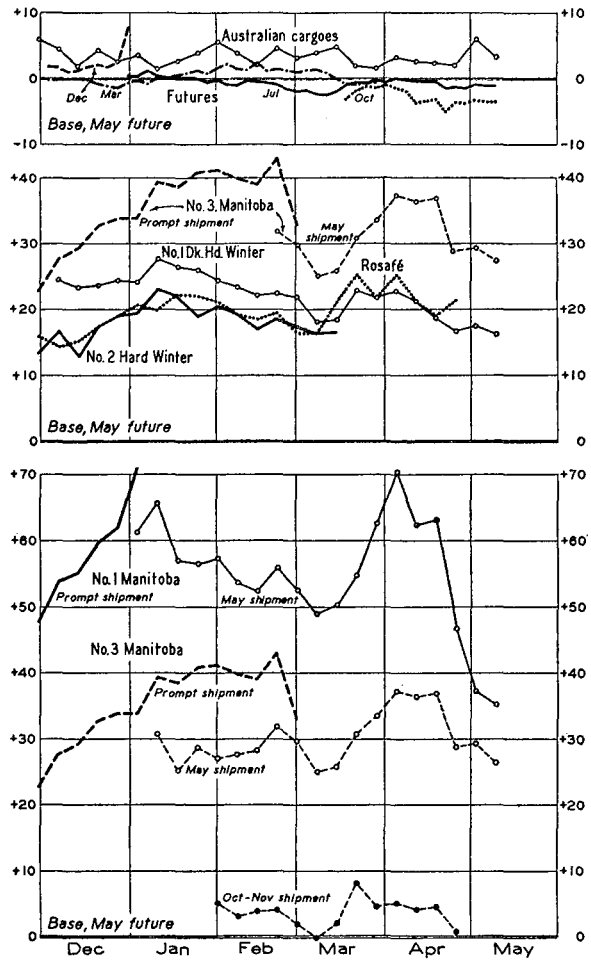
[1] Last autumn, declines of Liverpool relative to Chicago developed likewise mainly through relative weakness of Liverpool at its opening; but advances of Liverpool relative to Chicago developed only partly through overnight weakness at Chicago.

wheats on the British market were extraordinarily great during January–April. Prices of United States hard winter wheats reached their maximum relative to the Liverpool May future in early January. No. 1 Dark Hard Winter, c.i.f. and duty paid, was then quoted at nearly 28 cents over the future. By early March it had fallen to only 18 cents over (middle section of Chart 7). During most of this period No. 3 Manitoba maintained or slightly increased its premium over the May future, the premium averaging about 40 cents on prompt shipments from Atlantic ports. With navigation on the Great Lakes closed, the Canadian wheat remained in short supply while importers received increasing quantities of United States hard winters. From mid-March to late April the premium of No. 1 Dark Hard Winter (by this time the only United States hard winter wheat quoted on the British market) changed in response to weakness and subsequent relative recovery in the price of Australian wheat, to which the price of the Liverpool future was most directly related.

Prices of Canadian wheat on the c.i.f. market varied widely according to time of expected arrival as well as according to grade. Wheat to be shipped from Atlantic ports tended to command a premium, which on No. 3 Manitoba amounted to 3–5 cents, over shipments from Vancouver due to arrive at about the same time. The price spreads for Canadian wheats shown in Chart 7 are based on offers of wheat for shipment from Atlantic ports. From mid-January to late February, No. 3 Manitoba for prompt shipment from Atlantic ports was generally at a premium of some 12 cents a bushel over No. 3 Manitoba for May shipment, while No. 3 Manitoba for shipment in October or November 1938 was offered at 25 cents or more below prices for May shipment. No. 3 Manitoba for May shipment was offered at a premium of about 28 cents a bushel over the Liverpool May future from mid-January to mid-February. During the next ten weeks this premium fluctuated considerably, and in early April was as large as 37 cents; but in late April and early May No. 3 Manitoba was again selling at about 28 cents over the May future. The premium on No. 1 Manitoba for May shipment fluctuated much as did that on No. 3, but more widely and on a sharply declining trend. On January 11, the premium of No. 1 Manitoba over the Liverpool May future was 65 cents; by March 8 it had fallen to 49 cents; then, after rising to 70 cents on April 5, it declined to about 35 cents in early May.

CHART 7.—BRITISH WHEAT PRICE SPREADS, FROM DECEMBER 1937*

(*U.S. cents per bushel*)



* Price differences on Tuesdays. For futures (top section), based on Liverpool closing prices. For cash wheats, differences between the opening price of the Liverpool May future and c.i.f. sellers' quotations (plus duty for non-Empire wheats) generally as recorded in Broomhall's *Corn Trade News*. These represent, for Australian wheat, cargoes from South Australia to the U.K.; for Rosafé, parcels to Liverpool; for Manitobas and United States hard winters, parcels, generally to London. For the last two weeks the spreads shown are based on sellers' quotations reported in Broomhall's daily cables. In earlier weeks, for which comparisons are possible, these quotations sometimes differed significantly, and on No. 1 Manitoba, rather widely, from quotations in the *Corn Trade News*.

South Australian cargoes sold generally about 3 cents above the March future during January–March, and thereafter about 3 cents over the May future (Chart 7, top section). Cargoes from Victoria and New South Wales were priced about 2 cents higher, and West Australian 2–4 cents higher. Nearby Australian cargoes maintained a small premium over later shipments until the end of March. The pressure of Australian offers in the week following March 15 involved no "distress sales" of afloat cargoes.

Argentine Rosafé sold about on a par with No. 2 Hard Winter to early March, and from early March through April mostly at small premiums over No. 1 Dark Hard Winter. Soft White Pacific was quoted generally 2–3 cents under South Australian, but did not fully share the relative weakness of Australian wheat during late March and early April. It was thus generally on a competitive basis with Australian outside the British Empire, although it could not compete in the British market, owing to the preferential duty of 2 shillings per quarter (nearly 6.2 cents a bushel at recent rates of exchange). After mid-April, however, Soft White Pacific declined to about 6 cents under South Australian wheat and sales to the United Kingdom were reported.

Inter-market price spreads.—The Liverpool May future was 17–20 cents over the Chicago May most of the time from the first of January to mid-March (Chart 4, p. 330). The stability of this spread was more or less fortuitous, resulting from a balance of opposing forces. On the one hand, an increase in the proportion of hard winter wheat in European imports narrowed the price difference between this wheat and the future at Liverpool (p. 335). A corresponding advance of the Liverpool future relative to Chicago was avoided because, despite the increase in exports from the Gulf, ocean freights fell about 3 cents a bushel and the price of No. 1 Hard Winter at Gulf ports declined 5 cents relative to the Chicago May. During March 15–22 the Liverpool future declined, under sudden pressure of Australian offers, to only about 12 cents over Chicago. In April, however, it recovered to 20 cents over, as Australia ceased to press sales and as purchases on account of the British Government absorbed the small surplus in nearby supplies.

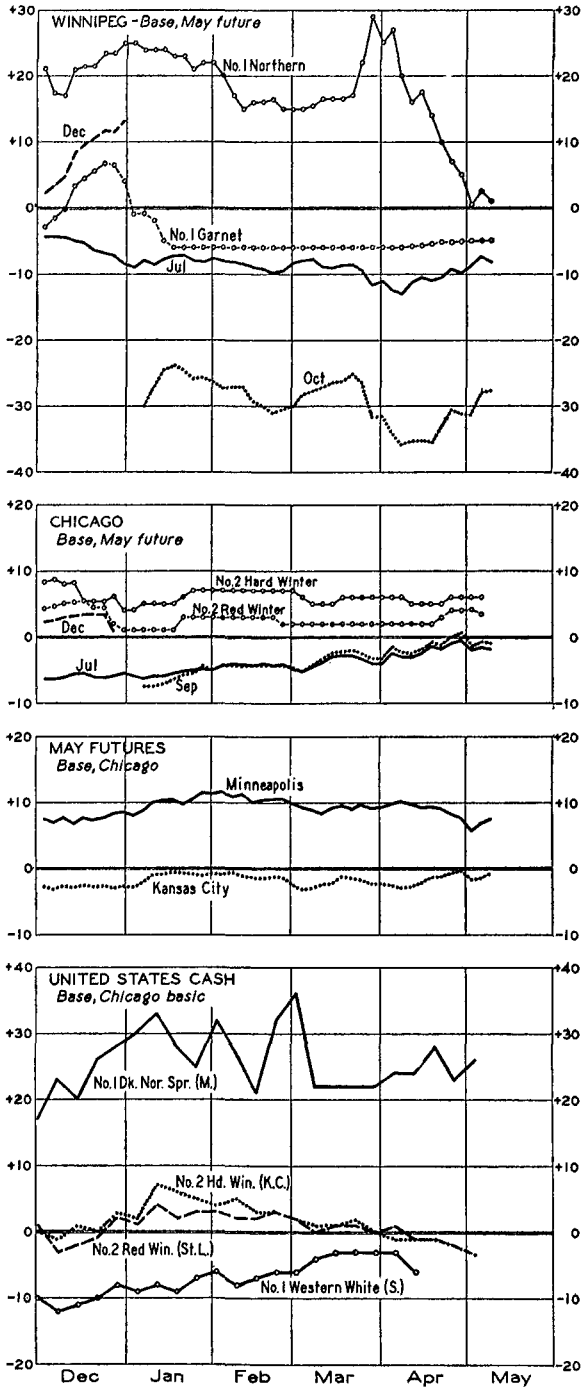
Buenos Aires futures fluctuated rather erratically, but held most of the time between 13 and 15 cents over Chicago until April. Buenos Aires did not fully follow the Chicago decline at the beginning of April, however, and thereafter was generally 15–17 cents over Chicago.

In early January the advance of the Winnipeg May future relative to Chicago was checked when a price spread of 32 cents led to competition of United States spring wheat in the export market. A sharp reaction at Winnipeg was soon followed by a renewed advance from mid-January. Minneapolis meanwhile had gained slightly on Chicago, with the result that Winnipeg was able to go in late February to nearly 35 cents over Chicago. During most of March Winnipeg was slightly weaker than Chicago, resulting in some narrowing of the spread between the two markets, but near the end of March the Winnipeg May future started a sharp relative advance that carried it to 41 cents over Chicago in early April. This rise reflected expectation of a degree of shortage of Canadian supplies that would interfere with fulfilment of May futures contracts, and this contributed to a shift in price relations among the several deliverable grades that permitted the Winnipeg future to rise higher relative to Chicago than had been possible earlier.

North American price relations.—At Winnipeg the price of No. 1 Manitoba Northern declined about 10 cents relative to the May future from early January to mid-February (Chart 8), paralleling the decline of No. 1 relative to No. 3 in the British market, noted above. No. 1 Garnet, carried upward in December by the abnormal rise of the December future, quickly fell back in January to 6 cents under the May future, and then in April rose gradually to the 5-cent discount at which it is deliverable on May futures contracts. Near the end of March, No. 1 Northern advanced relative to the future, as prices of Canadian wheats rose relative to others. As the rise in the future continued in early April, however, wheats priced above their basis of delivery on

CHART 8.—NORTH AMERICAN WHEAT PRICE SPREADS, FROM DECEMBER 1937*

(*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) and Seattle, and weekly averages of all reported cash sales of the designated grades at Minneapolis, Kansas City, and St. Louis.

the future[1] could not share in the further advance, and premiums on No. 1 Northern broke sharply. The weakening of premiums on the higher grades, thus started, continued through April. It appeared that remaining supplies of Canadian wheat included too large a proportion of the higher grades to continue to support such wide quality differentials as had prevailed earlier.

The tightness in the Winnipeg May future and the sudden change in cash premiums resulted in a peculiar cross movement of Canadian wheat. While the higher grades continued to be sold for export, some Special No. 4 wheat was shipped back from Sarnia and Toronto to Ft. William for delivery on futures contracts.[2] This grade is deliverable on the future at a discount of 22 cents.

The Winnipeg October future ranged in price during January–April from 24 cents to 36 cents under the May as the latter changed in relation to Chicago. From mid-January to mid-February the Winnipeg October future was generally 10–11 cents over the Chicago September, and from mid-February through April, generally about 8 cents over the Chicago September. The Winnipeg July future was generally at a discount under the May about one-third as great as the discount of the October.

At Chicago, No. 2 Soft Red Winter wheat remained the cheapest deliverable grade and even this was quoted continuously at a premium over the May future (Chart 8, second section). The premium reflected primarily a quality differential between country-run and elevator-mixed wheat of that grade, yet it is remarkable that even such a premium should have existed during January–March, with wheat supplies in the United States generally recognized to promise a carryover of some 200 million bushels. Equally remarkable was the persistence with which the July and September futures remained at substantial discounts under May. Prices of cash wheat and the near future remained relatively strong, as

[1] Even No. 3 Northern, deliverable at an 8-cent discount, sold above this basis until April 21.

[2] This shipment was reported over the Dow-Jones ticker service on April 20 as involving some 800,000 bushels.

in earlier months of the season, partly at least because of strong holding by farmers and partly owing to differences in quality that led to an unusual disposition of millers and elevator operators to maintain stocks in order to be assured of adequate supplies of particular qualities of wheat to meet special needs.

March and April saw gradual and irregular weakening of the forces tending to hold cash wheat and the near future at premiums over deferred futures. At the end of April the Chicago July future finally came to about the same price as the May, and the September rose slightly above the May.

The Minneapolis May future changed moderately in its relation to Chicago during January–April (Chart 8, third section) chiefly in mild response to changes in price position of hard spring wheats on the international market. The Kansas City May future advanced relative to Chicago in early January with strength in prices of hard wheats abroad, and then tended to decline relatively as prices of hard winter wheat declined relative to soft wheats on the international market. These tendencies appear more clearly in relations between the July futures at Chicago and Kansas City than in the spread between the May futures shown in Chart 8. The spread between the May futures was affected also by changes in relation between the May and July futures at Chicago.

Weighted average cash prices of No. 2 Hard Winter wheat at Kansas City and No. 2 Red Winter at St. Louis rose in early January considerably above basic cash prices at Chicago. This was partly in reflection of premiums on superior qualities of wheats within the grades, and partly because the strong tendency to hold cash wheat supported the prices of these wheats more effectively than it did the price of minimum-quality wheat deliverable on Chicago futures. From early January, however, these weighted average prices progressively declined relative to basic cash wheat at Chicago.

No. 1 Western White wheat at Seattle meanwhile tended to advance relative to Chicago basic cash, largely owing to decreases in ocean freights from the Pacific Coast to Europe. Liner rates declined from 30*s*. per ton in January to 25*s*. about mid-March and 20*s*. after early April—a decline during January–April equivalent to 6.7 cents per bushel. After about mid-April, however, No. 1 Western White declined relative to Chicago, apparently owing to increased pressure of supplies which forced more active competition with Australian wheat.

Weighted average prices of No. 1 Dark Northern Spring wheat at Minneapolis were erratic in their movement in consequence of differences in quality of the wheat represented in the averages for different weeks. The averages are not inconsistent, however, with other indications that prices of No. 1 Dark Northern Spring wheat in the United States tended to follow the price fluctuations of No. 3 Manitoba Northern at Winnipeg.

Outlook for Trade

Developments during the past four months have tended generally to support our January forecasts of world trade for the crop year. Although the prospective distribution of exports and imports by countries now appears a little different, world net exports still seem likely to approximate 535 million bushels. World wheat shipments (Broomhall's series) will probably be slightly larger than we had anticipated, perhaps totaling 510 million bushels as compared with our earlier forecast of 505 million.

On the basis of available data on shipments and net exports, our current forecasts suggest that the volume of international trade in wheat and flour in the last quarter or third of 1937–38 will not significantly exceed the notably low levels characteristic of the same period in each of the three preceding years.

Distribution of imports.—Our slightly revised forecast of world shipments assumes a distribution as between European and non-European countries of 415 and 95 million bushels respectively. This suggests that shipments to Europe may be a trifle larger than earlier anticipated. In terms of net imports, European net-importing countries will probably just about fulfill our January forecast, but non-European countries seem likely to take a little more wheat than we previously expected. Total net imports will probably

be distributed about as indicated below, in million bushels, with comparisons:

Country	1935–36	1936–37	1937–38 forecasts Jan.	May
British Isles	220	212	214	215
Belgium	39	40	39	39
Netherlands	22	21	23	24
Scandinavia, Baltic[a]	21[a]	20	17	17
France	8	12	25	17
Italy	5	57	7	7
Germany	..[b]	32	35	35
Austria	7	10	8	8
Switzerland	17	18	15	16
Poland, Czech.	2[a]	..[b]	0	..[b]
Greece	15	22	15	18
Spain, Portugal	..[b]	15[c]	17	19
Total Europe[a]	356	459	415	415
Brazil[d]	36	44	34	34
China	8	1	2	7[e]
Manchukuo	14	5	3	3
Japan	5	4	1	..[b]
West Indies[f]	10	9	13	13
U.S. Possessions[g]	3	3		
United States	31	17	..[b]	..[b]
Other non-Europe	49	53	52	53
Total non-Europe	156	136	105	110
Grand total	512	595	520	525

[a] Without deduction of any net exports.
[b] Net exports.
[c] Our approximation for Spanish net imports.
[d] July–June crop year.
[e] Including estimated imports from Japan not covered this year by the official Chinese statistics.
[f] Canadian and United States exports to the West Indies.
[g] Shipments of the United States to her possessions.

For Europe, the present outlook differs from that of January in suggesting smaller net imports into France, slightly larger imports into Greece, Spain, Switzerland, the Netherlands, and the United Kingdom. Of these changes, only that for France is large enough to be of much significance. This rests chiefly upon past trade developments and upon the reports of unbiased observers who have continued to stress the apparent adequacy of available domestic wheat supplies. It is also supported by the decision of the French Wheat Office, announced January 28, that France does not need to import this year more than 1.1 million bushels of wheat (all durum) from non-French exporting countries to supplement the foreign wheat gained through her prior export trade.[1] Not until mid-April was this decision followed by a decree actually authorizing such imports from April 1, subject to a duty rebate of 35 francs per quintal. That France will take at least a million bushels of non-colonial durum wheat before August 1 is almost certain; but how much more she will import is an open question. We now incline to the view that the net imports of non-colonial wheats in April–July will not exceed 2 million bushels. To this figure may be added April–July imports of 4–5 million from northern Africa and reported total net imports prior to April 1 of about 10 million. Thus calculated, French net imports seem likely to approximate 16 to 17 million bushels during the crop year.

Our forecast of British net imports is now raised to 215 million bushels, not on the record of trade thus far in the crop year—which would suggest a lower figure—but because the British government has recently admitted intentions to build up an "emergency" reserve of wheat. Presumably very little of this reserve will be accumulated during the current crop year; yet up to April 27 about 6 million bushels had apparently been purchased.[2] Since the details of these purchases have been kept secret, there is no way of knowing how much will be imported into the United Kingdom prior to August 1. Our guess is that the major portion of the 6 million bushels referred to above will be recorded in British imports during the current crop year and will therefore go to swell British wheat stocks as of August 1, 1938. On the other hand, we anticipate that delivery of wheat against possible further government purchases will not be made before the new crop year. To the extent that this assumption is not valid, our forecast of British net imports, total European imports, and world net exports and shipments may prove too low.

For Italy, our January forecast of net imports at 7 million bushels may still be judged acceptable, although the implied allowance of only 6 million bushels for net imports in April–July may appear low in view of recent

[1] *Bulletin de l'office de renseignements agricoles*, Feb. 1, 1938, p. 83.

[2] See *Chicago Journal of Commerce*, Apr. 28, 1938, p. 12.

reports of heavy damage to the new Italian crop and private claims of some current deficiency of bread wheat in Italy. Moreover, the recent action of the Italian government in raising the import duty on wheat from 18 to 45 lire per quintal may suggest to some that the government has already prepared for increased imports.[1] On the other hand, if the Italian crop of 1937 was not considerably overestimated, there should be a surplus rather than a deficiency of native wheat in Italy at the present time; and net imports to meet the prospective deficiency of the 1938 crop might well be postponed until after July.

Our import forecasts for most non-European countries remain unchanged from January. Now, however, it seems reasonable to count on somewhat larger net imports into China and to anticipate that Japan will rank as a net exporter rather than as a net importer this year.

A part of China's imports in 1937–38 probably will not be covered by the official import statistics, since substantial exports of Japanese flour to China during August–December remained unreported in the Chinese trade returns. Through March, gross flour exports from Japan to China were equivalent to 6.8 million bushels, of which not more than .5 million could possibly have represented shipments for Japanese troops in China. Consequently, at least 6 million bushels should presumably have been recorded as Chinese imports; but in actual fact only a very small portion, if any, was so recorded. With allowance for some diversion of shipments and some unrecorded exports, we tentatively estimate Chinese total net imports in August–March at not less than 6 million bushels. In the light of this estimate, a forecast of 7 million for the crop year seems conservative.

Japan's position as a net exporter of wheat (as flour) in 1937–38 was definitely assured by the end of March, when her cumulated net exports from August 1 totaled over 6 million bushels. Although Japan may rank as a small net importer during April–July, it seems reasonable to believe that net exports of at least 4 to 5 million bushels will stand to her credit at the end of the crop year—disregarding her trade with Chosen and Taiwan.

Sources of exports.—Net exports of 535 million bushels in 1937–38 may be distributed about as suggested below, in million bushels:

Country	1935–36	1936–37	1937–38 forecasts Jan.	1937–38 forecasts May
United States	...[a]	...[a]	118	112
Canada	254	195	80	80
Australia	102	102	110	120
Argentina	70	162	82	73
Lower Danube	25	89	60	60
USSR	29	5	40	45
French North Africa	19	6	15	15
Others	24	50	30	30
Total	523	609	535	535

[a] Net imports.

The present outlook is for larger net exports from Australia and the USSR, and smaller net exports from Argentina and the United States, than seemed indicated in January. For the two Southern Hemisphere exporters our revisions in forecasts chiefly reflect changes in standing official crop estimates (Table II). But for the USSR and the United States, the altered forecasts rest mainly on the record of trade thus far in the crop year.

Wheat shipments from Soviet Russia (Broomhall's data) already totaled about 40 million bushels by the end of April; and net exports were probably only a little smaller, reflecting imports of 2 to 4 million bushels through Vladivostok. Consequently, it seems reasonable to believe that during August–July Russian net exports will reach 45 million bushels, even with allowance for some additional imports.

United States net exports averaged 11 million bushels monthly in February–March, and we anticipate almost as large average shipments in April–July. Together with the 71 million bushels reported through March, the indicated crop-year figure is 110–115 million

[1] In April, when this tariff change was effected, the average price of British wheat parcels plus the former Italian duty of 18 lire totaled only about $1.39 per bushel in United States currency in contrast with the Italian fixed domestic price of $1.98 per bushel. With the tariff increased to 45 lire, duty-paid foreign wheat would then have approximated $1.78, a figure close to that which prevailed for duty-paid foreign wheat in the spring of 1937 when the lower tariff of 18 lire was in effect.

bushels. We accept the midpoint of this range —112 million bushels—as our specific forecast for August–July. During the official United States crop year, July–June, the total will probably be about 9 million bushels smaller, or 103 million. Shipments of about 3 million bushels to United States possessions are included in both forecasts.

Danubian exports may still be estimated at 60 million bushels in 1937–38, despite significant upward revision of the combined crop estimate for the Danube basin and further governmental encouragement to wheat exports from Hungary.[1] Most of the indicated crop revision was due to an increase of 8 million bushels in the estimate for Bulgaria; yet Bulgarian net exports had reached only 6 million bushels at the end of March, and they therefore seem unlikely to exceed 8–9 million during the crop year.

Aug.–July	Net exports[a]		Net imports[a]			Shipments		
	Reported	Adjusted[b]	Total	Europe	Non-Europe	Total	Europe	Non-Europe
1933–34 ...	555	553	539	395	144	524	402	122
1934–35 ...	541	557	530	375	155	533	381	152
1935–36 ...	523	512	512	356	156	497	358	139
1936–37 ...	609	619	595	459	136	595	477	118
1937–38								
F.R.I.								
Jan....	535	535	520	415	105	505	410	95
May...	535	535	525	415	110	510	415	95
I.I.A.								
Oct....	...	535[c]	...	420	115[d]	...	...	...
Mar...	...	520[c]	...	410	115[d]	...	...	...
C.T.N.								
Dec....	...	...	...	...	...	496	408	88
Mar...	...	...	...	...	...	500	408	92
May...	...	...	...	...	...	516	420	96

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

[b] For net changes in stocks of Canadian wheat in the United States, United States wheat in Canada, and wheat afloat to Europe; increases in these stocks are deducted from, and decreases added to, reported net exports.

[c] Net exports of "normal" net-exporting countries. This year, presumably not including about 5–10 million bushels of wheat from Japan, Sweden, Czechoslovakia, and Egypt.

[d] Not strictly comparable with our forecast of non-European imports.

Among "other" exporting countries in 1937–38 we must now include Japan, Sweden, Poland,[2] and Czechoslovakia. Whereas in January it seemed probable that these countries would have practically a balanced net trade in wheat, their net exports now seem likely to total 5–8 million bushels. On the other hand, Turkey, Iraq, and Uruguay will presumably export somewhat less than we anticipated in January. India, the largest exporter in this group, still seems likely to furnish net exports of about 16 million bushels.

Our current forecasts of world trade in 1937–38, designated F.R.I., are summarized in the tabulation above, in million bushels, with comparisons. The forecasts headed I.I.A. are those of the International Institute of Agriculture; and those headed C.T.N. are Broomhall's estimates as published in his *Corn Trade News*.

Outlook for Carryovers

Now forecast at about 635 million bushels, the "world" wheat carryover of 1938 is expected to stand roughly 100 million bushels higher than last year's carryover, but not significantly above the moderate average level of 1923–27. In most major positions, year-end stocks in 1938 will differ only slightly from their level in 1937; but in the United States, Argentina, and Australia year-end stocks will presumably be increased by about 100, 10, and 10 million bushels respectively, while in Europe ex-Danube a net reduction of under 10 million is expected. These and other detailed comparisons between year-end stocks as of about August 1, 1938 and earlier years are shown on page 342, in million bushels.

For the United States, our January forecast of 190 million bushels still appears reasonable, though its superiority over a moderately lower figure is questionable. On April 1, wheat stocks in the United States were officially reported to have totaled 332 million bushels, 121 million more than last year. Since prospective net exports of 30 million bushels in April–June will presumably increase disappearance of wheat in these months as compared with the same period of 1937, the July 1 carryover this year cannot reasonably be expected to exceed last year's carryover (91 million bushels)

[1] There the former restriction on private exports to countries with free currencies was removed in March. At the same time, the government provided for small export subsidies on wheat.

[2] The embargo on wheat exports from Poland was removed as of April 1.

by more than, if as much as, 100 million bushels. This figure allows for minor offsetting changes in the amount of wheat used for seed, feed, and mill grindings this spring as compared with last; and it implies that the stocks reported in April were relatively less complete this year than the July estimate will be—an assumption which may or may not be valid. Comparisons with years prior to 1937 suggest roughly the same conclusions. Hence, while we maintain our forecast of the United States carryover at 190 million bushels, this figure appears nearer to the top than to the middle of the probable range as judged by reported April stocks.

Position	Estimates			Forecasts 1938	
	1923–27	1936	1937	Jan.	May
United States[a]	118	138	91	190	190
U.S. in Canada[a]	1	0	0	2	1
Canada	38	108	33	35	30
Canadian in U.S.	3	19	4	2	1
Australia	31	43	41	40	50
Argentina	65	65	51	60	63
Total	256	373	220	329	335
Lower Danube[b]	37	25	35	32	29
French N. Africa[c]	13	12	4	6	7
India	46	36	29	29	29
Total	96	73	68	67	65
Europe ex-Danube	193	288	196	172	189
Japan and Egypt	13	10	12	13	11
Afloat to Europe	40	21	26	26	28
Afloat to ex-Europe	7	11	8	8	8
Total	253	330	242	219	236
Grand total	605	776	530	615	636

[a] As of July 1.
[b] Hungary, Yugoslavia, Rumania, Bulgaria.
[c] Morocco, Algeria, Tunis.

Australian and Argentine year-end stocks are now expected to be somewhat larger than we suggested in January. Since the Australian wheat crop of 1937 is now placed 19 million bushels higher in the official statistics, the increase of 10 million indicated for stocks appears moderate. Especially is this true in view of the relatively low price position of soft white wheats this year. On the other hand, the small upward revision in Argentine stocks accompanies a reduced official crop estimate; but it reflects a slower movement of Argentine wheat to export than we had anticipated.

For Canada, the official estimate of Dominion wheat stocks on March 31 together with trade developments through April suggest an even smaller carryover as of next August 1 than seemed indicated in January. Canadian wheat stocks totaled only 84 million bushels on March 31. If, as now seems reasonable to anticipate, April–July net exports are around 13 million bushels, seed requirements approximate 27 million, and roughly 15 million bushels disappear into other domestic channels in April–July, the quantity of wheat remaining for year-end stocks as of July 31 will not exceed 30 million bushels. In view of the price-premiums of nearer futures over the October future at Winnipeg it is logical to expect the Canadian carryover to fall to the lowest level since 1925. Indeed, if the Canadian wheat crop of 1937 had contained a more normal proportion of durum wheat, the 1938 carryover might now be forecast at an even lower figure than that reported for 1925.

Within Europe ex-Danube, wheat stocks in the United Kingdom, Germany, and several less important countries now seem likely to be a little larger than was anticipated in January, and offsetting reductions are not clearly implied for any of the other countries. The prospective larger British stocks rest entirely upon the recently announced government policy to accumulate "emergency reserves" of wheat.

For Germany, the statistical evidence on wheat stocks as of April 1 together with our forecast of April–July net imports at 8 million bushels seem to suggest that the German wheat carryover will approximate 25 to 30 million bushels this year—5 to 10 million above the notably low figure reported for 1937. Such stocks would be moderate rather than large and do not indicate the existence of substantial "war reserves." While certain individuals seem firmly convinced that Germany has *large secret* military reserves of wheat and rye, the available data on crops, imports, mill grindings, and seed use do not furnish grounds for the belief that any really sizable reserves have been accumulated. We doubt if surplus "emergency reserves" of wheat in Germany can exceed some such small figure as 10 to 15

million bushels. The evidence with respect to rye is less clear, but we doubt that surplus reserve stocks even of this cereal could take care of the country's consumption for more than an additional month or six weeks over the time covered by normal stocks.

The Italian stocks position is somewhat uncertain because current trade reports of "low" stocks are not consistent with the high official crop estimate for 1937 supplemented by governmental measures to enforce economy in wheat consumption. Although the published crop statistics for Italy may not be entirely dependable we are inclined to believe that the 1937 crop was really a big one and that the domestic carryover of 1938 will be of fair size and considerably larger than that of 1937. Presumably such surplus stocks as are available can be used to build up "emergency reserves" if government authorities are willing during 1938–39 to supplement the prospective small domestic crop of 1938 with adequate imports.

Among other countries of Europe ex-Danube, France, Czechoslovakia, Switzerland, and Sweden admittedly hold small "security stocks" of bread grain; and perhaps some part of the stocks held by the Norwegian Grain Monopoly should also be so designated. Moreover, the Netherlands government has just confirmed its intention to build and maintain grain reserves for "an emergency." But even in the aggregate, the security stocks of these countries are very small and do not represent a significant fraction of the total year-end stocks in "importing Europe." Within this larger area, total stocks as of next August 1 will be smaller than in any year since 1931. However, the reduction from 1937 is now expected to approximate only 7 million bushels, with increases in Italy and Germany partially offsetting the substantial aggregate reduction in France, Czechoslovakia, and Spain.

In the Danube basin, surplus year-end stocks will be located in 1938 mainly in Rumania, where the average quality of the carryover will be relatively low. Despite a sizable increase in the recently revised official estimate of the Bulgarian crop, we have changed our forecast of the Bulgarian carryover only slightly. In this we have been influenced by information that the Bulgarian crop of 1937 is the first one to be estimated on the basis of a new and improved statistical procedure, which tends to give moderately higher results than the older method. For both Hungary and Yugoslavia our January forecasts of carryover have been slightly lowered. In Hungary, the export trade has proved somewhat better than anticipated, while in Yugoslavia domestic disappearance of wheat has been a little larger than expected.

Prospects for 1938 Crops

Future weather conditions will be important in determining the 1938 outturn of wheat in practically all countries but India, where the harvest is now complete. Seeding has only recently been finished in the North American spring-wheat belt, and there the crop will be largely determined by the distribution of precipitation and the course of temperature during the next two and a half months. Even more dependent upon future weather conditions are the Southern Hemisphere crops, which are not yet fully sown and will not be reaped until after next November.

Despite the recognized importance of unpredictable weather developments in future months, the world ex-Russia now seems reasonably assured this year of at least a fair-sized crop, with the possibility of a bumper crop. Available reports on sown acreage and crop conditions strongly suggest that the new Northern Hemisphere crop ex-Russia will almost certainly be at least up to the average for 1930–34, and that it may perhaps set a new record as much as 200–300 million bushels larger than the bumper crop of 1928. *Most probable,* according to present indications, is a Northern Hemisphere crop ex-Russia of 3,475 to 3,600 million bushels, approximating or considerably exceeding the record outturn of 1928. Present indications are that this crop will be harvested from a record acreage some 9 per cent larger than that of 1928.

Less reliable than current forecasts of the total Northern Hemisphere crop are the forecasts for most of the individual regions and countries which together make up the total. Nevertheless, since it is upon production esti-

mates for individual countries and regions that the indicated high total for 1938 rests, we show below the prospective regional distribution of wheat acreage and production in the Northern Hemisphere ex-Russia in 1938, with comparisons, in million acres and million bushels.

Region	Acreage			Production		
	1930-34 average	1937	Indicated 1938	1930-34 average	1937	Indicated 1938
United States						
Winter[a]	37.1	47.0	50.7	553	685	725- 785
Spring[a]	17.1	17.5	19.0	180	189	180- 245
Canada	25.7	25.6	24.7	349	182	250- 375
Danube[b]	19.8	21.1	22.1	312	359	335- 380
Fr. N. Africa[c]	8.8	9.8	8.5	75	72	60- 70
India	33.4	33.2	33.7	356	366	370- 385
Total	141.9	154.2	158.7	1,825	1,853	1,920-2,240
Europe ex-Danube[d]	56.2	55.9	55.6	1,208	1,193	1,085-1,215
Others	17.6	18.6	18.5	257	322	295- 320
N. Hemisphere	215.7	228.7	232.8	3,290	3,368	3,300-3,775

[a] Harvested area.
[b] Hungary, Yugoslavia, Rumania, Bulgaria.
[c] Morocco, Algeria, Tunis.
[d] Europe ex-Russia ex-Danube.

Official estimates of the acreage sown to winter wheat are now available for most of the principal wheat-producing countries; and for several of these, there are reasonably good indications as to the amount of winter acreage abandoned. In addition, the United States and Canada have issued official forecasts of spring-wheat sowings as indicated by "farmers' intentions to plant." On the basis of these incomplete official estimates, supplemented for certain other countries by acreage approximations suggested by the Paris and Belgrade offices of the United States Department of Agriculture, we have estimated the wheat-acreage indications for 1938 shown above. In so far as indications of the areas to be *harvested* are available, these have been substituted for data on areas *sown*.

As the tabulated acreage figures clearly indicate, the wheat area expected for harvest this year in the Northern Hemisphere ex-Russia is not only much larger than that harvested on the average in 1930–34 but also significantly larger than the record total reported for last year. The principal increase is in the United States, where wheat sowings appear to have been of near-record size, and abandonment of winter-wheat acreage (also anticipated abandonment of spring-wheat acreage) is reported to be far less than the abnormally high average for the ten preceding years. Among other regions, only the Danube basin appears to have a significantly increased acreage for harvest. Within that region, Rumania is reported to have sown an unprecedentedly large acreage to wheat, while Hungary and Bulgaria are credited with near-record large areas. Only Yugoslavia has significantly reduced her wheat plantings as compared with last year.

Official forecasts and estimates of 1938 wheat crops are available only for India and the winter-wheat region of the United States. The first official estimate of the Indian crop is 380 million bushels, suggesting the third largest harvest on record. This figure may well be maintained in future months; but last year, a corresponding first estimate was reduced from 382 million bushels to 366 million. Regardless of the size of the Indian crop this year, the prospective abundance of wheat elsewhere in the world suggests that sizable Indian exports of wheat will not be forthcoming at the level of prices likely to prevail during 1938–39.

The United States winter-wheat crop was officially forecast as of May 1 at 754 million bushels, the third highest figure on record. Sown relatively late on a reported area of 57,316,000 acres (only slightly smaller than the record acreage sown last year), the winter-wheat crop suffered significantly from drought in the fall and winter. As of December 1, the condition was substantially below average, suggesting a crop of only 630 million bushels. During January, reports of soil-blowing were widely circulated. But above-average precipitation in February–March notably improved the general outlook, and private crop estimates as of late March averaged 717 million bushels. As of April 1, the official forecast was still higher—726 million. Further good rains during April apparently more than offset significant damage from low temperatures and late frost in the Southwest. In the tabulation above, we show for the United States winter crop a probable production

range which has as its mid-point the official May forecast; but since sub-soil moisture reserves were still deficient in some areas on May 1, and since substantial damage could still be done to the crop by frosts and rust after that date, the actual outturn will depend heavily upon weather conditions in May–June.

On the basis of farmers' intentions on March 1 to plant spring wheat, United States spring-wheat sowings have been officially forecast at 22.3 million acres, a reduction of almost 1.5 million from last year. However, since soil-moisture conditions improved during March and April (perhaps encouraging heavier plantings) and since abandonment of spring-wheat acreage may reasonably be expected to be smaller this year than last, the harvested acreage will probably be somewhat larger than in 1937. Top-soil moisture conditions in the spring-wheat states are better this year than for several years past; yet deficient sub-soil reserves make the crop heavily dependent upon ample and well-distributed rains from late May to the end of July. The probable production range indicated for this crop—180 to 245 million bushels—implies a prospective yield per sown acre higher than in any of the four years preceding 1937 and probably somewhat higher than in that year.

In Canada, farmers declared intentions as of May 1 to plant 24.1 million acres to spring wheat, suggesting a total wheat area about 900,000 acres smaller than last year. However, soil moisture conditions were considerably better this year, despite low subsoil reserves in some sections; and there is now no reason to anticipate such strikingly unfavorable weather developments in June–July as were witnessed in 1937. Consequently, a Canadian crop as small as last year's must now be regarded as distinctly improbable though not impossible; on the other hand, a crop in excess of 375 million bushels may be similarly designated because such an outturn would presumably imply extraordinarily favorable conditions of precipitation and temperature during June–July.

Sown on an area of record size, the Danubian crop of 1938 now promises to be somewhat above the 1930–34 average but probably not strikingly different from last year's outturn. At present, the condition of the growing wheat crop throughout most of the Danube region is reported good to excellent, but recent complaints of dry soil conditions represent a real threat.

Within Europe ex-Danube ex-Russia, present indications are for a harvested acreage slightly smaller in 1938 than in 1937 or than on the average in 1930–34. Drought interfered with early wheat sowings in France; while in Italy and Greece, excessive rains prevented the sowing of a full acreage. In most other European countries, the wheat area seems to have been about maintained at last year's level or somewhat increased. After a mild winter, and an early spring somewhat too dry at least in southern Europe, the condition of wheat as of mid-May was moderately high in central and northern Europe and notably below average only in northern Italy and southern France. The range we have indicated for wheat production in Europe ex-Danube assumes neither strikingly favorable nor strikingly unfavorable weather conditions after mid-May; and for the region as a whole it implies a yield per acre not far from average.

Little information is available for other Northern Hemisphere countries ex-Russia. In French North Africa, reduced plantings in Tunis and Algeria apparently more than offset a slight increase in Morocco. Because of the reduced sowings, and because many complaints of drought have come from this region, it seems reasonable to suppose that the aggregate crop will be only of average size or somewhat smaller.

In the USSR, the total "planned" wheat area was roughly 650,000 acres smaller for 1938 than for 1937; and a reduction of 2,500,000 acres was indicated for rye. Since weather conditions last year tended to favor the development of bread-grain crops, an average yield per acre significantly higher in 1938 than in 1937 now seems *improbable*, though of course not impossible. Consequently, the total outturn of wheat and rye in the Soviet Union this year seems likely to be smaller than in 1937. But since the domestic carryover of bread grains next August will presumably be very large and considerably larger than a year earlier, total supplies may not be reduced even

in the face of a reduced crop. On the other hand, even if bread-grain supplies are approximately the same for 1938–39 as for the current crop year, net exports of wheat may be larger or smaller depending upon governmental decisions.

World total supplies. — If the Northern Hemisphere crop ex-Russia of 1938 totals 3,475 to 3,600 million bushels (a central range within the wider one indicated above), and the Southern Hemisphere crop turns out to be of moderate size—say 440 to 480 million bushels, the new world crop ex-Russia will be at least 100 million bushels larger than that of 1937 and it may well prove to be almost 300 million larger.

A crop of this size together with a prospective world carryover in the neighborhood of 635 million bushels (roughly 100 million larger than in 1937) and small Russian net exports would result in total wheat supplies for 1938–39 of 4,550 to 4,750 million bushels. This implies an increase of 175 to 375 million bushels as compared with the current crop year, but a reduction of about equal magnitude from the record-high average for the four years 1930–31 to 1933–34. The extent to which such prospective supplies would prove burdensome would depend largely upon the level of world wheat consumption and upon the distribution and ownership of the increased carryover of 1939. These factors in turn will be determined by the size and distribution of feed-grain supplies in 1938–39, upon final distribution of the 1938 world wheat crop, and upon governmental decisions and actions particularly in the United States.

New Controls in the United States[1]

The momentous Agricultural Adjustment Act of 1938, approved on February 16,[2] contains provisions that may have a pronounced effect on United States wheat marketing in 1938–39. Most important are the provisions concerning (1) government loans, (2) acreage allotments for 1938 and 1939, (3) marketing quotas, and (4) insurance of 1939 wheat yields. Their precise bearing will depend in part on legislative action and administrative decisions not yet taken, as well as on price developments due to other factors; but some of them will probably exert appreciable or significant influence in May–September.

Among these the loan provisions rank first. Commodity Credit Corporation loans on wheat are almost sure to be available to growers in the marketing year beginning July 1, 1938. The CCC is "directed" to make such loans available under either of two contingencies. One of these now seems unlikely, the other certain, to be realized.[3] The average farm price of wheat on June 15 may not fall below 52 per cent of the then "parity price"—a level prospectively around 60 cents;[4] but the July crop estimate will almost certainly exceed "a normal year's domestic consumption and exports"—a sum likely to be officially put at about 700 million bushels. In this event, the loan rate to "co-operators"[5] must be fixed at 52 to 75 per cent of the parity price on July 1. In the conditions that now seem likely to prevail in June, we anticipate that the rate will be fixed at or near the minimum authorized, say at 60 cents per bushel for "standard" wheat.[6] Loan rates for premium and discount wheats are to be determined by differentials

[1] This section was written by Joseph S. Davis.

[2] 75th Congress, Public No. 430, H.R. 8505.

[3] It therefore seems unnecessary to touch on the possibilities for loans under the permissive provision of Sec. 302 (*a*): ". . . . The Commodity Credit Corporation is authorized, upon recommendation of the Secretary and with the approval of the President, to make available loans on agricultural commodities (including dairy products)." But the sentence following is important: "Except as otherwise provided in this section, the amount, terms, and conditions of such loans shall be fixed by the Secretary, subject to the approval of the Corporation and the President."

[4] The farm price averaged 75 cents on April 15, when the price of the Chicago May future was about 83 cents.

[5] With respect to wheat growers, a "co-operator" is defined in Sec. 302 (*f*) as "a producer on whose farm the acreage planted to the commodity for the crop with respect to which the loan is made does not exceed the farm acreage allotment for the commodity under this title . . . . For the purposes of this subsection a producer shall not be deemed to have exceeded his farm acreage allotment unless such producer knowingly exceeded his farm acreage allotment." Since individual allotments for 1938 were not made in time for even spring-wheat growers to know them before planting, most growers will presumably qualify as "co-operators" in 1938–39. But see below, p. 347.

[6] Under Sec. 302 (*g*), rejection of marketing quotas by farmers' referendum would stop further loans from the date on which the Secretary proclaimed the referendum result; but this now seems most unlikely.

prescribed by the Secretary of Agriculture "as properly reflecting differences from standard in grade, type, ... and quality."

These loans will be of the peculiar type described as without recourse: "No producer shall be personally liable for any deficiency arising from the sale of the collateral securing any loan under this section unless such loan was obtained through fraudulent representations by the producer." The rate of interest charged will be low—probably not over 4 per cent. What conditions will be imposed with respect to storage of loan wheat and storage costs thereon,[1] we cannot predict; and these regulations may have important bearings on the volume borrowed on. Administrative convenience has hitherto been responsible for geographically uniform rates on cotton and corn, and thus far there is no ground for expecting any geographical differentiation of loan rates on wheat.

The market influence of the loan system in the near future will depend primarily upon the prices current in the several wheat sections. Where prices in June–August rule substantially above the loan rate, marketings will probably not be materially restricted by it, and little wheat may be pledged as collateral.[2] On the other hand, if and where wheat prices are down close to or below the loan rate, growers are likely to borrow freely on their grain, standing to profit by later advances in price if these occur, or to treat the wheat as sold to the government if prices remain low or fall lower.

In the absence of geographical differentiation of loan rates, the maximum influence will be exerted in the regions where farm prices tend to be farthest below the national average. These regions include the surplus area of the Pacific Northwest; portions of the intermountain region; the major surplus area in the Southwest; and the western part of the spring-wheat belt. The first and third of these regions are normally the principal sources of United States wheat exports. A loan rate fixed on the basis of the national average farm price will encourage farmers in these regions either to hold their wheat, or in effect to sell it to the CCC with option to repurchase it, if they cannot sell for a price at least as high as the loan rate. As has occurred with CCC loans on corn, the geographical structure of farm prices of wheat is likely to be more or less considerably distorted, to the advantage of those farthest from market in the economic sense. This effect seems likely to be greater than the net effect on wheat prices in terminal markets; but if other factors should make for pronounced weakness of prices, the loan system will exert a price-supporting influence for the time.

Present prospects for crops, prices, and loan rates hold the possibility that the loan rate may exert profound influence in the Pacific Northwest and in Southern Idaho before the end of the summer. There a large percentage of a big crop may eventually be pledged as collateral and present a serious problem of government disposal. Conceivably the same may be true in at least the western sections of the hard-winter-wheat states, where the local equivalent of the July future is close to the loan rate. There is thus a reasonable prospect that, in a degree not yet predictable, the flow of wheat into export and into certain domestic channels will be restricted by the availability of CCC loans.

The Adjustment Act itself set the national wheat acreage allotment for 1938 at 62.5 million acres—presumably interpretable as acreage for harvest as grain. State allotments of this total were made in mid-April and individual farm allotments are now being made. This year a wheat grower is subject to no specific penalty if he exceeds his wheat acreage allotment as such; but he stands to lose the right to obtain CCC loans, and to suffer substantial reductions in "agricultural conservation payments" otherwise assured him,[3]

[1] Farm storage, which has been extensively used for corn, is very unequally available for wheat; and much of the available facilities would by no means safeguard the grain from deterioration. Elevator storage is safer and much more convenient, but not inexpensive. In the Pacific Northwest, warehouse storage of sacked wheat will doubtless be the common type as heretofore.

[2] If marketing quotas should be in effect, some growers would doubtless borrow on grain in excess of their quotas; and others would borrow on wheat that they could market without penalty, choosing to realize some cash and to take the chance of better prices later.

[3] These include 12 cents a bushel on his assigned normal yield per acre on his wheat allotment, similar

if his acreage in wheat and other "soil-depleting" crops exceeds the limit officially fixed. Particularly in the Southwest, many growers already face the unpleasant dilemma of taking this bitter medicine or of plowing up or otherwise eliminating part of their wheat as it nears harvest.

Not later than July 15, 1938, the Secretary of Agriculture is to proclaim the national acreage allotment for 1939. The act prescribes that this shall be such an acreage as would, at the estimated national average yield per acre, produce 130 per cent of "a normal year's domestic consumption and exports" (probably around 910 million bushels) *less* the forecast carryover of July 1, 1939 (perhaps exclusive of wheat then held in insurance reserves). This formula now seems likely to lead to an allotment figure of around 40±3 million acres, harvested basis, as contrasted with the 1938 allotment of 62.5 million and a sown acreage for 1938 of around 80 million. We do not anticipate that the 1939 acreage allotment will exert important influence on marketing and prices during the summer of 1938, but such influence as it has will be in the direction of supporting prices and restricting utilization and export.

Marketing quotas for wheat will not be in effect in 1938–39. The Adjustment Act forbade their imposition unless, not later than May 15, "provision has been made by law for the payment, in whole or in part, in 1938 of parity payments with respect to wheat."[1] Senator Pope's efforts to get processing taxes enacted were defeated in April, for the current session, and Congress made no other move to meet this condition imposed by the earlier act. Hence discussion of this device for wheat—it is already assured for cotton and tobacco—can well be deferred.

The Federal Crop Insurance Corporation, a new agency of the federal Department of Agriculture, was promptly set up under Sections 501–18 of the Adjustment Act.[2] It has already announced that applications for insurance of 1939 wheat crops must be received by September 1, 1938. Growers of wheat planted for harvest in 1939 may take out "all-risk" insurance,[3] to cover 50 to 75 per cent (as determined by the board) "of the recorded or appraised average yield of wheat on the insured farm for a representative base period subject to such adjustments as the board may prescribe to the end that the average yields fixed for farms in the same area, which are subject to the same conditions, may be fair and just." Premiums, and losses similarly, are to be payable in wheat or cash equivalent. The corporation is to hold in wheat the reserves built up by insurance premiums, and to draw on this stock only to pay insured losses.[4]

How much insurance will be taken out in 1938–39 cannot now be safely predicted. It is entirely optional. Individual farmers who happen to have low yields in 1938 are likely to feel that they cannot spare the wheat required for premiums. In the high-risk areas, premiums will be high enough to deter many farmers from insuring. In the low-risk areas, many farmers will not rate the degree of protection sufficient to justify them in paying the lower premiums. The board is empowered to "condition the issuance of such insurance in any county or area upon a minimum amount of participation" there. Provisional estimates have suggested maximum first-year premiums totaling around 75 million bushels, if all growers should participate. Actually, the first year's total premiums now seem unlikely to reach 50 million bushels and may be much

---

payments on other crops designated as "basic," a per-acre payment on his allotment for other "soil-depleting" crops, and payments for specified "soil-building" operations.

[1] These are payments "on their normal production of such commodities in amounts which, together with the proceeds thereof, will provide a return to such producers which is as nearly equal to parity price as the funds so made available will permit."

[2] Its board of directors consists of M. L. Wilson, J. W. Tapp, and R. M. Evans, designated (on February 19) by and holding office at the pleasure of the Secretary of Agriculture, under whose general supervision they are responsible for the general management of the corporation. Roy M. Green is general manager.

[3] "Such insurance shall not cover losses due to the neglect or malfeasance of the producer or to the failure of the producer to reseed in areas and under circumstances where it is customary to reseed."

[4] Such reserves are not to be included in the carryover as computed for purposes of the act. Administrative and operating expenses, including costs of handling and storage, are to fall on the Treasury.

less.[1] Owing to delays incident to setting up the system, the initial premiums are not likely to be paid, and the corresponding reserves accumulated, until the period of heavy marketing is over.

We need not here go into all the potentialities of the provisions just discussed, for the crop year 1938–39 as a whole. But it is hardly premature to predict that the government, through the CCC and the FCIC, will in effect hold substantial amounts of wheat on July 1, 1939; and it seems probable that the inclusive carryover then will be larger because of the new act. New records in both respects are at least possible.

Outlook for Prices

Although striking changes in crop prospects may occur before the wheat harvests of the Northern Hemisphere are finally gathered, price changes between mid-May and the end of July seem likely to be moderate. Even strikingly favorable crop developments may not force the Chicago September future as low as 70 cents a bushel, while a crop-scare price advance to as high as $1.00 a bushel will probably not develop except in the event of unusually severe and widespread damage to growing wheat in the United States and Canada.

Prospective price influences.—The course of wheat prices on the principal international markets from mid-May through July will depend in considerable part on crop developments in the Northern Hemisphere, and especially on developments in North America. Important crop developments are possible even as late as August and expectations of exports from the USSR may change substantially during that month; but August and September are more likely to be months in which such price changes as occur reflect largely adjustments of prices to conditions which were previously recognizable, but which had theretofore failed to be reflected adequately in the price. The general economic outlook also may have a pronounced bearing on the course of wheat prices during the next four months.

Whether the coming months will witness important changes in appraisals of wheat crop prospects, and if so, in what direction, it is impossible to foretell. We take it, however, that crop developments in Europe, including Russia, are unlikely to be such as to induce large price changes during May–July.

But in North America the outlook for wheat production may alter greatly before the crops are harvested. Hard winter wheat in the United States shows a rank growth on soil deficient in subsoil moisture reserves, and has suffered unusually extensive infestation of leaf rust. If precipitation should continue adequate in quantity and frequency, and yet not accompanied by excessive spread of the rust, the harvest of winter wheat might exceed expectations as of mid-May by perhaps 50 million bushels. Drought and heat, however, might reduce crop prospects by more than this amount. In the spring-wheat areas of the United States and Canada surface moisture is everywhere adequate or abundant, but in most sections the subsoil remains dry. With ample, well-distributed rains and moderate temperatures a bumper crop might be harvested, but a period of drought and heat in late June or in July might do severe damage. Spring-wheat production in North America may fall anywhere within or even somewhat outside the range 400–600 million bushels.

Although there exist possibilities that wheat production in North America may be as much as 200 million bushels above or below what at mid-May appears the most reasonable forecast of the outturn, the supply and price position favors moderation in price changes through July at least. Not since June 1933 has the price of any Chicago future remained below 75 cents a bushel throughout any trading session. Probably evidence that a heavy world wheat surplus for 1938–39 was virtually certain would scarcely suffice to carry Chicago futures as low as 70 cents by the end of July, even without price support from government loans on wheat in the United States. Loans which will almost certainly be available to farmers for wheat storage promise to offer significant support on any price decline below about 75 cents for Chicago futures.

[1] Marketing quotas, if in effect in 1938–39, might substantially increase the insurance applied for, since some wheat in excess of quotas could be tendered for premiums instead of all being pledged as collateral for CCC loans.

Crop prospects as of mid-May offer promise of such generous world wheat supplies for 1938–39 that only serious deterioration would raise fears of shortage. The most unfavorable turn in *winter wheat* crop prospects reasonably to be contemplated is unlikely to carry the Chicago September future above 90 cents a bushel. In the rather improbable event that deterioration of winter wheat should be followed by serious damage to spring wheat in the United States and Canada, a major price advance might develop, such as would carry the Chicago September future to $1.00–1.10 a bushel. It is scarcely to be supposed, however, that such a price level could long be maintained.

Implied in the foregoing comments is the supposition that until near the end of July at least, wheat prices will move chiefly under the influence of current developments: that wheat prices are not now out of adjustment with the prospective supply and demand situation in such degree as to induce an important readjustment during this interval. Implied also is the supposition that neither business nor political developments will exercise a dominating influence on wheat prices before late July at least. As regards price movements that may develop later in the summer, such suppositions may not be made so lightly. With the major crop hazards passed and a new marketing season definitely at hand, wheat prices tend about the end of July to enter on a period of readjustment, as traders appraise the international wheat position more carefully, and with more definite knowledge than earlier in the season.

Not much can be said now of the readjustments in wheat prices that may appear necessary after the middle or end of July, yet two suggestions may be ventured. (1) After July, importers may find themselves less dependent on the United States than they have been during 1937–38. Liberal exports from the United States will doubtless be necessary during August, but in making new purchases, importers may be able largely to ignore the United States. If Russia and the Danubian countries should then be disposed to press sales, resistance to price declines at Chicago might have little power to support the international price level. (2) Although recent prices at Chicago appear low by comparison with prices in other years since 1932–33, recent prices in other countries make a much more favorable comparison with those of earlier years. For example, the Liverpool October future at its low average of 6*s.* 5¼*d.* for the first week of May 1938 was still above the average of any future at Liverpool in any month during 1934–35 and above the averages of the highest-priced futures for all but two months of 1935–36. Comparison with prices in these two years appears particularly appropriate since it now seems that the relation between wheat supplies and requirements for 1938–39 may be such as to afford a world carryover of size somewhere between that at the close of 1934–35 and that at the close of 1935–36.

Significance of price comparisons.—If the balance of supplies and requirements for 1938–39 should continue to give promise of representing a degree of ease comparable with that of 1934–35 or of 1935–36, occasion will arise for considering whether it is reasonable to expect the level of wheat prices in 1938–39 similarly to resemble the level of prices in one of these earlier years.

Comparisons of wheat prices in recent weeks with wheat prices in earlier seasons should include consideration of comparative levels of prices of other commodities. Changes in commodity prices generally since 1934–35 and 1935–36 have been large, have differed substantially among different groups of commodities, and have differed significantly between countries. For the United States and Great Britain significant comparisons are shown below in terms both of index numbers representing "general" wholesale prices and index numbers of more sensitive commodities. In this tabulation the index numbers are

Period	United States		Great Britain	
	General[a]	"Sensitive[b] commodities"	General[c]	"Primary[d] products"
1934–35[e]	78.4	153.6	88.0	124.7
1935–36[e]	80.2	169.2	91.4	132.5
April, 1937	88.0	216.8	109.0	169.9
April 23–30, 1938	78.3	137.7	104.1[f]	137.8

[a] Bureau of Labor Statistics index, 1926 = 100.
[b] Moody's index, December 1931 = 100.
[c] Board of Trade index, 1930 = 100.
[d] *Economist* index, September 18, 1931 = 100.
[e] August–July average. [f] March, 1938.

shown as now currently published, in terms of averages for various base periods taken as 100 per cent. To facilitate comparisons, all may be expressed in percentages of averages for August 1935—July 1936.

Period	United States		Great Britain	
	General	"Sensitive commodities"	General	"Primary products"
1934-35	97.8	90.8	96.3	94.1
1935-36	100.0	100.0	100.0	100.0
April, 1937	109.7	128.1	119.3	128.2
April 23-30, 1938	97.6	81.4	113.9	104.0

In terms of the "general" index number, wholesale prices in the United States at the end of April 1938 were only slightly below their average for 1935–36. In Great Britain, the general wholesale price index in March 1938 (the latest month for which the index number is available) was 14 per cent above its average for 1935–36. The more sensitive index numbers, however, suggest quite a different relationship. The Moody index for "sensitive commodities" in the United States shows prices at the end of April averaging about 19 per cent lower than in 1935–36; and the *Economist* index number for "primary products" shows prices at the end of April only about 4 per cent higher than in 1935–36.

The current discrepancy between the general and the more sensitive price indexes reflects existence of price maladjustments which will tend sooner or later to be corrected. If improvement in the economic situation starts shortly, the correction will take the form of recovery of the sensitive prices toward the level of the general indexes, which themselves will tend to rise. If depression continues during the summer, but without aggravation, the sensitive indexes may change little while the general indexes decline. If the depression tends to deepen during the summer, the sensitive and the general indexes alike may tend to decline, perhaps with temporary further widening of the discrepancy between them. Wheat is one of the more sensitive commodities, and so far as its price is influenced by conditions outside the wheat situation it will tend to move in sympathy with the more sensitive price indexes.

At the end of April, wheat prices, expressed as percentages of their averages for 1935–36, stood in about the same relative position as prices of the sensitive commodities as a group. For the periods covered by the foregoing tabulations, wheat prices in three principal markets compare as follows:

Period	Chicago, basic cash		British parcels price		Winnipeg, No. 1 Northern	
	Currency[a]	Index	Currency[b]	Index	Currency[c]	Index
1934-35	97.7	96.6	5.36	87.7	81.8	96.7
1935-36	101.1	100.0	6.11	100.0	84.6	100.0
April 1937	137.8	136.3	10.37	169.7	138.9	164.2
April 25-30, 1938	80.7[d]	79.8	6.53[e]	106.9	88.5[e]	104.6

[a] U.S. cents per bushel.
[b] Shillings per cental.
[c] Canadian cents per bushel.
[d] September future.
[e] October future.

Prospective Changes in Price Relations.—Prices of wheat futures recently prevailing reflect anticipation of noteworthy changes in price relations among cash wheats during the summer and early autumn. The relations in three markets deserve emphasis. At Winnipeg the October future was nearly 30 cents under the May on May 14 and the July nearly 12 cents under. At Liverpool the October was 5 cents under the May, and the July about 2 cents under. At Kansas City, the September was about 4 cents under the May and the July 5 cents under.

In view of the necessary relations between prices of cash wheats and futures in the delivery months, the price differences at Winnipeg require that in July some grade of deliverable wheat must be 12 cents cheaper relative to the July future than it is at mid-May; and that in October, some deliverable wheat must be 30 cents cheaper relative to the October future than corresponding wheat at mid-May. At mid-May, Winnipeg prices of all deliverable grades of wheat were at or near a deliverable basis. The implications of the relations among Liverpool futures must be stated somewhat differently because at mid-May only the soft wheats were near a deliverable basis there. If they remain the cheapest deliverable wheats in October, they must suffer a price decline of about 5 cents relative to the October future. An alternative is that some other

class of wheat, now higher priced than Australian, should suffer a much larger price decline. At Kansas City, the implication is that by the end of July the price of No. 2 Hard Winter will have declined 5 cents relative to the July future.

These relations among futures at Winnipeg, Liverpool, and Kansas City imply also some significant changes among prices of different wheats in the British market. Supposing prices of the July futures in the several markets to retain about their present relations and costs of shipment to the United Kingdom to change little, there is in prospect by about July a decline of 10–12 cents in the price of at least some Manitoba wheat relative to Australian wheat in the British market. There is in prospect also a decline of perhaps 4 cents in the price of United States hard winters. The outcome in this regard will depend somewhat on relations between prices at Kansas City and at the Gulf. It seems not unreasonable that such changes should occur, and the prospect accords with expectations, based on prospective shipments by countries, that hard winter wheats should constitute a larger proportion of European imports during the early summer than previously this season.

Supposing also that prices of the October futures in the several markets (September at Kansas City) should retain their present relations, price changes among cash wheats on the British market must be large between July and September or October. Continuing the assumptions made above, it appears that prices of at least some Manitoba wheats will decline 15–20 cents relative to the Liverpool October future between July and October, while prices of United States hard winters will advance. If this is to occur, No. 3 Manitoba seems likely to sell in October at about 10 cents over the Liverpool October future, and No. 1 Dark Hard Winter to be quoted, duty paid, at 15–20 cents over the future. At such a price difference, no hard winter wheat could be sold in the United Kingdom; and it is questionable whether much could be sold even to the Continent, where, without a preferential duty, No. 1 Dark Hard Winter would be at about the same price as No. 3 Manitoba or slightly higher.

Allowing for possible divergence from the assumptions made above, it still seems reasonably clear that if price relations among new-crop futures continue about as they were at mid-May, exports of hard winter wheat must diminish sharply, or virtually cease, in late summer. If they are to continue in volume during the autumn, the Kansas City September future probably must fall to 15–20 cents under the Winnipeg October (or Winnipeg rise relative to Kansas City).

With a large surplus of hard winter wheat in the United States, as there will be unless crop catastrophe intervenes, it would be normal that exports from this country should be heavy in late summer and early autumn, and that the price of hard winter wheat on the British market should be about the same as prices of Australian wheat and the Liverpool October future. To permit this outcome, the price spread between the Kansas City September future and the Liverpool October apparently would have to widen to nearly 30 cents. Whether such a widening will occur or not will depend on the course of the Liverpool future and on the strength with which United States prices resist decline.

Prices of Chicago futures may advance to 5–8 cents over Kansas City if present prospects of relative abundance of hard winter wheats in the United States are fulfilled. Establishment of a full shipping difference between prices at Kansas City and Chicago, however, is unlikely, since present ocean freights favor export shipment of Kansas wheat through the Gulf rather than through Chicago and Atlantic ports.

The authors are indebted to J. S. Davis for the section on "New Controls in the United States," and to Rosamond H. Peirce, Pauline S. Armstead, and P. Stanley King for statistics and charts

APPENDIX TABLES

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

(Million bushels)

Year	World ex-Russia[a]			United States	Other chief exporters[b]	Europe ex-Russia				French North Africa[d]	India	Others ex-Russia[a]	USSR
	Total[a]	Northern Hemisphere	Southern Hemisphere			Total	Lower Danube[c]	France, Italy, Germany	Others				
1932.....	3,874	3,355	519	757	898	1,518	222	825	471	75	337	289	744[e]
1933.....	3,810	3,268	542	552	745	1,742	367	867	508	70	353	348	1,019
1934.....	3,490	3,046	444	526	650	1,546	249	738	559	97	350	321	1,117
1935.....	3,553	3,184	369	626	567	1,575	302	739	534	70	363	352	1,133
1936.....	*3,507*	3,038	*469*	627	620	1,479	384	641	454	50	352	*379*	*960*
1937[f].....	*3,764*	*3,340*	*424*	874	536	*1,528*	349	*703*	*476*	70	366	*390*	...
1937[g].....	*3,802*	*3,368*	*434*	874	548	*1,552*	359	713	*480*	72	366	*391*	*1,200*

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

[a] Excludes China, Iran, and Iraq.
[b] Canada, Australia, Argentina.
[c] Hungary, Yugoslavia, Rumania, Bulgaria.
[d] Morocco, Algeria, Tunis.
[e] Not fairly comparable with data for later years.
[f] As of about Jan. 20, 1938.
[g] As of about May 15, 1938.

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

(Million bushels)

Year	U.S. winter	U.S. spring	Canada	Australia	Argentina	Uruguay	Chile	Brazil, Peru	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis
1932...	491.8	265.1	443.1	213.9	240.9	5.4	28.7	8.85	64.5	53.4	55.5	48.1	28.0	29.2	17.5
1933...	376.5	175.2	281.9	177.3	286.1	14.7	35.3	7.98	96.4	96.6	119.1	55.5	28.9	32.0	9.2
1934...	438.0	88.4	275.8	133.4	240.7	10.7	30.1	7.13	64.8	68.3	76.6	39.6	39.6	43.5	13.8
1935...	465.3	161.0	281.9	144.2	141.5	15.1	31.9	7.38	84.2	73.1	96.4	47.9	20.0	33.5	16.9
1936...	519.9	106.9	219.2	151.4	249.2	9.2	28.6	....	87.8	107.4	128.7	60.4	12.2	29.8	8.1
1937[a]..	685.1	188.9	182.4	161.8	192.0	15.0	....	....	69.9	86.3	136.0	56.5	18.4	34.0	17.6
1937[b]..	685.1	188.9	182.4	180.5	184.8	15.1	....	....	69.9	86.3	138.2	64.9	20.9	33.2	17.6

Year	United Kingdom	Eire	France	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium[c]	Netherlands	Denmark	Norway	Sweden	Spain	Portugal
1932...	43.6	.83	*363.8*	276.9	183.8	53.7	12.2	4.00	16.1	12.8	11.0	.75	24.1	184.2	23.8
1933...	62.4	1.98	362.3	298.5	205.9	72.9	14.6	4.96	16.1	15.3	11.5	.76	26.3	138.2	15.1
1934...	69.8	3.80	338.5	233.1	166.5	50.0	13.3	5.52	17.9	18.0	12.8	1.20	27.8	186.8	24.7
1935...	65.4	6.69	285.0	282.8	171.5	62.1	15.5	5.97	17.1	16.7	14.7	1.77	23.6	158.0	22.1
1936...	55.3	7.84	254.6	224.6	162.1	55.6	14.0	4.47	17.2	15.4	11.3	2.09	21.6	121.5	8.7
1937[a]..	56.4	*7.20*	*246.2*	296.0	160.7	51.3	14.5	6.16	*15.9*	13.0	13.6	2.52	26.5	*135.0*	14.5
1937[b]..	56.4	6.99	253.5	296.0	163.6	51.3	14.5	6.17	16.8	13.0	13.6	2.50	25.7	*135.0*	14.5

Year	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Turkey	Other Near East[d]	Egypt	Japan	Chosen	Manchukuo	Mexico	South Africa	New Zealand
1932...	49.5	9.4	5.29	2.08	1.48	17.1	69.0	12.9	52.6	32.8	9.0	39.4	9.7	10.6	11.06
1933...	79.9	8.2	6.72	2.45	2.46	28.4	98.2	16.7	40.0	40.4	8.9	52.5	12.1	11.5	9.04
1934...	76.4	10.5	8.05	3.11	3.28	25.7	99.7	21.5	37.3	47.7	9.3	23.9	11.0	16.4	5.93
1935...	73.9	10.1	6.52	2.27	4.23	27.2	92.6	24.8	43.2	48.7	9.7	37.3	10.7	20.2	8.86
1936...	78.4	8.0	5.27	2.43	5.26	19.5	141.6	20.3	45.7	45.2	8.1	35.2	13.6	16.1	7.17
1937[a]..	67.6	8.0	6.32	2.77	6.32	*29.0*[e]	140.3	....	45.4	50.4	11.0	39.6	11.2	10.9	....
1937[b]..	70.8	8.1	6.30	2.77	6.32	*29.0*[e]	140.3	24.0	45.4	50.4	10.2	39.6	11.2	10.2	5.73

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

[a] As of about Jan. 20, 1938.
[b] As of about May 15, 1938.
[c] Including Luxemburg.
[d] Syria and Lebanon, Palestine, Cyprus.
[e] Our approximation.

TABLE III.—WHEAT RECEIPTS IN NORTH AMERICA, NOVEMBER–APRIL 1937–38, WITH COMPARISONS*

(*Million bushels*)

Year	United States (13 primary markets)							Canada (country elevators and platform loadings)						
	Nov.	Dec.	Jan.	Feb.	March	Apr.	July–Apr.	Nov.	Dec.	Jan	Feb.	March	Apr.	Aug.–Apr.
1932–33	17.6	13.9	12.8	9.9	12.7	15.8	230.0	38.1	18.5	11.3	11.5	20.8	10.3	329.8
1933–34	11.6	11.2	8.7	10.0	9.1	8.4	163.1	23.0	10.3	10.4	8.3	9.1	7.3	196.0
1934–35	9.2	7.8	5.1	3.8	4.7	6.4	141.7	23.6	12.5	3.9	8.8	8.1	6.6	200.7
1935–36	14.5	9.9	9.3	5.5	9.8	7.4	203.6	21.0	14.2	3.2	2.1	7.2	4.6	198.8
1936–37	10.7	10.4	7.8	6.1	7.6	8.9	191.1	9.0	8.0	3.2	3.2	5.9	4.2	154.5
1937–38	16.1	10.6	10.9	8.5	10.6	10.9	299.7	10.3	5.4	5.7	2.7	4.4	4.6	115.8

* United States data unofficial, compiled from *Survey of Current Business* (prior to June 1933, for 14 markets including Toledo); Canadian data computed from official figures given in *Canadian Grain Statistics*.

TABLE IV.—WHEAT VISIBLE SUPPLIES, JANUARY–MAY 1938, WITH COMPARISONS*

(*Million bushels*)

Date	Total	United States grain		Canadian grain		Total North America	Afloat to Europe	U.K. ports	Total U.K. and afloat	Australia	Argentina
		United States	Canada	Canada	United States						
Jan. 1											
1933	549.7	168.5	6.9	224.2	13.6	413.2	36.4	7.5	43.9	83.0	9.6
1934	476.5	132.5	2.3	227.6	14.0	376.4	20.7	19.1	39.8	50.0	10.3
1935	447.8	91.0	1.0	230.2	27.6	349.8	25.4	16.1	41.5	45.5	11.0
1936	441.5	76.7	.0	226.4	34.8	337.9	20.2	10.3	30.5	68.0	5.1
1937	267.1	62.4	.0	81.6[a]	27.8	171.8	35.9	9.0	44.9	44.5	5.9
1938	283.7	94.5	1.9	49.2[a]	4.7	150.3	31.4	13.0	44.4	82.0	7.0
May 1											
1933	478.9	124.4	5.4	217.3	2.5	349.6	40.9	12.5	53.4	61.5	14.4
1934	454.1	88.8	2.2	207.4	1.5	299.9	30.5	14.4	44.9	88.0	21.3
1935	370.1	39.5	1.0	203.9	11.9	256.3	30.1	10.8	40.9	54.5	18.4
1936	309.6	40.7	.0	173.3	11.9	225.9	33.2	9.8	43.0	31.5	9.2
1937	210.0	26.3	.0	55.9[a]	10.3	92.5	51.0	12.3	63.3	39.5	14.7
1938											
Feb. 1	274.9	79.2	1.5	47.9[a]	3.4	132.0	37.0	10.4	47.4	85.2	10.3
Mar. 1	255.1	66.5	1.3	44.3[a]	2.0	114.1	43.3	10.5	53.8	76.5	10.7
Apr. 1	229.2	54.4	1.0	42.1[a]	1.1	98.6	42.4	10.2	52.6	65.5	12.5
May 1	197.2	43.2	.7	38.0[a]	.7	82.6	42.0	9.4	51.4	50.0	13.2

* 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*, and (for stocks outside North America) Broomhall's *Corn Trade News*.

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

TABLE V.—WHEAT STOCKS IN THE UNITED STATES AND CANADA, ABOUT APRIL 1, 1933–38*

(*Million bushels*)

Year	United States						Canada						
	On farms	In country mills and elevators	Commercial stocks	In city mills[a]	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators[b]	In terminal elevators	In transit	In flour mills[c]	Total in five positions	Canadian grain in U.S.
1933	183.2	95.9	135.5	100.3	514.9	6.4	82.6	113.8	105.7	9.8	2.6	314.5	6.0
1934	119.3	87.2	97.1	91.7	395.3	2.2	72.1	109.9	108.6	6.7	1.4	298.7	5.7
1935	98.7	68.1	51.9	74.9	293.6	1.0	60.5	103.1	111.5	5.1	2.8	283.0	16.2
1936	99.0	50.0	49.9	72.0	270.9	.0	46.8	77.9	112.2	6.6	3.3	246.8	16.4
1937	71.5	39.0	34.7	66.0	211.2	.0	44.2	29.7	34.3	4.4	2.6	115.2	14.1
1938	124.9	73.1	54.4	79.9	332.3	1.0	39.0	18.5	23.4	1.4	1.9	84.2	1.1

* Official data of U.S. Department of Agriculture and Dominion Bureau of Statistics.

[a] Estimates of U.S. Department of Agriculture, based on stocks in city mills reported to the Census Bureau, raised to allow for stocks in non-reporting mills.

[b] Includes private terminal elevators and flour mills in Western Division.

[c] In Eastern Division only.

TABLE VI.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, JULY–APRIL 1937–38, WITH COMPARISONS*

(*Thousand barrels*)

Month or period	Production						Net exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total								
	1935–36	1936–37	1937–38	1935–36	1936–37	1937–38	1935–36	1936–37	1937–38	1935–36	1936–37	1937–38
July	7,387	9,416	8,415	7,825	10,028	8,914	296	320	308	7,529	9,708	8,606
Aug.	8,082	9,148	8,678	8,561	9,753	9,193	315	356	430	8,246	9,397	8,763
Sept.	9,055	8,708	9,234	9,602	9,284	9,782	314	470	496	9,288	8,814	9,286
Oct.	9,897	9,120	9,446	10,495	9,733	10,006	356	361	533	10,139	9,372	9,473
Nov.	8,274	8,019	8,698	8,784	8,558	9,234	302	307	527	8,482	8,251	8,707
Dec.	7,175	8,216	8,168	7,617	8,778	8,670	294	401	510	7,323	8,377	8,160
Jan.	8,644	8,180	8,116	9,176	8,739	8,625	298	358	454	8,878	8,381	8,171
Feb.	8,401	7,536	7,572	8,927	8,051	8,047	310	398	430	8,617	7,653	7,617
Mar.	8,252	8,402	8,600	8,769	8,939	9,149	328	370	518	8,441	8,569	8,631
Apr.	7,840	8,340	....	8,341	8,844	8,430[a]	371	378	500[a]	7,970	8,466	7,930[a]
July–Apr.	83,007	85,085	....	88,097	90,707	90,050[a]	3,184	3,719	4,706[a]	84,913	86,988	85,344[a]
July–June	98,421	100,264	....	104,505	106,803	....	3,886	4,495	...	100,619	102,308	....

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

[a] Preliminary estimate.

TABLE VII.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM JANUARY 1938*

(*Million bushels*)

Week ending	Total	Shipments from							Shipments to Europe				To ex-Europe		
		North America	Argentina[a]	Australia	South Russia	Danube	India	Other countries[b]	Total	United Kingdom	Orders	Continent	Total	Brazil	Others
Jan. 8	7.86	3.57	1.06	.81	1.61	.81	.00	.00	6.44	1.34	1.00	4.10	1.42	.59	.83
15	10.38	4.10	1.66	3.59	.29	.55	.19	.00	8.65	3.08	2.93	2.64	1.73	.64	1.09
22	10.43	3.83	2.51	2.46	.76	.67	.18	.02	8.37	3.21	2.10	3.06	2.06	1.15	.91
29	10.71	3.61	2.19	3.18	.46	1.25	.00	.02	8.62	3.69	2.46	2.47	2.09	.55	1.54
Feb. 5	10.99	3.70	3.01	2.18	.46	1.44	.20	.00	8.79	1.93	2.44	4.42	2.20	1.22	.98
12	10.90	3.86	2.22	3.46	.30	.78	.10	.18	8.52	2.92	1.83	3.77	2.38	.84	1.54
19	12.28	4.35	3.48	3.45	.00	.77	.00	.23	10.50	2.54	3.06	4.90	1.78	1.05	.73
26	12.54	3.60	3.30	3.89	.13	1.06	.30	.26	11.26	2.43	3.30	5.53	1.28	.11	1.17
Mar. 5	10.48	3.32	2.57	3.04	.08	1.02	.11	.34	8.37	1.73	2.16	4.48	2.11	1.16	.95
12	10.58	2.41	2.22	4.53	.23	.77	.00	.42	8.51	2.24	2.29	3.98	2.07	.43	1.64
19	11.69	3.62	1.97	3.85	.82	1.09	.08	.26	9.51	1.74	1.97	5.80	2.18	.94	1.24
26	9.26	3.39	1.25	2.41	.70	1.03	.29	.19	7.13	1.75	1.42	3.96	2.13	.51	1.62
Apr. 2	9.69	2.42	1.68	4.18	.27	.80	.13	.21	7.93	1.33	3.62	2.98	1.76	.58	1.18
9	9.64	1.46	1.03	4.52	1.44	.87	.10	.22	6.65	1.83	.82	4.00	2.99	.64	2.35
16	12.12	2.49	1.89	6.01	.74	.85	.00	.14	8.31	2.96	2.90	2.45	3.81	1.14	2.67
23	9.81	2.34	1.82	3.99	.38	.89	.26	.13	7.84	2.24	2.62	2.98	1.97	.64	1.33
30[c]	12.61	4.12	1.37	5.48	.90	.26	.09	.39	10.61	3.58	3.57	3.46	2.00	...	...
May 7[c]	10.06	3.72	1.48	3.95	.20	.27	.14	.30	8.15	2.63	3.62	1.90	1.91	...	...

* Here converted from data in Broomhall's *Corn Trade News*.

[a] Including Uruguay. [b] North Africa, etc. [c] Preliminary.

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

(*Million bushels*)

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

Month or period	United States[a]	Canada	Australia	Argentina	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	Turkey	India	USSR
Aug.	6.64	7.77	6.06	4.05	1.03	1.58	4.15	.30	.23	.79	.49	.57	2.13	2.70
Sept.	4.58	7.18	3.38	3.40	.70	1.41	4.62	.84		.63	.45	.15	2.13	6.85
Oct.	9.26	11.31	5.68	2.86	.78	.83	5.96	.84	.34	1.04	.68	.02	1.56	17.43
Nov.	8.68	15.88	5.92	1.73	1.16	.24	3.94	1.20	.20	.80	.06	.02	1.30	
Dec.	9.49	7.91	9.54	6.06	1.52	.09	2.15	.64	(.06)	1.48	.26	.09	1.45	4.44
Jan.	10.59	8.09	10.25	9.81	.47	.05	1.67	1.02	.18	...	.28	...	.54	1.93
Feb.	10.75	3.80	13.60	11.41	.89	.04	2.23	.32	...	...	...	...	.31	...
Mar.[b]	10.94	4.60[c]	....	7.10	.74	.10	2.75	.87	...	...	...	...	...	...
Aug.-Mar. 1937-38[d]	70.93	66.54	69.00	46.42	7.29	4.34	27.47	6.03	1.00	7.00	2.50	2.00	9.90	36.50
1936-37	(19.89)	156.38	63.89	126.61	19.75	13.33	25.62	5.07	(1.69)	5.40	(.71)	3.85	8.70	3.18
Average[e]	.66	154.39	76.74	93.92	13.20	3.71	6.29	2.37	3.03	7.46	1.81	...	1.93	16.25

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

Month or period	United Kingdom	Eire	France[f]	Italy	Germany	Czechoslovakia	Austria	Switzerland	Belgium[g]	Netherlands	Denmark	Norway	Sweden	Portugal
Aug.	17.42	1.06	.99	1.20	6.64	(.95)	.20	.80	2.93	1.95	.46	.43	.17	.01
Sept.	13.06	1.07	1.91	.40	2.94	(.06)	.41	1.30	3.94	2.07	.36	.47	.12	.00
Oct.	17.73	1.20	.69	(.32)	2.33	(.05)	.46	1.41	3.73	1.96	.49	.38	.17	.03
Nov.	16.67	1.16	1.32	(.23)	1.90	.30	.79	1.15	5.00	2.25	.55	1.36	(.19)	.03
Dec.	16.59	1.62	1.58	(.15)	2.04	.11	.70	1.68	4.50	1.88	.47	.28	(.41)	.04
Jan.	13.30	.81	.67	.02	2.87	(.41)	.53	1.27	1.75	2.16	.63	.82	(.62)	...
Feb.	14.68	1.48	1.33[h]	.26	5.07	.02	...	1.30	1.84	1.83	.33	.28	(.42)	...
Mar.[b]	16.21	...	1.32[h]	(.05)	3.18	.25	...	1.54	2.84	2.40	...	...	...	...
Aug.-Mar., 1937-38[d]	125.66	9.30	9.81	1.13	26.97	(.79)	4.30	10.45	26.53	16.50	3.80	4.70	(1.50)	1.50
1936-37	136.19	8.34	6.20	24.22	1.75	(3.91)	5.58	11.47	28.04	13.71	4.64	4.87	(.09)	.07
Average[e]	136.98	10.68	8.77	8.25	.14	.58	5.77	11.66	27.47	15.32	8.48	5.26	.66	.51

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

Month or period	Poland	Lithuania	Latvia	Estonia	Finland	Greece	Syria, Lebanon	Egypt	Japan	Manchukuo	China[i]	Cuba[j]	South Africa	New Zealand
Aug.	.00	.00	.29	.02	.26	1.41	.05	(.00)	(.09)	.57	.20	.44	(.01)	.19
Sept.	.00	.00	.00	.00	.21	1.15	(.02)	(.01)	(.56)	(.04)		.37	.00	.17
Oct.	.00	.00	.00	.00	.22	.92	.02	(.03)	(.74)	.45	.23	.40	.00	.13
Nov.	.00	.00	.08	.00	.17	.92	.12	(.09)	(1.22)	.14	.17	.44	.01	.24
Dec.	(.02)	.00	.12	.00	.09	.91	.21	(.29)	(.99)	.00	.24	.49	.00	.55
Jan.	(.07)	.00	.17	.00	.62	...	.01	...	(.45)	...	...	.49	.00	.53
Feb.	(.07)	...	...	...	...	...	...	...	(1.01)	...	...	.33	...	...
Mar.[b]	...	...	...	...	...	...	...	...	(1.28)	...	...	.47	...	...
Aug.-Mar. 1937-38[d]	(.25)	.00	.90	.02	2.10	12.00	.50	(.70)	(6.34)	1.50	...	3.43	.05	1.90
1936-37	(5.26)	.00	.32	.14	2.21	14.03	(1.70)	(.08)	3.18	3.66	.22	3.19	.00	.31
Average[e]	(2.30)	(.49)	(.24)	(.01)	2.61	10.21	(.11)	.48	2.20	12.64[k]	11.86	2.87	.25	.60

* Data from official sources, in large part through International Institute of Agriculture. Dots (...) indicate that data are not available.

[a] Includes shipments to possessions.
[b] Figures preliminary for many countries.
[c] Gross exports for April were 2.47 million bushels.
[d] Including our estimates for missing monthly data.
[e] Five years ending 1936-37.
[f] Net trade in "commerce général."
[g] Including Luxemburg.
[h] Net trade in "commerce spécial."
[i] Apparently not including some imports from Japan in 1937-38; see p. 340.
[j] Gross imports of flour.
[k] Four years ending 1936-37.

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

(*Million bushels*)

Year	Domestic supplies			Domestic utilization				Surplus over domestic use[c]	Net exports			Year-end stocks
	Initial stocks	New crop	Total	Milled (net)	Seed use	Balancing item[a]	Total[b]		Total	To Mar. 31	From Apr. 1	
	A. UNITED STATES (JULY–JUNE)											
1932–33.....	375	757	1,132	484	84	+150	718	414	36	33	3	378
1933–34.....	378	552	930	440	78	+110	628	302	28	21	7	274
1934–35.....	274	526	800[d]	450	83	+120	653	147	(1)[e]	(1)[e]	0	148
1935–36.....	148	626	774[d]	466	87	+111	664	110	(28)[e]	(24)[e]	(4)[e]	138[f]
1936–37.....	138[f]	627	765[d]	471	96	+130	697	68	(23)[e]	(23)[e]	0	91[f]
1937–38[g].....	91[f]	874	965	480	95	+ 95	670	295	105	..	..	190
1937–38[h].....	91[f]	874	965	470	95	+107	672	293	103	73	30	190
	B. CANADA (AUGUST–JULY)											
1932–33.....	130	443	573	44	36	+19	99	474	264	196	68	210
1933–34.....	210	282	492	43	33	+29	105	387	194	133	61	193
1934–35.....	193	276	469	43	32	+27	102	367	165	126	39	202
1935–36.....	202	282	484	45	33	+44	122	362	254	161	93	108
1936–37.....	108	219	327	44	34	+21	99	228	195	156	39	33
1937–38[g].....	33	182	215	44	35	+21	100	115	80	..	..	35
1937–38[h].....	33	182	215	43	33	+29	105	110	80	67	13	30
	C. AUSTRALIA (AUGUST–JULY)											
1932–33.....	50	214	264	33	16	+10	59	205	150	111	39	55
1933–34.....	55	177	232	33	13	+15	61	171	86	60	26	85
1934–35.....	85	133	218	32	13	+ 7	52	166	109	75	34	57
1935–36.....	57	144	201	33	13	+10	56	145	102	74	28	43
1936–37.....	43	151	194	33	15	+ 3	51	143	102	64	38	41
1937–38[g].....	40	162	202	34	15	+ 3	52	150	110	..	..	40
1937–38[h].....	41	181	222	34	15	+ 3	52	170	120	69	51	50
	D. ARGENTINA (AUGUST–JULY)											
1932–33.....	65	241	306	65	24	+10	99	207	132	73	59	75
1933–34.....	75	286	361	66	23	+ 7	96	265	147	89	58	118
1934–35.....	118	241	359	69	17	+ 6	92	267	182	127	55	85
1935–36.....	85	141	226	69	21	+ 1	91	135	70	53	17	65
1936–37.....	65	249	314	70	23	+ 8	101	213	162	127	35	51
1937–38[g].....	50	192	242	71	23	+ 6	100	142	82	..	..	60
1937–38[h].....	51	185	236	71	23	+ 6	100	136	73	46	27	63

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

[a] Total domestic utilization minus quantities milled for food and used for seed.

[b] Total domestic supplies less surplus over domestic use.

[c] Summation of net exports and year-end stocks.

[d] Not including net imports.

[e] Net imports.

[f] Excluding new-crop wheat in some positions.

[g] Estimates as of January 1938.

[h] Estimates as of May 1938.

TABLE X.—SELECTED WHEAT PRICES, WEEKLY FROM JANUARY 1938*

(U.S. cents per bushel)

Week ending	Futures							United States cash					
	Liverpool		Winnipeg		Buenos Aires	Chicago		Basic cash (Chi.)	No. 2 H.W. (K. C.)	No. 2 R.W. (St. L.)	No. 1 Dk.N.S. (Mnpls.)	No. 2 Hd. A.D. (Mnpls.)	Western White (Seattle)
	May	July-Oct.[a]	May	Oct.	Mar.-May[b]	May	Sept.						
Jan. 8	114	114	126	...	109	95	..	96	98	97	126	109	87
15	115	115	127	101	112	97	90	98	105	102	131	110	90
22	114	114	125	101	110	96	90	98	104	100	126	108	89
29	113	113	126	101	109	94	89	97	102	100	122	109	90
Feb. 5	113	112	127	100	110	94	90	97	101	100	129	108	91
12	114	113	128	101	109	95	91	98	103	100	125	110	90
19	111	111	127	98	107	93	89	96	99	98	117	107	89
26	111	110	128	98	107	94	90	96	99	99	128	112	90
Mar. 5	111	109	125	96	106	92	87	94	96	96	130	112	88
12	108	106	120	93	104	89	85	91	92	91	113	104	87
19	104	103	118	92	102	87	85	89	90	90	...	101	86
26	100	98	116	90	99	86	84	88	90	89	...	104	85
Apr. 2	100	99	121	89	100	86	83	88	88	88	110	102	85
9	98	97	123	88	99	83	81	85	84	86	109	99	82
16	101	98	125	89	100	84	82	86	85	85	110	98	80
23	103	99	124	90	99	84	83	87	86	86	115	101	..
30	102	98	119	89	98	81	81	85	83	83	108	101	..
May 7	99	96	116	87	97	80	79	84	81	80	113	93	..

Week ending	British parcels	Liverpool (Tuesday prices)					European domestic				Winnipeg		Buenos Aires 80-kilo[h]
		No. 1 Man.[c]	No. 3 Man.[c]	No. 1 Dk. H.W.[d]	Arg. Rosafé[e]	Australian[f]	Great Britain	France[g]	Germany[g]	Italy[g]	Wtd. average	No. 3 Man.	
Jan. 8	125	172	145	135	131	114	112	171	228	198	136	125	108
15	121	182	156	145	137	118	112	169	228	198	137	122	111
22	136	172	154	142	137	118	112	167	228	198	136	118	110
29	132	171	155	140	137	118	112	165	228	198	136	121	109
Feb. 5	127	169	153	136	133	118	111	167	229	198	134	121	110
12	136	168	154	137	133	118	110	168	229	198	132	122	109
19	136	166	152	136	132	116	110	167	229	198	130	121	107
26	123	165	152	132	128	114	108	166	229	198	134	122	108
Mar. 5	121	163	144	132	127	114	106	167	228	198	128	118	107
12	115	158	134	127	125	113	105	164	228	198	124	114	104
19	110	154	130	122	125	109	103	158	228	198	124	112	102
26	110	154	130	122	124	101	102	156	228	198	123	111	98
Apr. 2	113	164	134	123	123	103	101	159	226	198	133	118	100
9	114	166	133	119	121	99	101	160	226	198	134	117	...
16	110	162	136	121	121	103	101	164	226	198	136	118	...
23	119	164	138	120	120	104	103	158	226	198	128	116	...
30	...	149	131	119	124	104	105	159	226	198	118	112	...

* For methods of computation see WHEAT STUDIES, December 1936, XIII, 230–31. For Great Britain, prices are from *The London Grain, Seed and Oil Reporter*, Broomhall's *Corn Trade News*, and *The Agricultural Market Report;* Canada, *Grain Trade News*, and *Canadian Grain Statistics;* Buenos Aires, *Revista Oficial;* United States, *Daily Trade Bulletin* and *Crops and Markets;* France, *Le bulletin des halles;* Germany, *Wirtschaft und Statistik;* Italy, International Institute of Agriculture *Monthly Crop Report* . . . . Prices are converted to U.S. cents at noon buying rates for cable transfers. Dots (...) indicate no quotations.

[a] July future through March 19.

[b] March future through March 12.

[c] To London.

[d] Dark Hard Winter, to London; duty added.

[e] Duty added.

[f] Cargoes.

[g] Fixed prices. Irregularities in French prices due to fluctuations in exchange rates; prices were raised 2 francs per quintal monthly, starting with 185 in January.

[h] December 18, 106; December 25, 104; January 1, 103.

WHEAT STUDIES *of the* FOOD RESEARCH INSTITUTE

VOLUME XII

No. 1. *World Wheat Survey and Outlook, September 1935.* September 1935. $.50
No. 2. *World Wheat Prices, Canadian-Argentine Spreads, and the Ottawa Agreement.* October 1935. $.50
No. 3. *Japanese Self-Sufficiency in Wheat.* November 1935. $.75
No. 4. *The World Wheat Situation, 1934–35: A Review of the Crop Year.* December 1935. $1.00
No. 5. *World Wheat Survey and Outlook, January 1936.* January 1936. $.50
No. 6. *The Stale-Bread Problem.* February 1936. $.50
No. 7. *Canadian Wheat Stabilization Operations, 1929–35.* March 1936. $.50
No. 8. *New Data on United States Flour Production since 1899.* April 1936. $.75
No. 9. *World Wheat Survey and Outlook, May 1936.* May 1936. $.50
No. 10. *World Wheat Utilization since 1885–86.* June 1936. $1.00

VOLUME XIII

No. 1. *World Wheat Survey and Outlook, September 1936.* September 1936. $.60
No. 2. *The Timing of Wheat Marketing in Western Canada.* October 1936. $1.00
No. 3. *Wheat Problems and Policies in Germany.* November 1936. $1.25
No. 4. *The World Wheat Situation, 1935–36: A Review of the Crop Year.* December 1936. $1.25
No. 5. *World Wheat Survey and Outlook, January 1937.* January 1937. $.60
No. 6. *World Wheat Acreage, Yields, and Climates.* March 1937. $1.25
No. 7. *Soviet Agricultural Reorganization and the Bread-Grain Situation.* April 1937. $1.00
No. 8. *World Wheat Survey and Outlook, May 1937.* May 1937. $.60

VOLUME XIV

No. 1. *World Wheat Survey and Outlook, September 1937.* September 1937. $.60
No. 2. *Price Effects of Canadian Wheat Marketing.* October 1937. $1.00
No. 3. *Trends of Yield in Major Wheat Regions since 1885. Part I.* November 1937. $.75
No. 4. *The World Wheat Situation, 1936–37: A Review of the Crop Year.* December 1937. $1.25
No. 5. *World Wheat Survey and Outlook, January 1938.* January 1938. $.60
No. 6. *Trends of Yield in Major Wheat Regions since 1885. Part II.* March 1937. $.75
No. 7. *Monetary Influences on Postwar Wheat Prices.* April 1938. $1.00
No. 8. *World Wheat Survey and Outlook, May 1938.* May 1938. $.60

RECENT CONTRIBUTIONS FROM THE FOOD RESEARCH INSTITUTE

(Numbered reprints available free on request)

G 74. "Differential Price Behavior as a Subject for Commodity Price Analysis," Holbrook Working. *Econometrica,* October 1935
G 75. "Agricultural Fundamentalism," Joseph S. Davis. In *Economics, Sociology & the Modern World,* edited by Norman E. Himes (Cambridge, Harvard University Press, 1935)
G 76. "International Trade in the Recovery Program," Joseph S. Davis. *Proceedings of the Western Farm Economics Association, 1936.* (Mimeographed)
G 77. "On Measurement of Relative National Standards of Living," M. K. Bennett. *Quarterly Journal of Economics,* February 1937
G 78. "Statistics and Social Engineering," Joseph S. Davis. *Journal of the American Statistical Association,* March 1937
G 79. Discussion of "Past and Present Theory regarding Futures Trading" (by G. Wright Hoffman), Holbrook Working. *Journal of Farm Economics,* February 1937
G 80. "Observations on Agricultural Policy," Joseph S. Davis. *Journal of Farm Economics,* November 1937
G 81. "Standards of Living as a Factor in International Relations," Carl L. Alsberg. *International Affairs,* November–December 1937
G 82. "Some Unsettled Questions in Commodity Price Theory," Holbrook Working. *Report of Third Annual Research Conference on Economics and Statistics, June 28 to July 23, 1937*
G 83. "The Economics of the Ever-Normal Granary," Joseph S. Davis. *Journal of Farm Economics,* February 1938

FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA

A research department of Stanford University, established in 1921 jointly by Carnegie Corporation of New York and the Board of Trustees of the Leland Stanford Junior University, for research in the production, distribution, and consumption of food.

DIRECTOR

JOSEPH S. DAVIS

ECONOMISTS

MERRILL K. BENNETT
HOLBROOK WORKING

ASSOCIATE ECONOMISTS

HELEN C. FARNSWORTH
VLADIMIR P. TIMOSHENKO

CONSULTANT

CARL L. ALSBERG
University of California

DIRECTOR-EMERITUS

ALONZO E. TAYLOR
Minneapolis, Minnesota

PUBLICATIONS

WHEAT STUDIES

Now published monthly from September through May except in February. Subscription, $6.00. The volume includes a comprehensive annual review of *The World Wheat Situation*, three *Survey and Outlook* issues at four-month intervals, and four special studies. Bound Volumes I–XIII, $6.00 each. (Recent issues listed on inside back cover.)

GRAIN ECONOMICS SERIES

Books on topics in grain economics not suited to full discussion in *Wheat Studies*. Latest issue: V. P. Timoshenko, *Agricultural Russia and the Wheat Problem*. September 1932. 572 pp. $3.00.

FATS AND OILS STUDIES

Books on fats and oils of animal and vegetable origin, dealing primarily with economic aspects—production, trade, prices, and utilization—but with due reference to technical knowledge. Latest issue: G. M. Weber and C. L. Alsberg, *The American Vegetable-Shortening Industry: Its Origin and Development*. June 1934. 359 pp. $3.50.

MISCELLANEOUS PUBLICATIONS

Books embodying the results of research in fields other than those covered by the series listed above. Latest issue: H. L. van de Sande-Bakhuyzen, *Studies on Wheat Grown under Constant Conditions*. June 1937. 400 pp. $4.00.

CONTRIBUTIONS

Reprints from periodicals of articles by members of the Food Research Institute.

List of publications available free on request. Address all communications to

FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA

European Sales Agents:

Great Britain: P. S. KING & SON, LTD., 14, Great Smith Street, Westminster, S. W. 1, London
Continental Europe: MARTINUS NIJHOFF, 9 Lange Voorhout, The Hague, Holland

ANALYTICAL INDEXES

VOLUME XIV, 1937–38

The first of the following indexes covers the Review of the Crop Year 1936–37 and the three World Wheat Survey and Outlook numbers. It has subdivisions for Text, Charts, and Appendix Tables. The special studies are indexed separately, except that one index covers the two related studies.

REVIEW AND SURVEY NUMBERS

TEXT

AAA, 139

Acreage, wheat: abandonment, 8, 12, 107, 108, 185; allotments, 346–48; influence of government policies on, 106, 111, 137 n., 140; sown or harvested, 7, 8, 12, 106–07, 110, 111, 119, 185, 343–45

Advertising campaign, bread (Great Britain), 140 n.

Agricultural Adjustment Acts (United States), 139, 148, 157, 213, 346–49

Agricultural conservation programs (United States), 106 n., 155

Argentina: bulk handling in, 123; Grain Regulating Board, 21, 121, 123, 151; National Grain and Elevator Commission, 123

Austria, German absorption of, 332

Barley, 114–16, 119, 191

Beveridge, Sir William, 157

Blum, Léon, 125

Board buying prices, 122–26, 151, 155

Bread prices, 140 n.

Broomhall, G. J. S. (*see also* Shipments): forecasts of shipments, 26, 131 n., 207–11, 341; method of reporting shipments, 130 n.

Bulk handling in Argentina, 123

Business activity, 105, 202, 331–32, 351

California, wheat shipments to, 129

Canadian Wheat Board, 21, 121, 122–23

Carryovers, wheat (*see also* Outlook), 1937, with comparisons, 19–21, 23, 120–22, 132, 192, 211, 321

Census, Bureau of the, 159–60

Central Bank for Cooperatives, 122

"Certificate final," 187, 196

Chiang Kai-shek, 103

Chicago Board of Trade, 129–30

Coffee, 143

Commodity Credit Corporation, 346, 349

Commodity Exchange Act and Administration, 130

Consumption, *see* Feed use; Food use; Outlook; Utilization

Corn (maize), 27, 114–16, 138, 149, 190–91, 322, 324, 347

Costs of wheat production, 154, 155 n.

Cotton, 143, 347, 348

Crop developments, wheat (*see also* Production; Revisions): 1936 crops, 107–08, 148–49; 1937 crops, 7–12, 150, 152, 153, 154; 1938 crops, 332–33, 338–41

Crop estimates (*see also* Production; Revisions), 323–24

Crop scare, 9–10, 12–18, 201

Crop year 1936–37, review of, 103–82; summarized, viii, 103

Currency changes, 104, 106, 125, 126, 146, 147

Czechoslovakian Grain Monopoly, 3, 20, 21, 137

Davis, Joseph S., 103, 346 n.

Department of Agriculture, U.S., 2, 10, 211, 213

Disappearance, *see* Utilization

Drought: in 1936, 8, 9, 11, 12, 15–16, 108, 111; in 1937, 112, 138, 149, 186, 192; in 1938, 332–33, 345, 349–50

Durum wheat, 112–13, 138, 147, 187, 323, 339, 342

Economist (London), 105, 134, 332, 351

Embargoes on wheat exports, 341 n.

Ethiopian campaign, 156

"Ever-normal granary," 157

Exports, *see* Flour; Subsidies; Trade

Farm Credit Administration, 122, 129

Farmers, *see* Returns to wheat growers

Farmers National Grain Corporation, 122, 129

Farnsworth, Helen C., 1, 183, 319

Federal Crop Insurance Corporation, 348, 349

Federal Farm Board, 129, 194

Federal Surplus Commodities Corporation, 122

Federation of Agricultural Cooperatives (Italy), 125

Feed grains, 7 n., 27, 114–16, 138, 190–91

Feed use of wheat, 6, 7, 23, 26–27, 29, 114–20, 124, 131, 135, 140, 142, 190, 192, 323–25

Fixed or minimum prices for wheat, 122–26, 128, 137, 143, 147, 155, 156, 215

Flour: consumption, 7, 117–19, 144, 145, 160, 324–25; exports and imports, 118, 139, 140, 142, 144–45; net retention, in United States, 26–27, 117–18; production, in U.S., 117–18, 159–60; "quota payments" on, in Great Britain, 156; stocks, 325; wheat used per barrel of, 27 n., 118, 124, 137, 143, 325

Food (Defense Plans) Department (Great Britain), 157

Food use of wheat, 6–7, 117–19

Forecasts (*see also* Outlook), 22–23, 108, 131

Freight rates, ocean, 19, 30, 103, 134–35, 139, 146, 152, 154, 196, 203, 205, 216, 336

French, H. L., 157

French Wheat Office, 108 n., 125–26, 141, 189, 323, 339

Frosts, 199, 333

Futura Company (Hungary), 124

Futures trading, 130, 143

Garnet wheat, 204, 205

Gold, 331, 332

Governmental measures and policies, *see* Monopolies; Policies; Quotas; Reserves; Subsidies; Tariff duties; Taxes

Grain Futures Administration, 130

Grain Stabilization Corporation, 215

Green, William, 106

Hay, 115

Heat, 8, 9, 11, 114, 186

Holding tendencies, 333, 338

Horn, W. C., 129

Huff, C. E., 129

Imports, *see* Flour; Policies; Tariff duties; Trade

Industrial production, indexes of, 104, 105

Inflation, 331–32

Inskip, Sir Thomas, 157

Insurance, crop-yield, 346, 348–49

International Institute of Agriculture, 104 n., 207–08, 210, 341

International political situation, 16, 32, 103–05, 150, 331–32

International trade, *see* Trade

International Wheat Agreement, 147
Iran (Persia), 112, 137
Iraq, 111–12, 137

Kaoliang, 112, 116
Karachi wheat, 205

Labor controversies, 106
Lewis, John L., 106
Loans on wheat, government, 346–47, 350

Maize, *see* Corn
Mallon, A. E., 139 n.
Mallory, L. D., 20 n.
Marketing, rate of wheat, 9, 21, 121, 124, 126–28, 155, 188–90, 193, 329
Marketing quotas, 346–48
Mill grindings, 117–18, 159–60, 323–25, 342
Mill stocks of wheat and flour, 121–22
Millet, 112, 116
Milling in bond, 138–39, 141
Milling regulations, 142, 143, 322, 323
Monopolies, government wheat, 3, 20, 21, 121, 124–25, 130, 137, 197
Moody's price index of 15 sensitive commodities, 330–31, 351

National Wheat Board, *see* French Wheat Office

Oats, 114, 116, 191
Oslo Agreement, 105
Ottawa Agreement, 26
Outlook, wheat: acreage, 213, 215, 343–45; carryovers, 26–28, 121 n., 199, 200–03, 211–12, 341–43; crop, 12, 213, 337, 343–46, 349–50; international trade, 21–26, 108, 183, 187, 198, 199, 207–12, 338–41; prices and price spreads, 28–30, 212–16, 349–52; shipments, 26, 131, 193, 207, 338, 341; supply and disappearance, 21–22, 212, 306; utilization, 22, 26–27, 190–93, 322–25

Pacific Northwest: exports, 5, 18–19, 139, 143; marketings, 126, 129, 154; prices, 18–19, 153–54, 206–07, 338; prospective influence of wheat loans in, 347; rail shipments, 19, 129; strike, 106, 129, 139, 143
"Parity prices," 125, 147–48, 346
Permanent Wheat Committee (Italy), 125
Philippines, flour trade with, 5, 122, 139, 145
Policies affecting wheat, 5, 103–04, 106, 107, 111, 112, 120–26, 130, 140–46, 156–57, 183, 189–92, 196–97, 212, 322–23, 331–33, 339, 342–43, 348–49
Political situation, 16, 32, 103–05, 150, 331–32
Pools, Canadian wheat, 123, 129
Pope, Senator, 348
Potatoes, 116, 190, 322 n.
Price developments, wheat: April–September 1937, 12–17; crop year 1936–37, 146–54; September–January 1937–38, 183–84, 197–207; January–May 1938, 330–34
Price leadership in various wheat markets, 14–15, 16, 29, 150, 183, 198, 202–03, 334
Price levels, wheat, 146–48, 350–51
Price spreads, wheat: April–September 1937, 15, 17–18; crop year 1936–37, 150–54; September–January 1937–38, 197–98, 203–07; January–May 1938, 334–38
Prices (*see also* Fixed prices; Outlook; Price developments): of basic commodities, 28, 105–06, 147, 150, 201–02, 330–31, 352; feed grain, 149, 190–91; general level of, 106, 350–51; of industrial stocks, 330–32; "parity," 125, 147–48, 346; patterns of, 200–01
Privileged Export Company (Yugoslavia), 124, 196
Processing taxes, *see* Taxes
Production, wheat (*see also* Crop developments; Outlook; Quality; Revisions): 1936, with comparisons, 106–12; 1937, with comparisons, 7–8, 321; 1938, 321, 343–44

Quality: of 1936 wheat crops, 113–14, 118, 138, 143, 152 n., 155; of 1937 wheat crops, 8, 9, 10, 19, 24, 183, 187, 188, 193, 196, 212
Quotas, 130, 142, 143, 346–48

Rearmament, 103, 105, 134
Receipts at United States primary markets, wheat, 9, 126–27, 189
Recession of 1937–38, 201–02, 331–32
Recovery, 104–05, 134, 190
Reserves against crop shortage, war, or other emergency, 23, 24, 28, 29, 120 n., 121, 157, 190, 212, 334, 339, 342–43, 348–49
Returns to wheat growers, 154–56
Revisions: of carryover estimates, 19–20, 120 n.; of estimates of flour production and consumption, 7, 118, 159–60, 325; of estimates of 1936 and earlier crops, 6, 108, 111, 143; of estimates of 1937 crops, anticipated and actual, 7, 9, 10, 11, 108, 187, 193, 199, 207, 208, 321, 341
Rice, 112, 114, 116, 119, 137, 145
Roosevelt, Franklin D., 331–32
Rust: in 1936, 108; in 1937, 8, 9, 15–16, 19; in 1938, 349
Rye, 114–15, 118–19, 190, 322–23, 343, 345

Saar territory, 118 n.
Salter, Sir Arthur, 157
Security stocks, *see* Reserves
Seed-conservation program, 122
Seed use of wheat, 119, 323–24, 342
Sheep raising in Australia, competition with wheat, 111
Shipments, Broomhall's data on wheat and flour, 3–4, 26, 130–34, 193–95, 324, 326–29
Soy beans, 116, 130
Speculation, 3, 105, 106, 130, 150, 199, 332
"Squeeze" in Buenos Aires, 197 n., 203
Stocks, prices of industrial, 330–32
Stocks, wheat (*see also* Carryovers; Mill stocks; Outlook; Reserves; Visible supplies), 189, 192, 194, 322–25
Storage facilities, grain, 347 n.
Strikes, 106, 129, 139, 143
Subsidies: on exports of wheat and flour, 5, 122, 124, 125, 126, 137, 139, 196, 341 n.; to wheat farmers, 104, 155, 156
Supplies, wheat (*see also* Visible supplies): for 1936–37, 106–16; for 1937–38, 19–22, 185–90, 321–22; for 1938–39, 346
Supply position, tightness of, 1, 13–15, 28, 103, 106, 127, 130, 146, 147, 150, 155, 211
Survey and outlook, wheat: summaries, vii–x, 1–2, 183–84, 319–21; September 1937, 1–36; January 1938, 183–221; May 1938, 319–58

Tariff duties on wheat and flour: Brazilian, 142; Chinese, 139 n.; European, 18, 26, 124, 130, 141–42, 191 n., 340; United States, 5, 138

Taxes on wheat and flour, 124, 142, 156, 191, 348

Trade agreements, 26, 105, 123–24, 137

Trade disputes, 136, 141, 143, 144, 197

Trade in commodities, international: barriers to, 105, 130; volume of, 105

Trade in grains other than wheat, 115–16

Trade in wheat and flour, international: crop year 1936–37, 2–6, 112, 130–45; crop year 1937–38, 183, 193–97, 325–30

Turgeon Commission (Canada), 129, 157

Turkey, 6, 11, 22 n., 25–26, 108, 111, 119, 120 n., 156, 330

Types of wheat (*see also* Durum): in 1936–37, 112–13; in 1937–38, 30, 187, 215

USSR: acreage and crops, 12, 108, 112, 186, 210, 345–46, 349; exports, 21–22, 106, 112, 141, 193, 196, 210, 321, 328, 340; imports, 340; stocks, 112; wheat quality, 187 n.

Utilization, wheat: in 1936–37, 6–7, 116–22, 137–38, 140; in 1937–38, 22, 26–27, 190–93, 322–25

Visible supplies, 9, 21, 127–29, 188–89, 321–22

Wallace, Henry A., Secretary of Agriculture, 348

War (*see also* Reserves): Sino-Japanese, 25, 103, 134, 156, 340; Spanish civil, 23, 103, 141–42, 156; wheat and, 156–57

Weather conditions affecting wheat, 1, 5, 8–18, 108, 111, 126, 127, 143, 186, 332–34, 343–45, 349–50

Wheat Act, 1932 (Great Britain), 147, 155–56

Wheat Marketing Board (Rumania), 196

Winnipeg Grain Exchange, 130

Wool, 105, 111

Working, Holbrook, 1, 127, 183, 319

Yield per acre, wheat: 1936 crops, 107–11; 1937 crops, 7–10, 185–86

CHARTS

Acreage, wheat, sown and harvested, in United States, 110

Carryovers, world wheat, 121

Crops, *see* Production

Disposition, *see* Supplies and utilization

Exports, *see* Trade

Flour (*see also* Trade): consumption and net retention of, in United States, 118; wheat used per barrel of, 118

Freight rates, ocean, 134, 135

Imports, *see* Trade

Price changes, cumulative interval, in Liverpool, Winnipeg, and Chicago wheat futures, 14, 198, 334

Price index: of 15 sensitive commodities (Moody's), 331; of industrial stocks (Dow-Jones), 331

Price spreads, wheat, daily or weekly:

—cash: in North American markets, from Chicago basic, 17, 153, 206, 337

—cash-futures: in Liverpool, 15, 165, 204, 335; in North American markets, from Chicago or Winnipeg future, 17, 206, 337

—futures: in leading international markets, from Liverpool or Chicago future, 151, 197; in Liverpool, 151, 204, 335; in North American markets, from Chicago or Winnipeg future, 17, 206, 337

Prices, wheat:

—cash: deflated (British imports), annually from 1875–76, 181; in leading markets, annually and weekly, 146, 148

—futures: daily, in leading markets, 13, 149, 182, 197, 330, 331; weekly deflated, Chicago and Liverpool, in seasons of June–July crop scares, 201; weekly deflated, Chicago, in seasons of comparable United States wheat carryovers, 214

Production, wheat: continental Europe ex-Danube and French North Africa, 117; by countries and/or groups of countries, 8, 109, 179, 185; world ex-Russia, 8, 106, 185

Receipts at United States primary markets, wheat, June–October, 1935 to 1937, 9, 126

Shipments, *see* Trade

Stocks of wheat, about August 1, in important areas ex-Russia, 121

Supplies and utilization, wheat: continental Europe ex-Danube and French North Africa, combined, 117; Europe ex-Danube, by countries and groups of countries, 179; world ex-Russia, 106

Trade in wheat and flour, international: net exports by export areas, annually, 136; net imports by Europe ex-Danube, annually, 117, 179; shipments, weekly averages by crop years from 1903–04, 131; shipments, weekly, with comparisons, 3, 4, 133, 194, 195, 326, 329; wheat grain imports, United States, annually from 1924–25 and monthly from July 1934, 138

Utilization, *see* Flour; Supplies and utilization

Visible supplies, wheat, weekly, with comparisons, 21, 128, 189, 321–22

Yield per acre, wheat: by countries and/or groups of countries, 107; in four chief exporting countries, 110; world ex-Russia, 107

APPENDIX TABLES

Acreage, wheat: in principal producing areas and countries, 161, 163; sown and harvested, in United States and Argentina, 165

Barley: international shipments, 170; production, 165

Carryovers, *see* Flour; Stocks

Consumption, *see* Flour; Supplies and disposition

Corn (maize): international shipments, 170; production, 165

Crops, *see* Production

Disposition, *see* Flour; Supplies and disposition

Exports, wheat grain (*see also* Trade): Canadian, by major routes, 169; United States, by classes and in total, 169

Flour, wheat: consumption, United States, 175; imports, United Kingdom, 173; net exports and net imports by countries, 174; production and disposition, United States, 33, 175, 218, 355; stocks in United States city mills, June 30, 1931–37, 168

Freight rates, ocean, on wheat to Europe, 173

Gradings of Canadian hard red spring wheat, 166

Imports, wheat grain (*see also* Trade): United Kingdom, by sources, 173; United States, 169

Marketings, *see* Receipts

Millfeed output, United States, 175

Oats: international shipments, 170; production, 165

Potatoes, production of, 165

Prices, selected wheat: annual and monthly averages, 180, 181; weekly, 36, 221, 358

Production of grains (ex-wheat) and potatoes, 165

Production, wheat: in miscellaneous countries, 166; in principal producing areas and countries, 31, 161–62, 217, 353; in United States, by classes, 165

Protein content of Canadian hard red spring wheat, 166

Receipts, wheat, at Canadian country points and at United States primary markets, 32, 166, 218, 354

Rye: international shipments, 170; production, 165

Shipments, *see* Trade

Stocks, wheat (*see also* Visible supplies): Argentina and Australia, 32, 177, 220; Canada and United States, 32, 168, 176, 220, 354; United States, by classes, 169; world, by principal subdivisions, 167

Supplies and disposition, wheat, annually: Argentina and Australia, 35, 177, 220, 357; Canada and United States, 35, 176, 220, 357; Europe ex-Danube, four chief exporting countries, and world, 178

Trade in wheat and flour, international (*see also* Exports; Flour; Imports; Supplies and disposition):

—net exports and net imports: annually, 170, 171, 173; monthly, 34, 172, 219–20, 356

—shipments: annually, 170; weekly, 33, 170, 219, 355

—United States, with foreign countries and possessions, 169

Utilization of wheat, *see* Supplies and disposition

Visible supplies, 32, 167, 218, 354

Yield per acre, wheat, in principal producing areas and countries, 161, 164

PRICE EFFECTS OF CANADIAN WHEAT MARKETING

TEXT AND TABLES

Canadian Wheat Board, 38, 46, 55, 62, 64–65

Chicago Board of Trade, 62

Coefficients, regression, 56, 58, 59–61

Deliveries, country wheat, in Prairie Provinces (*see also* Marketing, rate of; Price effects), 37, 48–53; day-to-day variations in, 58–61; periods in, 51, 52–54, 55; sustained changes in, 38, 55–58

Evans, W. Sanford, 48 n.

"Ever-normal granary," 37

Exports, wheat and flour: Argentine, 37–38, 43; Australian, 42–43, 67; Canadian, 37, 43, 67; proportion of Canadian and Russian in "world ex-Orient," 43, 67; Russian, 52, 67

Freight rates, ocean, *see* Shipment

Futures prices as data for study of daily price relations, 47–48; average effects of rate of marketing on, 47–55

Futures trading: as element in wheat-price mechanism, 37; in Chicago, 62; in Liverpool, 47 n.; in Winnipeg, 39, 47 n., 62, 64, 65

Garnet wheat, 44

Grades, Canadian wheat, 44

Hard wheats: average price in British markets, 68; increased demand for, 43; relative abundance of, 39, 43, 44–45; relative prices of, 44–47, 68

Hedging pressure, 37, 39, 49, 53, 54, 55, 58–60, 61, 62, 63, 64, 65

Imports, British wheat and flour (*see also* Exports): by principal countries of origin, 67; proportions of Canadian and Russian wheat in, 45–46, 67

Liverpool (*see also* Price ratios; Price spreads; Seasonal tendencies): futures contracts in, 47 n.; futures prices in, 47–49; prices of Australian wheat in, 40, 42; prices of Manitoba wheat in, 40, 41

McFarland, John I., 64

Marketing, rate of (*see also* Deliveries; Price effects; Price spreads): in Argentina, 37; in Australia, 42; average price effects of variations in, 39, 47–55, 56; in Canada, 37, 39, 41, 47, 48–49, 52, 55–61; in Great Britain, 38, 41; recent changes in price effects of, 55–65; relation of, to Winnipeg-Liverpool price spread, 48–55

Marketing, wheat: efficiency of, 37; features of Canadian, 37–38; important questions regarding, 37, 38, 47; public functions in relation to, 37; seasonal character of, 39–40

Marketings, volume of wheat: average monthly, in Canada and Great Britain, 41 n.; daily, in Canada, 48–51

Melbourne wheat prices, 42

Orient, peculiarities of demand for wheat in, 45

Pools, Canadian Wheat, 38, 61; central selling agency of, 64–65; percentage of carryover held by, 64 n.; percentage of total deliveries, 55, 63, 64 n.

Premiums on Canadian wheat, 43–45, 46

Price effects: of day-to-day variations in country deliveries, 58–65; of sustained changes in rate of country deliveries, 55–58, 61–65

Price influences, wheat, other than seasonal, 39, 42–43, 47

Price ratios, in British markets, 39; of hard to soft wheats, 44–47; of Manitobas to Rosafé, Australian, and British domestic wheats, 43–45

Price spreads: between No. 1 and No. 3 Manitoba, 43–45; Melbourne-Liverpool on Australian wheat, 42–43; Winnipeg-Liverpool on No. 1 Manitoba, 41–42; Winnipeg-Liverpool on December futures, August–November, 39, 48–53

Prices (*see also* Seasonal tendencies): alleged undue depression of wheat, in periods of heavy marketing, 37; of Australian, Canadian, and British domestic wheat in British markets, 66; effects on, of variations in rate of marketing, 39; of "hard" and "soft" wheats in British markets, 68; seasonal tendencies in wheat, 38

Qualities, milling, of Canadian wheats, 38, 45

"Rapid marketing" in Canada, 37, 41 n., 51, 52, 53, 54, 55
Rosafé wheat prices, 43, 44
Russian wheats, 44–45, 52, 67
Seasonal tendencies: in availability of Argentine and Canadian wheats, 37; in country deliveries in Prairie Provinces, 50–51; in export shipments, 37, 43, 52, 53; in Liverpool December future, 50, 53; by marketing periods, 52–54; in price ratios, 45–47; in price spreads, 41–43, 50, 52–53; in prices of Australian, British, and Canadian wheats in domestic markets, 37, 38, 41–43, 47, 53; in prices of wheats in British markets, 40–42, 47, 54–55; in shipment costs, 42
Shipment, costs of overseas, 41, 42, 47 n., 53, 57
Soft wheats, *see* Hard wheats
Stabilization, Canadian wheat-price, 63–64
Storage, costs of proposed government-financed wheat, 37
Timing of wheat marketing: in Canada, 39, 48–51; in U.S., 52
Traders, price judgments of, 39, 45
Turgeon Commission, 37
Weather as factor in farm marketings, 53, 55
Winnipeg Grain Exchange (*see also* Futures trading; Hedging pressure; Prices), 62
Winnipeg wheat prices, *see* Price spreads; Prices; Seasonal tendencies
Working, Holbrook, 37

CHARTS

Country deliveries in Western Canada, 48, 49, 50, 52
Liverpool prices, 40, 41, 42, 50, 52
Melbourne prices, 42
Price ratios in British markets, 44, 46
Price spreads: Melbourne-Liverpool, 42; Winnipeg-Liverpool, 41, 48, 49, 50, 52
Proportions of Canadian and Russian wheats in British imports and "world" exports, 44
Seasonal course of prices and price spreads, 40, 41, 42
Winnipeg prices, 41

TRENDS OF YIELD IN MAJOR WHEAT REGIONS SINCE 1885

TEXT

Abandonment of sown acreage, 224, 231, 233, 238, 243, 246
Acreage, wheat (*see also* geographical headings): geographical shifts of, as influence on trend of yield, 80–81; sown vs. harvested, 76, 224, 243, 251; trend of, in relation to trend of yield, 75–76, 88, 91, 94, 96, 100, 101, 228, 230–31, 233–34, 236, 239, 240, 242, 243, 244, 248, 251, 252, 253, 256, 257, 260–61
Alabama, *see* Eastern North America
Alberta, *see* Prairie Provinces
Algeria (*see also* Western Mediterranean), 70 n.
Alsberg, C. L., 82 n., 85 n., 86 n.
Argentina, *see* South America
Arizona, *see* Eastern North America
Arkansas, *see* Eastern North America
Australia: analysis of trend of yield in, 226–30; trend from 1860, 70
Austria, *see* Northern Europe
Azzi, G., 240 n., 242 n.

Baker, O. E., 234 n., 245 n., 249 n., 253 n., 255 n.
Barkley, H., 227
Belgium, *see* Northern Europe
Bennett, M. K., 69, 70 n., 72 n., 78 n., 87 n., 223, 231 n., 233 n., 235 n., 236 n., 241 n., 250 n., 255 n., 256 n.
Breeding of wheat, *see* Varieties
British Isles, trend of yield from 1852 (*see also* Northern Europe), 70
Bulgaria, *see* Southeastern Europe

California, *see* Eastern North America
Canada, *see* Prairie Provinces; Eastern North America
Catastrophes, effect on wheat yields, 86
Climates of major wheat regions, 87, 90, 92, 94, 97, 226, 230, 232, 235, 238, 240, 244–45, 249–50, 254–55
Colorado, *see* U.S. Hard Winter Region
Competition between crops, *see* Rotations
Cycles in weather or climate, 82
Czechoslovakia, *see* Northern Europe; Southeastern Europe

Delaware, *see* Eastern North America
Denmark (*see also* Northern Europe), 70 n.
Diminishing returns, *see* Level of yield
Diseases of wheat, *see* Pests
Drainage, 85, 89
Droughts, *see* Weather
Dry farming, *see* Fallow
Eastern North America, analysis of trend of yield in, 94–97
Enquist, Fredrik, 82 n., 86 n., 88
Environment of the wheat plant, man-made changes in, as influence on trend of yield (*see also* Fertilizers; Rotations; Varieties), 82–85
Erosion, 234, 253, 256
Estonia, *see* Northern Europe

Fallow (*see also* Rotations), 85, 226, 228, 229, 234, 235, 237, 238, 241, 242, 243, 245, 250, 252, 255, 257
Fertility, maintenance of soil, 83, 90, 101, 234, 237, 248, 256
Fertilizers: general effects on trend of yield, 84; use of, in major regions, 89, 92, 93–94, 97, 99, 101, 228–29, 230, 233, 235, 238, 239, 241, 245–46, 250, 255, 260
Finland, *see* Northern Europe
France: analysis of trend of yield in, 90–92; trend from 1815, 70
Frost, 255

Georgia, *see* Eastern North America
Germany (*see also* Northern Europe), 70 n.
Governmental policies, as influence on wheat yields, 89, 94, 95, 102, 240
Greece, *see* Southeastern Europe

Hungary (*see also* Southeastern Europe), 70 n.

Idaho, *see* U.S. Pacific Northwest
Illinois, *see* U.S. Soft Winter Region
India, analysis of trend of yield in, 235–37
Indiana, *see* U.S. Soft Winter Region
Iowa, *see* U.S. Soft Winter Region
Irrigation, 85, 94, 97, 226, 235, 236, 260
Italy: analysis of trend of yield in, 92–94; governmental measures affecting yields, 94

Japan, 70 n., 101

Kansas, *see* U.S. Hard Winter Region
Kentucky, *see* Eastern North America

Labor, 92, 97, 260
Latvia, *see* Northern Europe
Level of yield, initial, as influence on trend of yield (*see also* geographical headings), 81, 89, 94, 96, 101, 228, 242, 261
Lithuania, *see* Northern Europe

Maine, *see* Eastern North America
Manitoba, *see* Prairie Provinces
Manure, *see* Fertilizers
Maryland, *see* Eastern North America
Michigan, *see* U.S. Soft Winter Region
Minnesota, *see* U.S. Spring Region
Mississippi, *see* Eastern North America
Missouri, *see* U.S. Soft Winter Region
Montana, *see* U.S. Spring Region
Morocco, *see* Western Mediterranean
Moving averages, as measure of trend of yield, 71

Nebraska, *see* U.S. Hard Winter Region
Netherlands (*see also* Northern Europe), 70 n.
Nevada, *see* Eastern North America
"New breaking": in Australia, 228; in Canada, 256
New Jersey, *see* Eastern North America
New Mexico, *see* U.S. Hard Winter Region
New South Wales, *see* Australia
New York, *see* Eastern North America
North Carolina, *see* Eastern North America
North Dakota, *see* U.S. Spring Region
Northern Europe, analysis of trend of yield in, 87–90
Norway, *see* Northern Europe

Ohio, *see* U.S. Soft Winter Region
Oklahoma, *see* U.S. Hard Winter Region
Ontario, *see* Eastern North America
Oregon, *see* U.S. Pacific Northwest
Outlook for trend of "world" yield, 261

Pennsylvania, *see* Eastern North America
Pests and diseases of wheat, 83, 97, 248, 252
Plowing, 84, 85, 89, 232, 234, 238, 242, 246, 249, 254, 257
Poland, *see* Northern Europe
Portugal, *see* Western Mediterranean
Prairie Provinces, Canada, analysis of trend of yield in, 254–58
Prussia, trend of yield from 1846, 70

Rainfall, *see* Weather
Reclamation, 94
Regions, major wheat-growing: classified as to type of trend in yield, 73–74; defined as to territory covered, 71–73
Rotations, crop: general effects on trend of yield, 83–84; in major wheat regions, 87, 89, 90, 92, 95, 98–99, 227, 231, 232, 235, 238, 241, 245–46, 250, 255, 260
Rumania (*see also* Southeastern Europe), 70 n.

Saskatchewan, *see* Prairie Provinces
Seeding, 85, 89, 97, 232, 238, 242, 246, 254, 257
Selection of varieties, accidental and purposeful, 85–86
Soil moisture, *see* Weather
South America, analysis of trend of yield in, 230–32
South Australia, *see* Australia
South Carolina, *see* Eastern North America
South Dakota, *see* U.S. Spring Region
Southeastern Europe, analysis of trend of yield in, 238–40
Spain, *see* Western Mediterranean
Statistical inaccuracies, as influence on trend of yield (*see also* geographical headings), 76–80, 87, 90, 93, 96, 101, 233, 235, 236, 241, 248, 256, 258
Sweden (*see also* Northern Europe), 70 n.

Tennessee, see Eastern North America
Terracing, 85
Texas, *see* U.S. Hard Winter Region
Trend of yield, definition of, 71
Tunis, *see* Western Mediterranean
Types of wheat: grown in major regions, 87, 90, 92, 95, 98, 226, 231, 233, 235, 241–42, 250, 255; shifts in, 85, 96, 248 n., 249

United States, trend of yield from 1866, 70
U.S. Hard Winter Region, analysis of trend of yield in, 243–48
U.S. Pacific Northwest Region, analysis of trend of yield in, 232–34
U.S. Soft Winter Region, analysis of trend of yield in, 97–100
U.S. Spring Wheat Region, analysis of trend of yield in, 249–54
Uruguay, *see* South America
Utah, *see* Eastern North America

Van Royen, William, 82 n.
Varieties of wheat, changes in, as influence on trend of yield (*see also* geographical headings), 85–86, 89, 92, 94 n., 97, 100, 101, 229, 232, 234, 237, 240, 242, 249, 254, 256, 257
Vermont, *see* Eastern North America
Victoria, *see* Australia
Virginia, *see* Eastern North America
Washington, *see* U.S. Pacific Northwest

Weather, sequences of, as influence on trend of yield (*see also* geographical headings): in general, 81–82; in specific regions, 88–89, 92, 94, 96, 99–100, 101, 228, 231–32, 234, 236–37, 238, 242, 248, 252–53, 256, 257, 258–59
Weeds, 89, 237, 250, 253, 255, 257

Western Australia, *see* Australia
Western Mediterranean Region, analysis of trend of yield in, 240–43
West Virginia, *see* Eastern North America
Winterkilling, *see* Abandonment
Wisconsin, *see* U.S. Soft Winter Region
"World," analysis of trend of yield in, 258–61
Wyoming, *see* U.S. Hard Winter Region

Yields per acre: harvested vs. sown basis, 76, 224, 243, 251; methods of estimating, 76–77
Yields per acre, experimentally attained, 87
Yugoslavia, *see* Southeastern Europe

CHARTS

Acreage, *see* Trends of yield
Rainfall in Kansas and Nebraska, 248
Trends of yield:
Alberta, 257
Argentina, 230
Australia, 70, 73, 75, 224, 225, 227
British Isles, 70
Canada, Prairie Provinces, 73, 75, 224, 225, 257
Eastern North America, 73, 74, 224
Fourteen regions, 73, 224
France, 70, 73, 74, 91, 224
French North Africa, 241
Germany, 70, 88
High-yield regions, 258
Idaho, 233
India, 73, 75, 224, 225, 236
Irregular-trend regions, 75, 225
Italy, 224, 225
Low-yield regions, 258
Manitoba, 257
Minnesota and South Dakota, 251
"New regions," 259
North Dakota and Montana, 251
Northern Europe, 73, 74, 88, 224
"Old regions," 259
Ontario, 95
Oregon, 233
Prussia, 70
Rising-trend regions, 74
Saskatchewan, 257
South America, 73, 75, 224, 225
Southeastern Europe, 73, 75, 224, 225, 239, 241
Spain and Portugal, 241
Stable- and declining-trend regions, 75, 225
United States: Hard Winter Wheat Region, 73, 75, 224, 225, 243, 247, 248; Northeast, 95; Pacific Northwest, 73, 75, 224, 225, 233; Soft Winter Wheat Region, 73, 74, 98; Southeast, 95; Southwest, 95; Spring Wheat Region, 73, 75, 224, 225, 251; total, 71
Uruguay, 231
Washington, 233
Western Mediterranean region, 73, 75, 224, 225
World, 258, 259

MONETARY INFLUENCES ON POSTWAR WHEAT PRICES

TEXT AND TABLES

Acreage sown to wheat, 277, 288, 292, 294, 303–04; Australian propaganda to increase, 277, 303–04, 315
Agricultural crises and depressions, 291, 292, 293–94
Agricultural Marketing Act, 299, 301, 302 n.
Balance of payments, 295, 296, 300
Balance of trade, 295, 302 n.
Bank of New South Wales, 305
Banking position and policies, 274, 295–96, 298, 299, 300, 301, 302 n., 303, 304, 305, 308, 309, 314
Boom: in 1919–20, 263, 273, 292; in 1924, 295; in 1927–29, 295–96, 299, 300, 301; in 1933, 288
Buenos Aires wheat prices, 278, 283, 289–91, 318
Caja de Conversion, 304
Capital movements, international, 275, 276 n., 294, 295, 296, 300, 301, 314
Carryovers, *see* Stocks
Commonwealth Bank (Australia), 303, 304
Conclusions, 276–77, 280–81, 286–87, 289, 293–94, 299, 303, 308, 312, 313–16
Consumption, wheat, 266, 277–78, 286
Copland, D. B., 305 n.
Correlation of crop-year average price with year-end carryover (*see also* Periods), 265, 266–67, 272, 284–85, 287
Costs: of producing wheat, 291; of transporting wheat, 281
Cotton prices and carryover, 266–67
Crises, postwar, 263
Crop developments, wheat, 273, 274, 276, 277, 281, 286, 287, 289, 294, 296, 298, 301, 302, 309, 310
Currency appreciation or depreciation, 263, 267, 270, 271 n., 272, 274, 275, 277, 279–80, 281, 286, 287, 288, 289, 290, 296, 301, 302, 303–05, 306, 307, 310, 311–12, 315
Customs prices of wheat, British, 268, 269, 274 n., 275
Dawes plan, 275, 295
Debts, public, 275 n., 295, 300, 301, 305
Deficits, fiscal, 301, 305, 308, 314
Deflation, price, 273, 275–76, 300–01, 304, 308, 314
Demand for wheat: measurement of, 265; speculative, 265, 274, 278, 279, 299, 314, 315; for use, 264, 265, 276 n., 277, 278, 299
Depressions, 263, 292, 300
Devaluation, 310
Disappearance, *see* Consumption
Exchange rates: controls of, 305, 307, 310, 311; instability of, 263, 267, 270, 284 n., 305, 315–16; significant changes in, 274
Exports, flow of wheat, 269 n., 284, 295, 299, 300–02, 305, 306, 308, 309, 311–12
Federal Farm Board, 277, 280, 285, 299, 302–03, 306, 314
Federal Reserve Board, 274, 298–99, 314
Feed use of wheat, 276 n., 278
Field, F. W., 305 n.
Finance Act (Canada), 302 n.
Financial situation, significant changes in, 274, 279, 280, 294–95, 299, 300, 301, 302, 304, 305, 308, 309

Futures prices of wheat, 269, 274 n., 306, 308

Gold: international flow of, 295, 300, 301, 302, 304; wheat prices in terms of, 270, 274–76, 279–81, 283, 286, 287–89, 294, 306–12

Gold standard, departures from or return to, 263, 267, 274, 275, 277, 279, 280, 290, 294, 300, 307, 309, 312, 314, 315

Government interventions or controls, 265, 267, 269 n., 273, 277, 279–80, 284–85, 290, 299, 301–04, 306, 311–12, 314

Grain Regulating Board (Argentina), 269 n., 290, 311–12

Grain Stabilization Corporation (United States), 279, 285 n., 306

Hall, N. F., 275 n.

Harris, Seymour E., 279, 309

Holding tendencies, wheat, 289, 290, 297–98, 300–01, 302, 312

Index numbers, *see* Prices; Purchasing power

Inflation, price, 275, 291–96, 301, 304, 313–14

International Wheat Agreement, 312

Kansas City wheat prices, 278, 282–83, 285–87, 318

Liverpool market for wheat, 267–68

Liverpool prices of wheat, 267, 269, 282–83, 289 n., 302, 318

MacLaurin, W. R., 300 n., 305 n., 306 n.

Marketing policies, wheat, 269 n., 284, 289, 290, 296–98, 306, 311–12, 314

Markets, representative world wheat, 267–68, 273, 281, 282–84

Melbourne wheat prices, 278, 283, 289–91, 293 n., 318

Methods of analyzing influence of monetary developments on commodity prices, 264–67, 281, 284 n., 313

Monetary policies, 263, 275–76, 279, 286–87, 290, 291, 294, 298, 299, 300, 303–04, 310, 314, 315

Parcels prices, British, 268–69, 270–81, 284, 300, 306, 318

Periods used in study of correlation between wheat prices and supply-demand relationships: early postwar, 272–74; 1924–25 to 1929–30, 272, 274–77, 291–303; 1930–31 to 1933–34, 272, 277–81, 303–12; from 1934–35, 273, 281

Pool: Canadian Wheat, 279, 287, 297–98, 299, 302, 305, 314; proposed compulsory, in Australia, 304

Price collapses, 263, 268 n., 272, 273, 276–81, 286, 287, 299, 303–06, 315

Price levels, instability of, 263, 270, 280, 290–91

Price series, representative wheat, 267–69, 282–83, 318

Prices, index numbers of commodity, 264, 275, 290–91, 292–93, 295–96, 308; used as deflators, 266, 271, 293 n.

Prices, wheat: in British markets, 267–81, 318; in exporting countries, 281–91, 318; in terms of gold, 270, 274–76, 279–81, 283, 286, 287–89, 294, 306–12

Purchasing power of wheat, 293–94, 317

Quality of wheat, variations in, 268, 269, 284

Raw materials, prices of and trade in, 275, 295, 309

Rediscount Laws (Argentina), 304

Rowe, J. W. F., 298

Royal Commission on the Wheat, Flour and Bread Industries (Australia), 293 n., 306 n., 312 n.

Seasonal variations, in British wheat imports, and in price relations among different wheats, 268

Speculation (*see also* Demand): in exchange, 274; in stocks, 274, 288, 298–99, 300; in wheat, 274, 275, 286, 287, 288, 297, 298, 299, 314

Stabilization operations, wheat-price: Argentine, 269 n., 311–12; Canadian, 284, 288, 289, 311; United States, 280, 285, 302–03, 306

Sterling, importance of, 267–68, 275, 279–80, 309, 310

Stocks, data on wheat (*see also* Charts), 266, 317; availability and reliability of, 264–67, 270, 273, 313; use of, in analysis of prices, 265, 266, 275 n., 276, 277–78, 281–91, 297, 313

Storage facilities, wheat, 296–97

Summary, x, 312–16

Supplies of different wheats, inter-seasonal and intra-seasonal variations in, 268, 269; world, 277–317

Supply-demand relationships, 264, 265, 266; wheat price movements interpreted in terms of, 270–91, 294–302

Timoshenko, V. P., 263

USSR, wheat exports from, 277, 278

Utilization, *see* Consumption

Walker, E. Ronald, 296 n.

Wheat Advances and Marketing Bills (Australia), 304

Winnipeg wheat prices, 278, 282, 287–89, 318

Working, Holbrook, 298 n.

CHARTS

British parcels prices, 270, 271, 278

Buenos Aires wheat prices, 278, 283, 290

Cotton prices and world carry-overs, 266

Gold value of currencies, 279

Kansas City wheat prices, 278, 282, 286

Melbourne wheat prices, 278, 283, 291

Purchasing power of wheat, indexes of, 293

Spreads between prices of representative wheats, 303

Stocks, year-end wheat, 270, 282, 283

Supplies, wheat: in exporting countries, 282, 283; world, 270

Wholesale prices, index numbers of, 292

Winnipeg wheat prices, 278, 282, 288