WHEAT STUDIES

OF THE

FOOD RESEARCH INSTITUTE

VOL. X, NO. 7 (Price $ .50) MAY 1934

WORLD WHEAT SURVEY AND OUTLOOK MAY 1934

RECENT developments in the world wheat situation have not been encouraging for early emergence from surplus conditions. International trade in wheat and flour thus far in the crop year has fallen even below the very small volume that seemed in prospect earlier in the year, chiefly because Chinese takings have been unexpectedly small. Total wheat supplies in the world ex-Russia now seem 50 million bushels larger than they did four months ago. World wheat stocks on April 1 were no more than 35 million bushels below last year's peak. World wheat disappearance has fallen below expectations. Wheat futures prices at Liverpool have tended to weaken slightly; and at Chicago futures prices broke sharply in mid-April, though they remained far above export parity and later recouped the loss when domestic new-crop prospects turned unfavorable. The International Wheat Agreement has had only a slight effect in allaying the pressure of burdensome world wheat supplies.

World wheat stocks about next August 1 now seem likely to be within about 25 million bushels of last year's peak. International trade for the crop year is not likely to exceed 535 million bushels, a figure 15 million below our January forecast and 25 million below the world import demand contemplated in the International Wheat Agreement. The present uncertain outlook points toward another relatively small wheat crop in the world ex-Russia in 1934, but one so distributed as to result in a larger volume of trade in 1934–35 than in 1933–34. Nevertheless, wheat stocks continue so heavy and so unfavorably distributed that international wheat prices in the next three months seem likely to decline unless crop prospects should become still worse.

STANFORD UNIVERSITY, CALIFORNIA

May 1934

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 by Stanford University for the Food Research Institute.

WORLD WHEAT SURVEY AND OUTLOOK MAY 1934

Developments in the world wheat situation during January–April were not spectacular. Nor were they very encouraging with respect to reduction of the world wheat surplus, enlargement of the volume of international trade, or elevation of the level of wheat prices on free markets.

Net changes in estimates of total wheat supplies for 1933–34 in the world ex-Russia contributed an increase of about 50 million bushels. If appraisals now standing are inaccurate, they are too low rather than too high.

World wheat shipments of wheat and flour in August–April 1933–34 were the smallest since 1916–17, reflecting the bumper 1933 wheat crop in importing Europe, good crops in several ex-European countries, and continued stringent wheat import restrictions. Importing countries did little in January–April to strengthen these restrictions further; on the other hand, there were no relaxations and few attempts to expand domestic wheat consumption. Trade in August–April declined about 83 million bushels from the 1932–33 level—considerably more than was generally expected of the movement to ex-Europe, somewhat less than was expected of the movement to Europe.

Within the limits imposed by small import requirements, exports from the several sources of supply were governed only in part by the normal operations of individuals. Governmental subsidization of Pacific Northwest wheat was responsible for the bulk of the very small net exports from the United States, while governmental operations in Argentina and (indirectly) in Canada tended to hold in check the exports from those countries. Australian exports were notably small, surpluses considered; but holding by farmers was the effective cause. The 1933–34 export quotas allotted under the International Wheat Agreement to Hungary and Argentina proved to be too low. The Hungarian quota was increased with reduction of the Rumanian. Negotiations for revision of the Argentine quota are not yet complete, but an increase seems in prospect, with reduction of those of the United States, Canada, and Australia.

CONTENTS

Largely because of the strong tendency of Australian farmers to restrain their sales, "world" visible wheat supplies were relatively larger on May 1, 1934, than on January 1; but the total was lower than in any of the three preceding years. Total stocks stood relatively higher than visibles. In the four major exporting countries and afloat, total wheat stocks on April 1 were about 145 million bushels smaller this year than last. But in Europe ex-Russia stocks were so much larger this year that "world" stocks on April 1, 1934, can hardly have been much more than 35 million bushels below the peak a year ago.

Wheat prices at Liverpool tended to weaken moderately under the continuing pressure of burdensome world wheat supplies and declining ocean freight rates; but Argentine prices, which dominated the international market in January–April, were held relatively firm. Chicago prices remained far above export parity, despite a sharp break in mid-April. This break — only partly reflected abroad — was the most spectacular price change during the period. It exceeded a rise of nearly 10 cents in mid-January that was largely due to domestic monetary policy moves. The mid-April break was chiefly due to liquidation of May futures by "tired longs."

Net exports in 1933–34 now seem likely to approximate 535 million bushels—a reduc-

tion of 15 million from our January forecast, and 25 million less than the "world import demand" still contemplated in the International Wheat Agreement.

World wheat stocks on about August 1, 1934, now seem likely to decline only about 25 million bushels from last year's peak; and if standing crop estimates are appreciably too low, there may be little or no reduction. In January, a reduction of more than 100 million bushels seemed reasonably in prospect. The United States carryover on July 1 will probably be the lowest since 1929 at about 260 million bushels; but year-end stocks in importing Europe and the Southern Hemisphere will probably be of record size, and the Canadian carryover will be very heavy.

If ordinary weather prevails to harvest, the world wheat crop of 1934 seems likely to be another small one, about as large as that of 1933. Such an appraisal allows for serious lack of moisture now prevailing in the central part of North America. Despite this, more wheat will probably be harvested in the major exporting countries in 1934 than in 1933, and less in the European importing countries. This prospective distribution foreshadows a larger volume of international trade in the coming than in the present crop year. Crop conditions in May, however, seldom provide a reliable indication of crop production.

Price movements through August, dependent in large part on unpredictable crop developments, will be influenced strongly by conditions now fairly clear. Possible price increases in the event of crop deterioration will be limited by the size of the total prospective carryover, which virtually assures abundant supplies for next year; and by the fact that no great portion of the carryover will be in hands likely to hold strongly. Probability of an exaggerated speculative price rise on possible North American crop damage is greatly diminished by the weak position of Chicago for exercise of international price leadership. With average crop progress, or better, shipments from the Southern Hemisphere heavier than usual for the summer and large stocks in importing Europe are likely to prove severely depressing price influences. Chicago may be weaker than Liverpool unless the United States harvest promises to fall short of domestic requirements.

Efforts toward international action to improve the wheat situation appear unlikely to yield results that will significantly affect wheat prices by late August. In the United States prospective clarification of the outlook for monetary policies and for the Agricultural Adjustment program relative to wheat may tend to depress market prices, though without necessary loss to the income of domestic wheat growers as a group. General world-wide economic recovery seems unlikely to help wheat prices during the next three months, however effective it may be in stimulating an ultimate rise.

The Supply Position

Numerous changes in crop estimates during the past four months, as shown in Table I, have not significantly altered the picture of the world wheat crop of 1933 and its distribution, though it is now appraised 47 million bushels larger than in January. Most of the increase came from upward revisions of the French and Australian crops. Several standing official estimates will be revised later, especially those of some Southern Hemisphere countries. Trade opinion inclines to the view that the Argentine[1] and perhaps the Czechoslovakian[2] and Hungarian[3] crops are now appraised substantially too low. The record total for importing Europe (1,362 million bushels) and perhaps also the high figure for the Danube basin (365 million) may be raised further, and the final figure for the world exclusive of Russia, China, and southwestern Asia will probably somewhat exceed the present total of 3,529 million bushels. We doubt if the statistical information now available to

[1] The Buenos Aires correspondent of the Canadian Dominion Bureau of Statistics places the "probable excess over official figures" on the 1933 crop as 18 million bushels. See *Monthly Review of the Wheat Situation*, March 21, 1934, p. 7.

[2] A statement in *ibid.*, February 20, 1934, p. 12, quoting the *Deutsche Getreide Zeitung*, implies that the crop of 1933 was underestimated about 11 per cent, or around 8 million bushels.

[3] The *Daily Trade Bulletin*, April 17, 1934, states that the Hungarian crop estimate has been increased by 8 million bushels. An increase of 3.7 million reported by the U.S. Department of Agriculture on May 14 was received too late to be included in our tabulations.

traders is sufficiently superior to official procedures in crop estimation to justify accepting trade estimates in place of standing official estimates. In our appraisal of the outlook for year-end stocks (p. 276), however, we reckon with the probability that 1933 crops are underestimated rather than overestimated.

A few minor revisions in estimates of "world" wheat stocks on about August 1, 1933, are necessary in the light of accumulated evidence. The official estimate of the United States carryover (July 1) has been increased by 3 million bushels. Trade statistics of Egypt (see Table VII and p. 262) suggest that more wheat must have been carried out of the big 1932 crop into the present crop year than we had earlier calculated, and an increase of about 5 million bushels in the initial stocks of 1933–34 seems indicated. On the other hand, reported moderate shortage of supplies in midwinter in Spain suggests that perhaps 5 million bushels less than we had reckoned was carried into 1933–34 from the bumper crop of 1932; and a reduction of 5 million bushels in our appraisal of August 1 stocks in Australia is made necessary by the appearance of the official estimate of stocks on November 30. These changes have only a trifling effect upon our estimate of "world" wheat stocks last August 1.

The movement of wheat from Russia, so far as reported, indicates that our January estimate of probable Russian net exports in 1933–34 will prove to be about 5 million bushels too low (see p. 275).

The effects of these changes upon estimates of total supplies for the world ex-Russia in 1933–34 are shown below, in million bushels:

Year	Stocks ex-Russia	Crops ex-Russia	Stocks and crops	Russian exports	Total supplies	Disappearance
1928–29	705	3,903	4,608	0	4,608	3,638
1929–30	970	3,424	4,394	9	4,403	3,481
1930–31	922	3,708	4,630	114	4,744	3,737
1931–32	1,007	3,669	4,676	65	4,741	3,745
1932–33	996	3,693	4,689	17	4,706	3,602
1933–34						
Sept. est.	1,113	3,288	4,401	25	4,426	....
Jan. est.	1,106	3,482	4,588	30	4,618	3,634
May est.	1,104	3,529	4,633	35	4,668	3,591

Total supplies now appear to be about 50 million bushels larger than was indicated four months ago; and, if some crops are substantially underestimated, considerably more than 50 million bushels larger. Upward revisions of our estimates of year-end stocks (see p. 276) result in a revision of the estimate for probable world wheat disappearance in 1933–34, bringing it below rather than above disappearance in 1932–33.

Governmental Measures

Changes in governmental policies and regulations during January–April were not numerous. Alterations in existing stringent wheat import restrictions, in particular, were few and unimportant in importing countries throughout the world. It is clear that the governments of European countries signatory to the International Wheat Agreement have in general chosen to move slowly if at all in the direction of removing restraints upon consumption; and with c.i.f. prices far below the level of 63 cents gold mentioned in the Agreement, barriers to imports have not been lowered. Such comment as is pertinent here may therefore be confined mainly to the development of governmental controls in the exporting countries participating in the Agreement —the four major overseas exporting countries, the four Danubian countries, and Soviet Russia.[1] Some comment is also pertinent, however, on proposals to expand the scope of

[1] Some actual and proposed changes in governmental regulations in importing countries warrant brief mention. In Germany, the amount of wheat and rye which each flour mill is permitted to grind has been specified since January; since April 1, all but the smallest mills have been required to purchase grain from merchants at fixed prices 6 reichsmarks per metric ton above the fixed farm prices; and since March 8 (extending to July 31) export certificates have been reintroduced, in a form which permits free importation of feed barley and corn against exports of wheat. In France, the acute wheat-surplus problem has led to additional governmental financing of wheat storage, and millers have been obliged to reduce somewhat further the amount of flour milled per quintal of wheat. In Italy, quotation of domestic cereal prices on exchanges dealing in futures was suspended March 5. In the United Kingdom, a proposal from millers for increase in the duty on non-Empire flour was rejected by the Import Duties Advisory Committee on March 16. Proposals to strengthen governmental controls in several other European countries have been advanced but not yet adopted. Outside of Europe, an agricultural export board endowed with wide authority was established in Chile on February 1.

the Agreement, which have been considered at meetings of the Wheat Advisory Committee and recently recommended to participating governments.

Adjustment of export quotas.—The International Wheat Agreement included the assumption that world import demand for wheat would approximate 560 million bushels in the crop year August–July 1933–34. This assumption has not been modified officially. Tentative export quotas for 1933–34 were set as follows: the United States, 47 million bushels; Argentina, 110 million bushels; Australia, 105 million; Canada, 200 million; the four Danube countries, 50–54 million; balance for the USSR and other countries, 44–48 million.[1] No agreement has as yet been reached on the Russian quota. Developments in crop production, marketing, and trade thus far in the crop year have resulted in definitive enlargement of the Hungarian quota with reduction of the Rumanian, and in protracted discussion of proposed enlargement of the Argentine quota with corresponding reduction divided among the Australian, Canadian, and American quotas.

Within a few weeks after the Agreement was signed, it was apparent that the exportable surpluses in the Danubian countries were relatively larger in Hungary and Bulgaria than in Rumania and Yugoslavia, and more so in Hungary than in Bulgaria. Apparently Hungary alone sought concessions, from some or all of the other three countries. Of the negotiations we have no record. On January 29, however, the Wheat Advisory Committee "took note of the preliminary readjustment . . . . of the national quotas," by which Rumania turned a third of her quota over to Hungary.[2] Calculated on the assumption that the total Danubian quota is 54 million bushels, this adjustment enlarges the Hungarian quota from 21.1 to 25.2 million bushels; reduces the Rumanian quota from 12.4 to 8.3 million; and leaves unchanged the Yugoslavian and the Bulgarian quotas at 12.4 and 8.1 million, respectively. To judge by the reported small movement of wheat exports out of Rumania and Yugoslavia (Table VII), Rumania could have relinquished a larger fraction of her quota without jeopardizing the natural flow of wheat to export; and Yugoslavia was in a similar position.

The facts regarding enlargement of the Argentine quota are not yet available in official publications. If one may trust unofficial reports[3] emanating from the meeting of the Wheat Advisory Committee at Rome on April 19, a proposal was formulated involving an increase of the Argentine 1933–34 quota from 110 million bushels to 140 million, with reduction of the United States and Australian quotas by 12 million bushels each to 35 and 93 million bushels, respectively, and of the Canadian from 200 to 194 million. Press reports assert that this proposed readjustment was conditioned upon Argentine agreement to reduce wheat acreage, to support an agreement to advance world wheat prices, and to denature 10 million bushels of wheat. But Argentina proved unwilling to accept proposals advanced by the other three countries, as appears from press dispatches covering a meeting, held in London May 4–12, of delegates from most countries participating in the Agreement. It remains to be seen whether or not agreement regarding adjustment of the Argentine quota will be reached when or before the Advisory Committee meets again on June 26. We take it that Argentine net exports will exceed the original 1933–34 quota, whether by agreement or otherwise.

Control of exports.—Governmental agencies

[1] These quota allocations do not appear in the main Agreement, but in an addendum (undated and itself uninitialed, but probably agreed to on August 30) to a "Note of Agreement between the Overseas Wheat Exporting Countries." Apparently the Note itself was drafted on June 30, 1933, but was modified and the addendum added before the substance of both was agreed to by delegates from Canada, the United States, Argentina, and Australia. For the text of this note and addendum, we depend upon the U.S. Department of State, *Treaty Information Bulletin No. 48*, September 30, 1933. It is not clear from the text of the Agreements that estimated import demand of 560 million bushels was intended to include demand for wheat that might be exported net from other countries than the nine specified above; but common official usage of the term "world import demand" seems to justify this interpretation. If so, the residual 44–48 million bushels was intended to cover exports both from Russia and from other countries.

[2] U.S. Department of Agriculture, *Press Service No. 2152-34*, March 21, 1934.

[3] *New York Times*, April 20, 1934.

actually or potentially able to prevent exports in excess of the specified export quotas either for 1933–34 or for 1934–35 apparently now exist in all exporting countries party to the Agreement except Hungary and the United States. The situation in Hungary is not clear to us, though we infer that means of controlling exports could quickly be found if over-exportation were in prospect, as indeed it tends to be with the revised quota for 1933–34 only 4 or 5 million bushels larger than reported net exports in August–March (Table VII). Except in Hungary and Argentina, the wheat exports under prevailing and prospective import-export price relationships have been so small in relation to quotas as to minimize the possibility that governmental restrictions might need to be employed in order to check the outflow in the present crop year.

Grain control boards were established last October in Australia and last November in Argentina.[1] In Australia, the board presumably has not faced the necessity of specific action, for farmers have tended so strongly to retain ownership of wheat from the new crop that exports have never threatened to exceed or even to equal the export quota (see p. 259). In Argentina, the control board has apparently purchased at a fixed price (5.75 paper pesos per quintal, or 51.3–54.0 cents per bushel) most of the wheat thus far marketed from the new crop. Some portion of it was resold to exporters at lower prices, the losses being wholly or partially recouped by official control of foreign exchange;[2] but the quantities purchased, the quantities sold, the selling prices, and the financial results of the operations are not of public record.[3] The selling prices have apparently varied occasionally within narrow limits, at a level below which international prices could not fall in the absence of sharp competition from other exporting countries. Though Argentine sales dominated the international market in January – April, exports from Argentina were probably somewhat held in check by the operations of the control board, though perhaps not designedly.

In the Danube countries, the only development of significance was the evolution of the State Grain Purchasing Board in Bulgaria into a state monopoly on January 22. The object is to maintain domestic prices above world levels rather than to control exports, though such control is implied. Under the monopoly, wheat is purchased from producers at 270 levas per quintal (99 cents per bushel) and sold domestically to consumers and flour mills at 390 levas (142 cents). Losses on export sales at world prices and expenses of operation are expected to be covered more effectively under the monopoly than under the discarded system, which was designed to cover losses through receipts from a tax on bread. Agitation for displacement of the grain-ticket system by a monopoly in Hungary has not yet brought a change.

In Canada, a type of informal government control both of prices and of exports has existed for several years in the form of government-sponsored dealings in wheat conducted by John I. McFarland, manager (since November 1930) in charge of liquidation of the holdings of the central selling agency of the provincial wheat pools. The extent of this control is suggested by the fact that early in April Mr. McFarland stated publicly that his holdings, almost entirely of futures, amounted to 185 million bushels; this represented over 80 per cent of total April 1 Canadian stocks excluding wheat on farms. This figure, it is inferred in trade circles, has since been reduced.

In mid-March 1934, steps were taken toward adoption of a formal type of governmental control. Bills introduced into the legislatures of the three Prairie Provinces and the Dominion Parliament provided for establishment of "Emergency Wheat Control Boards" in each province and/or a Dominion "Joint Board." These boards or board would

[1] See WHEAT STUDIES, January 1934, X, 151.

[2] WHEAT STUDIES, January 1934, X, 155.

[3] The Argentine correspondent of the Canadian Dominion Bureau of Statistics stated on April 1:

". . . . growers have been content to market their wheat freely, and it is estimated that about 110 million bushels have now been delivered, the great bulk of it going to the Control Board. No information on the subject has been given out, but it is estimated that fully half of this amount rests in the hands of the Board awaiting favourable conditions for its disposal."—*Monthly Review of the Wheat Situation*, April 23, 1934, p. 9.

be authorized, for the crop year 1934–35 only, to specify how much wheat a producer could sell; to buy and sell wheat; and to restrict all dealings in wheat in Canada to themselves or to persons and organizations licensed by them. Potentially, monopoly control could be exercised over marketings, prices, and exports; but what action will actually be taken cannot now be predicted. Apparently no action need be taken if the Canadian crop of 1934 later promises to fall below 380 million bushels. The Note of Agreement between the overseas wheat exporting countries suggests that a crop of this size would "bring the production of wheat . . . . into proper alignment with the estimated current export demand for the crop season 1934–35 and normal domestic requirements in that season, having regard to the quota applicable to the Dominion of Canada pursuant to and by virtue of Article 2 of the [International Wheat] Agreement."[1] The Canadian legislation contains no specific reference to reduction of wheat acreage or production.

Apparently Canadian officials count upon achieving the reduction of wheat production contemplated in the Agreement mainly through the operation of natural forces (curtailment of sown acreage because of the necessity for combating a threatened plague of grasshoppers by fallowing, and possibly a low or moderate yield per acre), partly through discouraging wheat plantings under the threat of compulsory curtailment of farm marketings.

Reduction of production. — Although the International Wheat Agreement and the supplementary Note of Agreement may reasonably be interpreted to imply that the four major exporting countries agreed to reduce wheat production in 1934 by 15 per cent from the "average out-turn on the average acreage sown during the period 1931–33 inclusive," the precise nature of the agreement regarding production control is by no means clear.[2]

Neither Argentina, Australia, nor Canada has interpreted the vaguely defined obligations to reduce wheat production as requiring governmental action to restrict wheat acreage sown for the 1934 crop; the lead given by the United States has not been followed. If, in one country or another, the 1934 crop later threatens to exceed the desired outturns, adoption of governmental measures designed to curtail areas harvested is conceivable, and adoption of methods of denaturing wheat and diverting it to livestock feed is possible, at least in Argentina and Australia.

For the United States the AAA announced on April 27 that in the first campaign 573,723 contracts had been signed, covering approximately 50 million acres in the base period, and calling for taking 7½ million acres out of wheat. According to the revised estimates, the total sown acreage in the base period 1930–32 averaged slightly under 66 million acres; and the AAA has interpreted its obligation under the International Wheat Agreement as calling for a "maximum seeded acreage" of 55.86 million acres.[3] Anticipating

[1] Excerpt from Section 9 of the "Emergency Wheat Control Act," as reproduced by the Searle Grain Company's *Grain Market Features*, March 22, 1934.

[2] We hazard the guess, however, that in official circles at home and abroad the following results would be regarded as fulfilling to the letter the general obligations regarding control of production: in Australia, a 1934 wheat crop of 200 (212) million bushels or less, with denaturing of the amount by which the 1934 crop might exceed 200 (212) million bushels; in Argentina, a 1934 crop of 238 (208) million bushels or less, with denaturing of the amount by which the 1934 crop might exceed 238 (208) million bushels; in Canada, either a 1934 crop of 380 (386) million bushels or less or a 1934 sown acreage 15 per cent below the average sown acreage in 1931–33; and in the United States, either a 1934 crop of 700 (712) million bushels or less or a 1934 harvested acreage of 49.90 million acres, or a 1934 sown acreage of 55.86 million acres. In this definition of objectives the figures in parentheses represent the objectives if Argentina's 1933–34 quota should be enlarged by 30 million bushels and corresponding adjustments should be made in the 1934–35 quotas of all four of the overseas exporting countries.

This guess has been formulated with reference both to the Note of Agreement between the four major exporters and to an official interpretation of the Agreements which reads as follows: "Canada and the United States pledged a reduction [of wheat acreage] equal to 15 percent of the acreage of the base period 1930–31, 1931–32, and 1932–33, while Argentina and Australia pledged themselves to reduce exports to an equivalent amount, without increasing stocks in storage." See *Agricultural Adjustment* (Washington, 1934), p. 50.

[3] *Agricultural Adjustment*, p. 43. At the Wheat Advisory Committee meeting in Rome, Dr. Ezekiel of the American delegation was reported as saying (*New*

that the reductions resulting from the first campaign would not insure attainment of this objective, further steps were taken in February–April to secure additional reductions. (1) Reopening of the campaign to induce additional farmers to sign acreage-reduction contracts, by May 10, 1934, was announced on February 26. Most of the acreage of normal wheat land not yet under contract is east of the Mississippi River. Signers of these contracts would become eligible for the second benefit payment (8 cents per allotted bushel less local costs) of the current year,[1] and all benefit payments for the coming two years; the appeal lies in the latter rather than the former. (2) On March 8, an opportunity to sign contracts was extended to farmers who first produced wheat in 1932, on terms more attractive than were earlier available. (3) Administrative rulings have been made by which the provision that contracting farmers must sow enough acreage to produce, at average yields, at least 54 per cent of the production in 1930–32 is waived, under certain conditions, in areas where natural forces prevent seedings or make sowings useless. Except under these conditions, failure to sow this minimum will involve reduction in this year's benefit payments, though it will not be regarded as breach of contract.

Proposals to widen the scope of the Wheat Agreement. — Although as yet the International Wheat Agreement remains unchanged except for adjustment of export quotas, reports concerning the discussions at successive meetings of the Wheat Advisory Committee suggest a tendency among participating governments to widen its scope. The Committee has met on four occasions: September 18–19, November 27–28, January 29–30, and April 5–17. Full and authentic reports of the deliberations have not been made public. From press dispatches it appears that the first meeting was uneventful. At the second meeting, subcommittees were appointed, one to consider methods whereby adherent nations acting in concert could expand wheat consumption, the other to consider methods whereby the level of international wheat prices could be raised by concerted action. These subcommittees drafted plans (not made public) which were considered by the Committee itself at the third meeting, in January; but the Committee apparently was not yet ready to recommend these plans to the participating governments.

Discussion was resumed at the fourth meeting, to which many governments sent special representatives. Here the French delegate introduced a fresh proposal, essentially to extend the Agreement in such a manner as to cover the bartering of wheat acreage reduction in wheat-importing countries against reduction of trade barriers in wheat-exporting countries. The Committee seems definitely to have expressed its approval of a revised plan for control of international wheat prices, and recommended this plan to the participating governments. The Committee further seems to have accepted for transmission without recommendation to participating governments reports concerning denaturing of wheat, reduction of milling extractions, reduction of wheat production, and barter of acreage reduction against reduction of trade barriers. The majority of the delegates seems to have preferred to devote attention to schemes for price elevation rather than to schemes for expansion of consumption. On May 4–12, delegates from practically all of the nations participating in the Agreement met in London mainly for the purpose of accepting or rejecting in principle the recommended plan for elevation of world wheat prices. Argentina's refusal to participate, and open aversion to the scheme in the United Kingdom, caused the plan to be rejected. It has become apparent that the far-reaching proposals emanating from the Committee were too extreme to meet the views of governments participating in the Agreement. If later the Agreement is abrogated, this will be due at least in part to the fact that too much was contemplated without precedent in international actions dealing with wheat.

York Times, April 6, 1934) that the United States has undertaken to restrict the area of wheat harvested to 49.9 million acres; this represents the above "maximum seeded acreage" less abandonment of 10.7 per cent.

[1] Applicants who had completed the required forms by December 31, 1933, were made eligible to sign contracts and receive full benefit payments.

EXPORTS

World trade.—The trade statistics of January–April 1934 tend to confirm earlier expectations that, because of low import demand resulting from bumper wheat crops in Europe, good crops in ex-European importing countries, and stringent import restrictions, the total volume of trade in 1933–34 will fall lower than in any year since 1916–17. Cumulative totals of shipments by sources of origin, August–April, are as follows, in million bushels, with comparisons:

Aug.–Apr. (39 weeks)	Total	America	Argentina	Australia	Russia	Danube	Others
1928–29....	716	424	159	93	0	32	8
1929–30....	459	223	130	49	0	45	12
1930–31....	584	260	79	109	91	31	14
1931–32....	602	242	110	114	70	54	12
1932–33....	479	229	84	126	18	6	16
1933–34....	396	168	97	67	26	30[a]	8[b]

[a] Includes also shipments from France, northern Africa, and some minor countries.

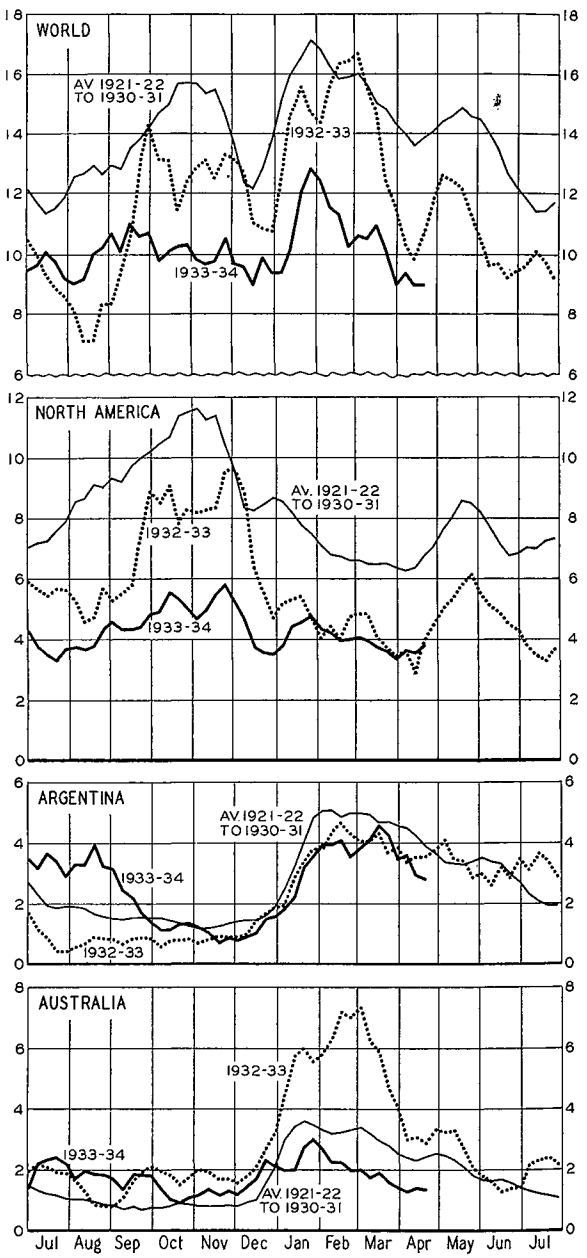
[b] Germany only.

Total shipments of 396 million bushels in 1933–34 fell 63 million below the earlier post-war minimum of 1929–30; 83 million below the relatively small shipments of 1932–33; and no less than 320 million below the post-war maximum of 1928–29. The decline from 1932–33 is roughly concordant with or somewhat in excess of general expectations current during the winter.

The seasonal course of shipments (Chart 1) thus far in 1933–34 has accorded with the average seasonal course more closely than in 1932–33, with substantially smaller fluctuations around a lower average level. The upturn from the midwinter trough came a little later than usual; the midwinter peak, the ensuing decline (interrupted as usual in late February and early March), and the April trough came at about the usual time. The outstanding difference of the 1933–34 course from the average was the failure of the usual October–November peak to materialize, an outcome reflecting both an exceptional accumulation of import wheat stocks in Europe through November, with some subsequent reduction, and restricted ex-European demand in October–November. After December, the moderately close correspondence in the movement of total shipments in 1933–34 with average shipments reflected intensification of the typical seasonal movement of shipments to Europe largely sufficient to offset a non-

CHART 1.—SHIPMENTS OF WHEAT AND FLOUR, JULY–APRIL 1933–34, WITH COMPARISONS*

(Million bushels; 3-week moving average)



* See Table VI.

typical movement of shipments to ex-Europe (see Chart 2, p. 262).

Sources of exports.—The reduction of 83 million bushels in total August–April shipments between 1932–33 and 1933–34 is more than accounted for by reduced shipments from North America and Australia. Argentina and Russia shipped more this year than last; so also did the minor exporting countries included in the tabulation above under "Danube" and "Others." The limited import demand, however, prevented shipments out of any country, with the possible minor exceptions of Algeria, Morocco, and Germany, from reaching totals large in relation to the supplies available for export.

Almost all of the wheat shipped from North America was Canadian wheat; ordinary commercial exports from the United States, except of flour milled in bond from Canadian wheat, were practically impossible with Chicago wheat prices held so persistently above export parity (Chart 7, p. 272). During August – March, Canadian official net exports were 133 million bushels and United States net exports only 21.5 million. The reduction from last year was much larger in Canadian than in American net exports, the American being maintained this year through subsidization of exports from the Pacific Northwest. About 14.5 million bushels, nearly 70 per cent, of the net exports from the United States (including shipments to possessions) were subsidized.[1] These exports began to move out in substantial volume in December, and helped to keep the winter movement of wheat from North America substantially heavier in relation to last year's movement than it otherwise would have been (Chart 1). United States net exports in January–March were appreciably larger this year than last, while Canadian net exports were much smaller this year.

[1] Up to May 9, the North Pacific Emergency Export Association had purchased 25,758,000 bushels of wheat; had sold 25,431,000 for export as wheat (21,213,000) and flour (4,218,000); and had shipped out about 22,500,000 bushels. The subsidy has averaged about 23 cents per bushel. See U.S. Department of Agriculture, *Press Service No. 2551-34*, May 10, 1934. The amount shipped up to April 2 was 14.5 million bushels.

Strikingly small August – April shipments from Canada and the United States were to be expected because of the restricted import demand, and even in the absence of governmental interventions. Canadian wheat would perhaps have competed more actively on the import markets in the absence of government-sponsored dealings in wheat futures, which presumably helped to keep the prices of Canadian wheat relatively high in relation to competing wheats on the British market (see Chart 7, p. 272). Argentine shipments of 97 million bushels in August–April were also probably somewhat restrained through governmental control; for January – April shipments in 1934 constituted a lower percentage of the new crop than in any recent year, and the failure to ship as freely as usual has not been due to holding by farmers. The outflow of wheat appears to have been stimulated in March (Chart 1) by weather conditions which made new-crop corn unfit for shipment and induced dealers to load chartered vessels with wheat rather than corn. In Australia, farmer holding rather than government control was responsible for strikingly small exports in January–April; total shipments in these months were, as in Argentina, a smaller fraction of the new crop than in any recent year. Low wheat prices, remunerative wool prices, and the opportunity to obtain substantial advances on stored wheat, all contributed to the ability and willingness of Australian farmers to restrain their sales.

Most of the exports from the Danube basin have continued to come from Hungary (Table VII); practically none have come from Rumania and Yugoslavia, where moderately short corn crops and the need to reconstitute wheat stocks have helped to keep wheat prices above export parity; and Bulgarian exports have been moderate. Russian shipments, though larger than in 1932–33, were small in relation to the official estimate of the 1933 crop and in relation to shipments in 1930–31 and 1931–32. Among the French dependencies in northern Africa, Algeria exported freely and Morocco (we infer) moderately, while Tunis was a net importer. Poland, Spain, Lithuania, and India, though net exporters in most of the past nine months,

shipped only insignificant quantities. German net exports, sizable in September–December, fell off in January and began to be replaced by net imports in February.

Shipments, net exports, and quotas.—Crop-year totals of net exports from net-exporting countries usually exceed Broomhall's total shipments, but by amounts that vary widely in different years. Official net exports so far as reported in 1933–34 (Table VII) are about 15 million bushels larger than the cumulative total of shipments over the same period of time. The discrepancies are mainly in the figures pertaining to Argentina, Russia, the Danube basin, and northern Africa. In appraising the outlook for international trade (see below, p. 274), we assume that about the same relationship will persist through the crop year, though the historical record gives only a rough indication of the probable outcome.

The approximate relationship of reported (partly estimated) net exports in August–March to the original crop-year export quotas under the International Wheat Agreement is as given in the following tabulation. The first and second columns show, in million bushels, the export quotas and the reported August–March net exports; the third column gives the percentage relationship of reported exports to quotas.

Country	Original quotas	Net exports Aug.–Mar.	Percentage exported
Canada	200	133	67
Argentina	110	91	83
Australia	105	61	58
United States	47	22	47
Danube	50[a]	26	52
USSR	48[b]	33	100
Others		14[c]	
Total	560	380	68

[a] More accurately, 50–54 million bushels.

[b] Derived by subtraction; not accepted as the Russian quota; more properly, 44–48 million bushels.

[c] Algeria, Morocco, Tunis, Spain, Germany.

On the average over the past decade, August–March net exports have constituted about the following percentages of total crop-year net exports: Canada, 72; Argentina, 61; Australia, 65; United States, 75; Danube, 73; USSR, 90; other countries, 65. Up to April 1 only Argentina, and Soviet Russia together with minor exporting countries not party to the Agreement, seemed likely in view of average seasonal movements to ship out more than the quantities contemplated under the Agreement. The Argentine position by April 1 or earlier clearly involved either drastic and abnormal curtailment of Argentine exports during the remainder of the crop year, or exportation in excess of the quota.

Imports

The reduction of some 82 million bushels in August–April shipments between 1932–33 and 1933–34 was divided about evenly between shipments to Europe (45 million) and shipments to ex-Europe (38 million). Many traders and students appear to have anticipated earlier somewhat more of a decline in European trade, and considerably less of a decline in ex-European. In Europe the British Isles, France, and Denmark have taken a little more wheat than was earlier anticipated; and in ex-Europe, China in particular but Japan and Egypt as well have taken less than early indications suggested. A more detailed consideration of the distribution of imports thus far in the crop year is given below.

European shipments and net imports.—Broomhall's August–April shipments to Europe (adjusted and unadjusted) are as follows, in million bushels:

Aug.–Apr. (39 weeks)	Adjusted total[a]	Reported total	United Kingdom	Orders	Continent
1928–29	520	534	119	114	301
1929–30	356	353	95	98	160
1930–31	442	450	88	153	209
1931–32	429	446	99	161	187
1932–33	336	345	125	95	126
1933–34	297	300	101	98	101

[a] Derived by subtracting from the reported figure the amount by which stocks afloat were increased during these weeks, or by adding the amount of reduction.

Since stocks of wheat afloat to Europe changed only a little between August 1 and May 1, the adjusted and unadjusted totals were more nearly identical than in all but one of the preceding five years. Both totals fell to their lowest post-war levels. Other data indicate that the sharp reduction occurred in continental European takings rather

than in the British. Shipments to orders, though smaller in absolute amount than in most preceding years, have constituted a relatively large proportion of total shipments to Europe. The pressure of wheat shipped unsold to European markets therefore appears to have been rather heavy this year, though perhaps less so than in 1930–31 and 1931–32. Small as they were, the shipments to Europe in August–April 1933–34 were somewhat in excess of requirements for consumption, for import wheat stocks were presumably moderately large rather than small in April and early May (Table III and p. 263). The prices of imported corn in relation to wheat have been relatively high on free markets, and improvement in industrial activity has been fairly general throughout Europe. These factors probably tended somewhat to enlarge wheat imports; on the other hand, domestic supplies of wheat and rye were heavy and of good quality, restrictions on wheat imports were stringent, utilization of domestic wheats was artificially stimulated, and incentives to build up stocks of imported wheat were weak.

Net import statistics by countries in Europe (August–March data in Table VII, partly estimated) show that reduction of importation between 1932–33 and 1933–34 was general. Only the British Isles, Denmark, and Belgium imported net more wheat this year than last.

The British imports, though only about 4 million bushels larger this year, were surprisingly heavy in view of a domestic wheat crop 19 million bushels larger in 1933 than in 1932. Our calculations for the British Isles suggest that total available supplies (inward carryovers plus new crops plus August–March net imports) were about 15 million bushels larger this year than last; and, while April 1 stocks were presumably somewhat larger this year, they were probably not so much as 15 million bushels larger. Some increase in wheat consumption seems indicated, probably in feed use more than in food use. The relatively high prices of imported corn as well as "dumping" of low-grade flours and wheat from Germany and France presumably account for the indicated expansion in feed use of wheat. These circumstances may also account for the slight enlargements, small as they were, of Danish and Belgian imports, and for the failure of net imports to fall even lower than they did in Holland and Switzerland. We infer that fairly liberal feed use of wheat in these five countries constitutes the principal explanation of the moderately large size of total European takings thus far in 1933–34 in relation to crop-year forecasts. French net imports of 13 million bushels in August–March also show less of a decline from 1932–33 than could be expected in view of the burdensome domestic supplies; but these imports represent almost solely shipments from the north African colonies.

Total August–March net imports into Europe ex-Danube ex-Russia fell from 284 million bushels in 1932–33 to 256 million in 1933–34. Last year, for the first time in many years, British and Irish net imports made up over half of the total; this year the fraction was even larger—about 61 as compared with 54 per cent. The decline of 28 million bushels in the European total represents substantial reductions in the takings of France (12 million bushels), of Germany (whose net exports, deducted in calculating the European total, were 5 million bushels larger this year), of Czechoslovakia (3.5 million bushels), of Greece (3.6 million), of Italy (2.9 million), of Holland (2.4 million), and of Austria (2.3 million). Reductions in other countries were smaller and, as we have seen, the British Isles, Denmark, and Belgium imported more wheat this year. Of these substantial reductions listed above, only two—those in Czechoslovakia and Greece—appear large in relation to our own and other forecasts of the year's probable net imports; for Czechoslovakia at least, the explanation may lie in an underestimate of the crop.

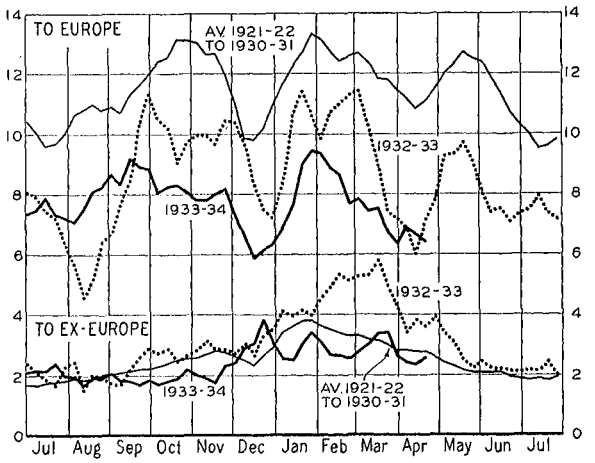
The course of weekly shipments to Europe (Chart 2, p. 262) has approximated the average course in the past four months, though at a much lower level and with a steeper rise from the mid-December trough to the end-January peak and a steeper drop from the January peak to the mid-April trough.

Shipments to ex-Europe.—The course of shipments to ex-Europe was more unusual. In large part the erratic fluctuations appear

to represent the operations of Chinese purchasers, which we are unable to follow in detail. At the end of December, following a sharp increase in ex-European shipments to a level even higher than in 1932, it seemed

CHART 2.—SHIPMENTS TO EUROPE AND TO EX-EUROPE, JULY–APRIL 1933–34, WITH COMPARISONS*

(Million bushels; 3-week moving average)



* See Table VI.

reasonable to anticipate shipments substantially above average in the ensuing three or four months. This expectation proved ill-founded, and during most of January–April shipments to ex-Europe fell below average, and far below shipments in 1933.

The distribution of total ex-European shipments during August–April 1933–34 was as follows, in million bushels, with comparisons:

Aug.–Apr. (39 weeks)	Total	China, Japan	Central America[a]	Brazil	India	Others[b]
1928–29.....	182.0	59.0	52.3	22.9	25.4	22.2
1929–30.....	106.8	28.9	40.7	21.9	5.7	8.9
1930–31.....	133.6	49.1	44.8	19.2	8.3	12.4
1931–32.....	155.6	74.8	45.9	25.1	.0	9.9
1932–33.....	134.0	77.3	26.5	21.3	1.6	7.2
1933–34.....	96.0	38.9	26.2	23.7	.2	6.8

[a] Includes Venezuela, West Indies, Dutch East Indies, etc.

[b] North and South Africa, Chile, Peru, Uruguay, Bolivia, Syria, Palestine, New Zealand.

The total of 96 million bushels, the smallest in six years, was 38 million bushels smaller than in 1932–33. The reduction was almost entirely in shipments to China and Japan, Brazilian takings appear to have been moderately heavy, and reductions in the takings of countries other than China and Japan were not significant. The decline in shipments to "Others" is somewhat surprising because Egypt could reasonably have been expected to import more heavily this year than last in view of the large reduction in the domestic wheat crop; apparently substantial stocks were carried over from the bumper crop of 1932 and have been drawn upon in 1933–34.

Japanese net imports in August–March (Table VII) were a little below those of 1932–33, which were also exceptionally small. Chinese takings, however, fell off sharply in spite of a level of world wheat prices even lower in 1933–34 than in 1932–33, and the opportunity to purchase United States wheat and flour under the R.F.C. loan. The decline —in its magnitude a surprise to most observers—was doubtless due partly to imposition of tariff duties on wheat and increased duties on flour last December, and partly to the greater abundance of domestic wheat supplies this year.

VISIBLES AND OTHER STOCKS

January–April decline. — "World" visible supplies declined considerably less than usual in January–April 1934. Pertinent data are summarized below, in million bushels:

Year	Jan. 1	May 1	Reduction
1929	523	407	116
1930	514	422	92
1931	535	503	32
1932	594	526	68
1933	550	479	71
1934	477	455	22

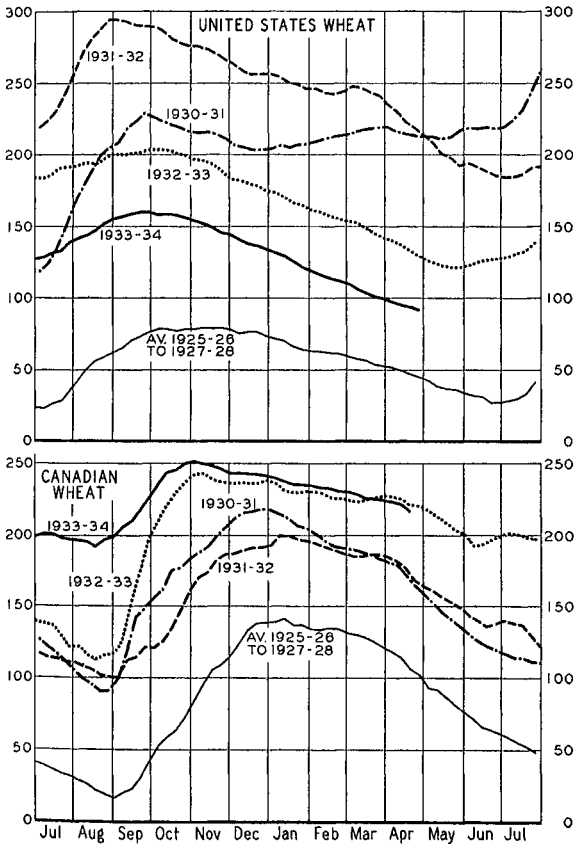
The decline of 22 million bushels was the smallest in six years, comparable only with the relatively small decline in 1931, when the operations of the Grain Stabilization Corporation were tending strongly to attract wheat to terminal elevators in the United States.

The even smaller decline in 1934 reflects developments mainly in Australia, partly in Canada. The Australian visible, instead of declining or rising by only a small amount as it had done in each of the preceding five

years, rose by nearly 40 million bushels in January–April 1934. Farmers tended to hold wheat at country stations (there included in the visible) rather than to sell at the low level of prices, and exports (p. 259) were exceptionally small in relation to the size of the new crop. In Canada, also, visibles declined substantially less than in several of the past five years, though more than in 1933 (Chart 3, lower tier); marketings by farmers (Table II) were small, but exports were well below average.

CHART 3.—NORTH AMERICAN VISIBLE SUPPLIES, JULY–APRIL 1933–34, WITH COMPARISONS*

(Million bushels)



* See Table III.

In the United States, on the other hand, the decline in visible supplies during January–April (Chart 3, upper tier) was of about the same size as in the two preceding years, and larger than in 1931 or in pre-depression years. The effects of moderately small net exports were more than offset by exceptionally small farm marketings (Table II).

Level of visible supplies, May 1.—The tabulation above shows that "world" visible supplies on January 1, 1934, were moderately lower than on the corresponding date of any of the preceding five years, and about 115 million bushels below the peak in 1932. The small reduction during January–April 1934, however, changed the relative position. As of May 1, world visibles of 455 million bushels, while remaining below those of the three preceding years, were higher than in 1929 and 1930, and were only about 70 million bushels below the peak in 1932.

Among the several countries and positions covered by the statistics of visible supplies (Table III), the visibles on May 1 were the highest for years since 1929 in Australia, Argentina, and in British ports; nearly of record size in Canada; exceptionally low afloat to Europe; and distinctly low in the United States. Stocks of United States wheat in Canada and of Canadian wheat in the United States were also small. Because of the relatively low level of United States visible, the fraction of the world visible held in North America fell below 70 per cent for the first time in five years.

The small decline in world visible supplies in recent months, and their high level on May 1, suggest that little progress has been made toward reduction of the world wheat surplus. This inference is supported by available data on wheat stocks in other positions, as summarized below.

North American stocks, April 1.—Inclusive official estimates of total wheat-grain stocks (Table IV) in North America on April 1 for five years are as follows, in million bushels, in comparison with visible supplies:

April 1	Canadian wheat	U.S. wheat	Total stocks	Visible supply
1930	253	462	715	355
1931	291	495	786	400
1932	258	575	833	419
1933	321	531	852	369
1934	283	399	682	323

Although visible supplies on April 1, 1934, were only 46 million bushels (or about 12 per

cent) smaller than in 1933, total stocks were 170 million bushels (or 20 per cent) smaller. The reduction was chiefly in stocks on farms, which declined about 100 million bushels. In the United States, farm stocks were the smallest in six years, and only the mill stocks were large. In Canada, farm stocks were lower than in any of the four preceding years except 1930, but stocks in other positions were of record or near-record size (Table IV).

The relationship of April 1 stocks to total available supplies for the crop year in North America suggests that disappearance thus far in 1933–34 has been relatively small. Pertinent statistics, based on data in Tables X and IV, are as follows, in million bushels:

Aug.–March[a]	Total disappearance[b]			Domestic disappearance[c]		
	U.S.	Canada	Total	U.S.	Canada	Total
1930–31	703	252	955	613	68	681
1931–32	709	209	918	611	68	679
1932–33	602	260	862	569	63	632
1933–34	519	204	723	497	71	568

[a] July–March for the United States.

[b] Initial stocks plus new crops minus April 1 stocks.

[c] Total disappearance minus net exports.

Both total disappearance and domestic disappearance in the first eight or nine months of 1933–34 have run lower than in the corresponding months of any of the preceding three years. In contrast with 1932–33, the reduction in total disappearance was 139 million bushels, of which some 75 million bushels resulted from reduction of net exports, mostly Canadian exports. Domestic disappearance in North America declined about 64 million bushels. These data point to a small increase in Canadian domestic disappearance, though certain other official estimates suggest slight reduction.[1] Practically all of the decline in North American domestic disappearance has occurred in the United States.

The accompanying figures, in million bushels, provide rough indications of United States domestic disappearance in its several categories. Seed use for winter wheat declined slightly from the 1932–33 level because of reduction in the acreage sown. Reduction in July–March mill grindings of wheat domestically retained was substantial, about 26 million bushels. This occurred mainly because a heavy accumulation of flour stocks existing when the crop year opened was drawn upon for consumption in the first half of the crop year;[2] but partly also because actual consumption of flour suffered some further reduction. The residual item ("other" disappearance), though by no means a reliable index of feed use of wheat, nevertheless tends to confirm earlier expectations that a substantially smaller quantity of wheat would be used for feed in 1933–34 than in 1932–33, on account of the higher level of wheat prices. Murray's estimates of feed use up to March 1 suggest a reduction from 1932–33 about 5–20 million bushels larger than the 44 million bushels indicated by the calculation above.[3]

July–Mar.	Total	Milled net[a]	Seed[b]	Other[c]
1930–31	613	383	58	172
1931–32	611	374	55	182
1932–33	569	366	54	149
1933–34	497	340	52	105

[a] Our estimates based on data in Table V; probably somewhat too low in all years.

[b] Winter wheat only; Gilbert Gusler's estimates given in *The Wheat Situation* (published by Millers' National Federation), March 22, 1934.

[c] Total disappearance minus net mill grindings and winter-wheat seed.

[1] Official statistics give the quantities of wheat ground and retained domestically in Canada in August–March 1933–34 as 29.9 million bushels, as compared with 28.9 million in 1932–33. The estimate of unmerchantable wheat in the 1933 crop was 3.0 million bushels, as compared with 2.1 million in the 1932 crop. These slight increases in items of domestic disappearance are more than offset by reduction in the estimated amount of wheat fed or to be fed to livestock and poultry, from 22.0 million bushels in 1932–33 to 17.0 million in 1933–34. Other official estimates of total domestic disappearance in the crop year, however, are within about a million bushels of the 1932–33 figures (*Monthly Review of the Wheat Situation*, April 23, 1934, pp. 20–21).

[2] See WHEAT STUDIES, January 1934, X, 158–60.

[3] See *Monthly Grain and Cotton Report* (Clement, Curtis & Co., Chicago), March 2, 1934. Murray's estimate of wheat fed to March 1, 1934, was 44 million bushels below his estimate for corresponding months of 1932–33; his estimate for the crop year 1933–34 was 57 million below his estimate for 1932–33; and he interpreted his returns as indicating for 1933–34 a reduction of 63 million in the unrevised official estimate of wheat fed on farms, which was 138 million bushels for 1932–33.

The official estimates of feed use for the crop year (71 million bushels as compared with 123 million in 1932–33) suggest a reduction of 52 million.[1]

Other stocks, April 1.—As we have seen, total wheat stocks in North America were about 170 million bushels smaller on April 1, 1934, than they were a year before. In certain additional areas and positions the level of stocks on April 1 was lower this year than last. Stocks afloat to Europe were about 16 million bushels smaller. Since shipments to ex-Europe in weeks prior to April 1 were smaller this year than last, stocks afloat to ex-Europe must have been a little smaller. Finally, to judge by statistics of total available supplies in August–March,[2] stocks in northern Africa — especially Egypt — must have been 10–15 million bushels smaller this year than last. It seems safe to infer that, in those areas and positions of the world ex-Russia and China where April 1 stocks were smaller in 1934 than in 1933, the aggregate reduction may have approximated 200 million bushels.

But in certain other areas, April 1 stocks were larger in 1934 than in 1933. Presumably there was little change in the level of old-crop wheat stocks in India and Japan. In Argentina and Australia, supplies available for export and carryover on April 1[3] may be appraised about 40 million bushels larger this year than last; the level was high, but not so high as it was in 1929. In the Danube basin, total available supplies for August–March were over 100 million bushels larger in 1933–34 than in 1932–33. April 1 stocks cannot have been correspondingly larger, since these countries substituted corn for wheat in consumption last year and have consumed much more wheat this year with the wheat crop more abundant and the corn crop shorter; but the increase in wheat consumption presumably does not fully equal the increase in available wheat supplies. Danubian stocks on April 1, 1934, were perhaps around 35 million bushels larger than those of 1933.

Total available supplies in importing Europe for August–March were about 120 million bushels larger this year than last. There is no reason to suppose that August–March consumption was appreciably lower this year in any important European country; on the contrary, some increase probably occurred, notably in Italy, Poland, France, and perhaps in Czechoslovakia, Austria, and Greece. Increases of consumption in these countries, however, would not suffice to absorb the aggregate increase in the total available supplies of importing Europe; indeed, in these same countries total April 1 stocks were presumably somewhat larger this year than last. Direct statistical evidence points toward larger April 1 stocks in Germany (about 15 million bushels), the British Isles, and Sweden. Indirect evidence points strongly to heavy stocks in France. Only in Spain, Portugal, and Belgium is there reason to suppose that stocks were appreciably smaller this year. Stocks were probably largest in France, Germany, Czechoslovakia, and Sweden.

World stocks, April 1.—On the basis of the estimates given above, wheat stocks in the world ex-Russia on April 1, 1934, were around 35 million bushels smaller than on April 1, 1933. Stocks in the four major exporting countries and afloat to Europe and ex-Europe were probably about 145 million bushels smaller this year; but aggregate stocks elsewhere, especially in Europe ex-Russia, were roughly 110 million bushels larger. The general level of world stocks ex-Russia and ex-China was probably about as high as it has been in any year except 1933. Over the past four months, evidence has appeared tending on the one hand to suggest

[1] See U.S. Department of Agriculture, Bureau of Agricultural Economics, mimeographed sheet "Farm Value, Gross Income and Cash Income from Farm Production, 1919–33," March 1934.

[2] Our estimates of August 1 stocks plus new crops plus August–March net imports or minus August–March net exports. The data on total available supplies provide only a rough indication of probable relative levels of April 1 stocks, because little is known about consumption of supplies during August–March. Statements and figures in the text, however, have been formulated with reference to probable changes in consumption.

[3] Our estimates of initial stocks plus new crops minus August–March net exports minus our estimates of net mill grindings and seed use for the crop year; data in Table X. The calculation is based on current crop estimates, and the resulting appraisal of stocks on April 1, 1934, would be too low if the Argentine crop is underestimated.

increases over our January estimates of world ex-Russian wheat supplies for 1933–34 (increases in crop estimates and in prospective Russian exports), and on the other hand to suggest decreases from our January estimates of disappearance (reduction of prospective Chinese imports and of feed use in the United States). Wheat stocks in the world ex-Russia still seem likely to be lower at the end of the crop year than at the beginning; but the reduction of stocks now seems unlikely to equal as much as a fourth of our January estimate of about 120 million bushels (see below, p. 278).

Prices

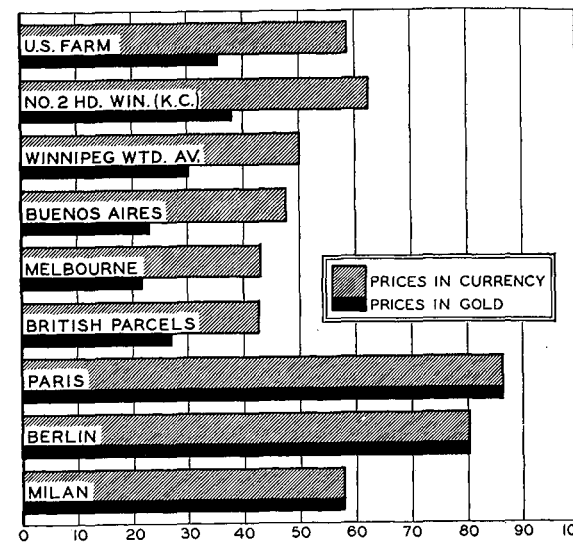
Wheat prices in the relatively free markets of the world remained during January–April at extremely low levels; but in Germany, France, and Italy they stood comparatively high. Average January–March prices in the chief exporting and importing countries are shown in Chart 4, expressed as percentages of averages of corresponding prices for the seven years 1923–29. The percentages based on prices in terms of gold, represented by the narrow black bars, are currently of little practical significance in the relatively free wheat markets.

The percentages shown for Berlin and Paris are based on the fixed official prices, which advance progressively from month to month through the season. In Germany, the wheat price structure appears to have been held closely in line with the official prices. In France it is commonly asserted that considerable trading has occurred at prices below the official schedule.

In the United States, market prices and farm prices of wheat greatly understate current effective cost to the consumer and return to the grower. Addition of the 30-cent processing tax to the January–March price of No. 2 Hard Winter wheat at Kansas City gives a mill cost 85 per cent of the 1923–29 average —equivalent to the price relationships shown in Chart 4 for Paris and Berlin. Benefit payments to growers have raised returns of participating farmers similarly in the aggregate, but in amounts varying greatly with individual growers.

In all the major relatively free markets, January–March prices averaged 20 per cent or more below peak prices of last summer.

Chart 4.—Average Wheat Prices, January–March 1934, as Percentages of 1923–29 Averages*



* Based on compilations, from primary sources, for representative wheat prices in each country specified (see Wheat Studies, December 1933, X, 140–41). Since prices in gold have come to have little meaning in most important wheat countries, emphasis is placed on price relations in terms of domestic currencies, which stand in different countries at varying discounts under 1929 gold parities.

In Liverpool and Melbourne they averaged slightly lower than twelve months earlier. In Chicago, Winnipeg, and Buenos Aires they were higher than in the same months of 1933 (Chart 6, p. 268) largely or solely because of currency depreciation during the interim.

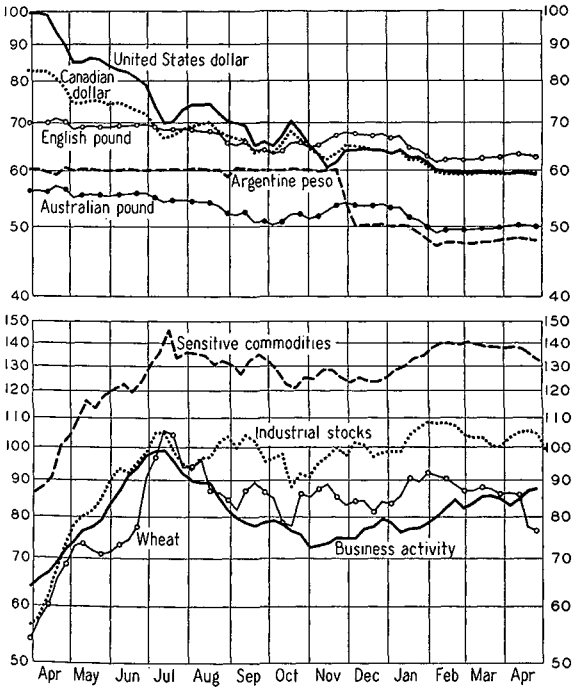
Price movements and relationships.—Dominance of international wheat-price behavior during January–April lay with Argentina. Minimum domestic prices guaranteed by the Argentine government, and resale prices to exporters held at a fairly constant margin below the minimum, laid the course on which the Liverpool market steered. Australian and Canadian markets were tied to the price of Argentine wheat at Liverpool in a relationship that changed little for Australian wheat during the period, but altered appreciably for Canadian with changing demand for Manitobas. Chicago, far out of line for commercial exportation, moved with sub-

stantial independence of the other principal markets and was largely ignored by them. The high level of Chicago prices, a vigorous holding tendency in Canada led by the government agency, and strong holding by farmers in Australia were all vital factors in supporting Argentina's pivotal resistance to the pressure of a continuing burdensome world wheat surplus.

From early December the currencies in which the internationally more important wheat prices are expressed have maintained fairly stable relationships in international exchange. In Chart 5 this substantial stability in mutual relations is reflected in closely similar fluctuations of the gold values of the five currencies shown in the upper section of the chart.[1] The general decline in currency values from mid-January to early February was led by the United States dollar. It was chiefly a consequence of the increase in the official price of gold from $34.06 to $34.45 per ounce on January 16, immediately following President Roosevelt's request to Congress for legislation to facilitate formal devaluation of the dollar; and the further increase to $35.00 per ounce on February 1, following enactment of the legislation requested.

CHART 5.—GOLD VALUES OF LEADING CURRENCIES AND SIGNIFICANT UNITED STATES PRICE AND BUSINESS SERIES, WEEKLY FROM APRIL 1933*

(Percentage of 1929 gold parity; dollars per bushel and per share; percentage of commodity prices December 1931, and of "normal" business activity)



* Gold values of currencies based on daily price of gold at London and daily exchange rates. Other series: Moody's index of prices of 15 staple commodities; Dow-Jones average of 30 industrial stocks at New York; *New York Times* weekly index of business activity; and Food Research Institute average of basic cash wheat prices at Chicago (see Table VIII).

The close similarity of movement of United States wheat and stocks prices during January–March (Chart 5) was partly fortuitous, but perhaps chiefly a consequence of independent similar response to identical or broadly similar influences in the two markets. Neither market showed a noteworthy tendency directly to follow the other. During January the chief common influence was further devaluation of the dollar in terms of gold, or speculation provoked by it. Although domestic currencies of Australia, Argentina, Canada, and Great Britain suffered about the same devaluation in terms of gold as the United States dollar, wheat prices in those countries showed no consequent rise during January.

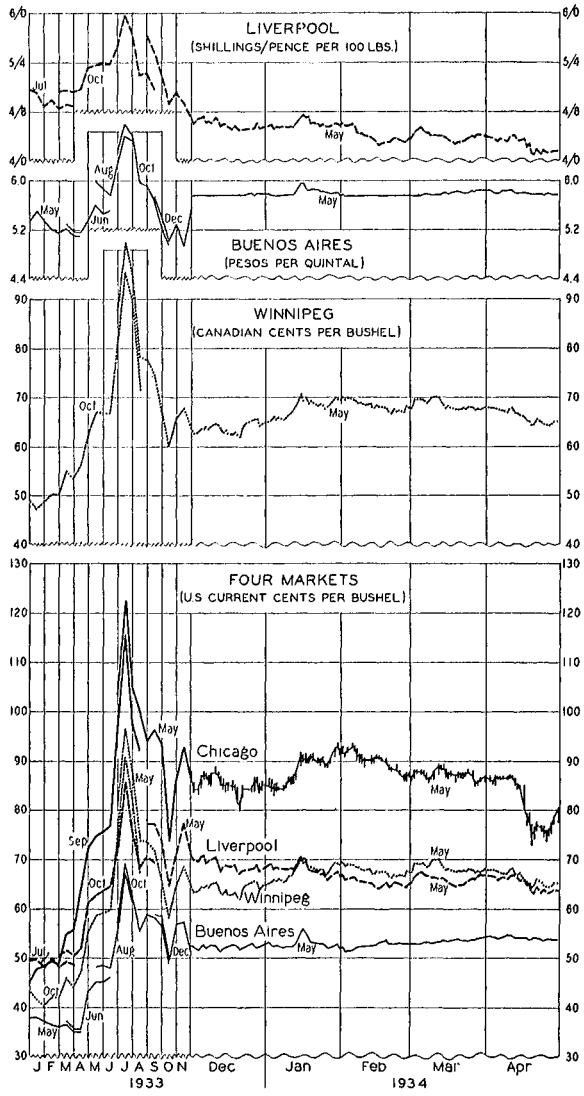
The establishment of approximate stability in relationships among the significant currencies, for the time being at least, removes the last important reason for employing wholly nominal gold prices as bases for comparing international wheat price movements. In Chart 6 our customary representation of daily fluctuations of futures prices in four

[1] The values of the Argentine peso shown in Chart 5 are based on the official exchange rate at which Argentine exporters must convert foreign currencies to pesos, which is the rate significant for the grain trade. A decree of January 19, 1934, established this rate at 15 pesos to the pound sterling. For some time previously it had been expressed in terms of the franc. Foreign exchange bought by the government from exporters at the official rate is sold to importers and others at varying higher rates, yielding a profit to the government. The *Times of Argentina* quoted the following rates as of January 18, in pesos to the pound sterling:

Exporters	14.56
Importers' permits	16.17
Private remitters	17.79
Notes (Bank of the Nation selling rate)	18.75

markets is given only in terms of domestic currencies and of conversions to United States currency at daily exchange rates.

CHART 6.—WHEAT FUTURES PRICES IN LEADING MARKETS, DAILY, DECEMBER–APRIL 1933–34, AND ON 1ST AND 15TH OF PREVIOUS MONTHS*



* Closing prices, and, for Chicago, daily highs and lows from December; data mainly from Chicago *Daily Trade Bulletin;* Winnipeg *Grain Trade News; London Grain, Seed and Oil Reporter;* and Buenos Aires *Revista Semanal.* Conversions to United States currency based on noon rates for cable transfers, from New York Federal Reserve Bank.

During January–April the Buenos Aires May future was not allowed to fall below 5.75 pesos per quintal (equivalent to 51.3–54.0 cents per bushel at exchange rates during January–April).[1] Though its price was fractionally above this minimum for a considerable portion of the period, the excess over the minimum was more than .10 peso only during January 15–17.

In Liverpool fairly important developments bearing on crop prospects, both in North America and in Europe, and reports from the meeting of the Wheat Advisory Committee at Rome, received much comment but produced little apparent price response. The Liverpool May future (on which delivery of Argentine wheat was contemplated) remained through January and the first few days of February at about a constant premium over the Buenos Aires future, equivalent to a difference of 15–16 cents per bushel. During February 7–19 Liverpool May declined 4*d.* per cental (about 5 cents a bushel), chiefly under the influence of expected increased pressure from Argentine wheat and of continued offers of Argentine wheat afloat at steadily declining prices. Attention was directed to the fact that the grain control board in Argentina could lower its selling price to shippers while maintaining fixed minima domestically.

Subsequent fluctuations in Liverpool futures prices to mid-April were attributed largely to varying ideas on the freedom with which Argentine wheat would be shipped, and more particularly to the prices at which Argentine wheat was offered on the British market. The variations in offered prices seem to have rested in large part on changes—not made public—in prices at which the control board sold to shippers. The general narrowing of the margin between Liverpool and Buenos Aires prices from January to March was occasioned largely, however, by a decline in ocean freight rates from Argentina. The relation is indicated in Chart 7 (p. 272) by the curve of freight rates from the River Plate, plotted downward from the base-line for comparison with the spread between Buenos Aires and Liverpool futures prices.

In mid-April Liverpool followed Winnipeg's moderate response to the sharp price decline in Chicago. The recession in Liverpool was the equivalent of about 4 cents a

[1] For a description of the Argentine program relative to wheat, see WHEAT STUDIES, January 1934, X, 155, 168.

bushel, against 12 cents in Chicago, and was attributed in part to lower Argentine offers.

Winnipeg showed a distinct tendency to follow Chicago in day-to-day price movements, though correspondence of movement between the two markets was less than usual. In the main trends and swings prior to mid-April, however, Winnipeg closely paralleled Liverpool except for a marked rise relative to Liverpool through January. In the mid-April decline the leadership was definitely with Chicago. Limitation of the Winnipeg decline to less than one-third of that in Chicago was attributed in Winnipeg dispatches largely to the stabilizing influence of the large holdings by the government agency. The general market situation which allowed Winnipeg to count on only moderate recession in Liverpool deserves emphasis also as a factor limiting this Winnipeg decline. The refusal of Winnipeg as well as Liverpool to follow the Chicago recovery in late April indicated a continuing dominance of the tendency for Winnipeg to maintain a close relationship with Liverpool.

The relative strength in Winnipeg during January rested mainly on encouraging export demand for Canadian wheat. With Argentine new-crop wheat reported deficient in strength, British millers were willing to pay stiff premiums for Manitobas. Later, as receipts from the Argentine (especially from Bahia Blanca) proved in part of rather better quality than expected, demand for Canadian wheat was supported by increasing call for strong high-quality flour by British bakers.

Chicago prices.—The most notable single feature of Chicago prices during January–April was their persistence during most of the period at extraordinary levels above Liverpool, despite the presence of a large surplus of wheat over domestic needs. This reflected the force of an unusual set of influences in the market, the character of which had much to do with shaping the course of Chicago prices during January–April, and will have an important bearing on price movements at Chicago in future months.

To an unusual degree control of Chicago futures prices was in the hands of traders unaccustomed to consider usual wheat price factors and oblivious to international price relations. Even seasoned wheat traders were giving much thought to political news. Prominent among beliefs influencing both groups of traders was expectation that wheat prices would rise with anticipated further inflation. Among some this expectation rested logically on anticipation of further devaluation of the dollar; among others it rested less logically on anticipation of credit inflation or of additional coinage of silver. Important further factors were expectations by some of additional governmental support to wheat prices specifically; reasoning that at 85–90 cents (around 50 cents in former gold dollars) wheat was very cheap; and mere stubborn holding of wheat bought at higher prices.

Absence of pressure of cash wheat, despite existence of a large domestic surplus, notably aided maintenance of relatively high futures prices. Pressure was absent partly owing to strong holding by farmers[1] and carrying of large stocks unhedged by some mills and elevators, actuated by much the same influences as bore directly on the futures markets; partly owing to willingness of other mills and elevators to carry liberal stocks hedged with little or no carrying charge in the futures.

The character and strength of these unusual market influences resulted in less than the usual amount of price interdependence between Chicago and Winnipeg and Liverpool, but by no means eliminated it. They tended to reduce the normally weak response of Chicago prices to crop news during most of January–April, and rendered the price sensitive even to rather inconsequential news and rumors appearing to bear on inflation prospects. They probably tended also to create wider divergence than usual between ideas of different groups of traders regarding the level of prices which could be maintained: a large element among seasoned traders could have no confidence in the stability of Chicago prices 20 cents above Liverpool, while a large proportion of those who had bought wheat on inflation prospects were

[1] Although farm stocks April 1 were not large absolutely, they were extraordinarily large in view of the small size of the previous harvest.

quite unconcerned over the abnormal spread. With a wide divergence of price ideas between major groups of traders, the situation was favorable to a severe price break once active liquidation started.

During January the Chicago May future rose nearly 10 cents, mostly by the middle of the month. In the week of January 8–13 Chicago was persistently strong, with attention directed chiefly to drought in the Southwest and to reports of prospective monetary developments. On January 15 the report that President Roosevelt would that day make recommendations to Congress for devaluation of the dollar was largely responsible for a further rise of about 4 cents. Most of the Chicago rise from January 8 was followed by Winnipeg. On January 15 and 16 Liverpool and Buenos Aires responded to the Chicago rise with price increases of over 2 cents. This rise, their first substantial response to North American price movements in more than a month, was soon lost.

With Chicago 26 cents above Liverpool and 42 cents over Buenos Aires in early February, it was widely recognized that a further moderate increase might bring commercial offers of Argentine wheat for import at the Atlantic seaboard. During February liberal rains and snows relieved the drought in winter-wheat areas. Nevertheless, Chicago May wheat declined only about 6 cents during February and remained more than 20 cents over Liverpool. During March and early April, prices fluctuated through a narrow range largely under the influence of reports on political developments: changing prospects for silver legislation, suggestions of other inflationary developments, and prospects of extreme legislation regulating the grain exchanges.[1]

The dramatic decline of 12 cents a bushel in Chicago wheat prices between April 10–19 (closing prices) received varied explanations. Different groups within the grain trade, apparently somewhat influenced by special interests, attached prime significance respectively to: (1) refusal of the Treasury to levy an extra anti-dumping duty on Polish rye;[2] (2) a press report that the Secretary of Agriculture believed United States wheat prices should go to an export basis within six to eight months; and (3) reports that the Administration would oppose inflationary silver legislation. The more general opinion was that these were incidents significant in determining the precise timing and extent of the decline, but that the chief factor was a widely anticipated liquidation of May futures by "tired longs" in all grains. This view is supported by several circumstances attending the slump.

Over three-fourths of the decline occurred during April 11–17, with prices of all grains and of many other speculative commodities declining simultaneously, though in different degrees. Declines in closing prices for May futures of wheat and five other commodities between April 10 and April 17 compare as follows in cents and in percentages:

	Cents	Percentage		Cents	Percentage
Rye	9.2	15.0	Wheat	8.3	9.6
Corn	6.9	14.0	Cotton	0.42	3.5
Oats	6.6	20.1	Silver	1.6	3.4

On April 11 price declines in all grains were small—most considerable in rye, affected by announcement of decision of the Treasury not to impose an additional duty on Polish rye. On the 12th the decline in each grain was larger than on the previous day, with the largest percentage declines occurring in corn and oats. At the close of the session a prominent commission house stated in its daily market letter: "There has been for several months a more or less stale interest in the market. A great many purchases were made on the belief that inflation would carry commodity prices higher. We have called attention for some time to the large open interest in all cereals. . . . . Obviously a great many

[1] The code of fair competition for the grain exchanges, approved March 15, became effective on March 31.

[2] The high domestic price of rye had attracted imports over the 15-cent duty from Argentina and Poland as well as from Canada. Polish shipments were facilitated by an export bounty equivalent to about 30 cents a bushel. Certain trade interests held that the Polish movement constituted dumping and that imposition of a countervailing duty was mandatory under the Tariff Act. As this grain was accumulated in bond pending final decision, reported stocks of bonded rye in the United States rose from 85 thousand bushels on February 24 to 3,280 thousand bushels on March 3 and 4,062 thousand bushels on April 14.

speculators who own these contracts will not take a delivery, and this liquidation, which started today, caused severe weakness in all pits."

During the next two days price changes among the grains were slight except in oats, which continued notably weak. On April 16 (Monday), however, wheat dropped to 4¾ cents below the previous close, and all other grains fell to the minima fixed by restrictions on daily fluctuations. Reports that the Administration would oppose silver legislation, accompanied by a sharp decline in silver prices, were regarded as influential in precipitating the break. The press statement that "Secretary Wallace and his associates consider a closer alignment between domestic and world prices to be inevitable within the next six or eight months"[1] received much comment. Nevertheless, wheat was not so weak as the coarse grains. Liquidation continued on the 17th, but with only moderate net declines in grain prices.

The final phase of the decline occurred on April 19, when wheat dropped momentarily to the limit of 5 cents under the closing price of the previous day, and closed about 3 cents under. The chief influence seems to have been reiteration by Secretary Wallace of the view attributed to him previously. Slight increases in prices of corn and oats in the face of the sharp drop in wheat emphasized the special character of this part of the wheat price decline.

The slump at Chicago served incidentally to clarify impressions of current Administration intentions with respect to prices of wheat and other grains. There was no official action or statement apparently designed to check the declines. The rather ill-founded accusations of government responsibility for the breaks were accepted with apparent equanimity. Buying by the Federal Surplus Relief Corporation, such as had been influential in promoting sharp recovery from a similar price collapse in October, was conspicuously absent.

After the mid-April readjustment, Chicago wheat price movements were dominated by weather news. Owing to serious deficiency of subsoil moisture, prospects for the winter-wheat crop of the Southwest suffered under only moderate periods of dry weather. In Minnesota and the Dakotas extreme drought resulted in delayed germination, some curtailment of seeding, and damage from soil blowing. Both surface and subsoil moisture conditions there were commonly described as the worst within memory of most crop observers.

Price recovery in late April was short-lived, but during May 5–10 withering heat through the whole Mississippi Valley and dust storms of extraordinary extent and severity brought a sharp price advance that fully recovered the mid-April loss. In this price rise, Winnipeg advanced two-thirds as much as Chicago, influenced quite as much perhaps by real threat to the Canadian crop as by the crop damage in the United States and consequent rise in Chicago prices. Liverpool meanwhile rose only one-third as much as Chicago.

International wheat price spreads.—In the British market price relations among import wheats were chiefly noteworthy for the extraordinary premiums of Manitobas over Argentine wheat. The British journal *Milling* was led to give prominent place to comparative prices accompanied by a quotation from the Ottawa Agreements Act: "It is agreed that the duty . . . . may be removed if at any time Empire producers . . . . are unable or unwilling to offer these commodities on first sale in the U.K. at prices not exceeding the world price and in quantities sufficient to supply the requirements of the U.K. consumers."[2]

From about mid-January through early March parcels prices of No. 3 Manitoba ruled nearly the equivalent of 20 cents a bushel above prices of Rosafé parcels and for the whole of January–April 1934 averaged about 17 cents over (Chart 7, p. 272). This compares with previous extreme premiums of slightly less than 15 and 13 cents in 1926 and 1929, respectively. For comparisons in terms of cost to British millers, however, the preferential duty equivalent lately to 6.4 cents per

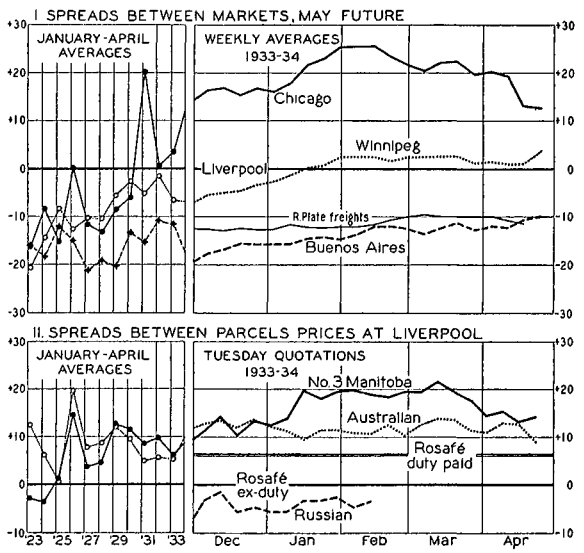
[1] Quoted as the statement appeared, under Washington date line, in the *New York Times*, April 15, 1934, p. N9, in a discussion of the Department's views relative to world wheat agreements.

[2] March 31, 1934, p. 346.

bushel must be added to the c.i.f. prices of Rosafé parcels. On this basis, the average premium of No. 3 Manitoba in January–April 1934 was less than 11 cents—close to the middle of the range of premiums which prevailed for January–April of the four years 1929–32. It contrasts sharply, however, with the relation

CHART 7.—PRICE SPREADS BETWEEN LEADING FUTURES MARKETS AND BETWEEN IMPORTANT CASH WHEATS AT LIVERPOOL*

(U.S. cents per bushel)



* For futures, based on weekly averages of daily closing prices from sources described under Chart 6; for cash wheat, based on Liverpool parcels prices as for Table VIII; River Plate freights (up river) from Broomhall's *Corn Trade News*.

in 1933, when, following a large Canadian harvest, parcels prices for No. 3 Manitoba averaged during January–April only about 2 cents over Rosafé parcels, duty-paid.[1]

Australian parcels sold in the British market at 3–7 cents over Rosafé prices plus duty. Their premium has averaged higher in most recent years (1923–33) and distinctly lower only in 1925 (following an extremely short Argentine and large Australian harvest) and in 1933. Russian wheat parcels were quoted only to the middle of February. Except for small quantities of Pacific Soft White, United States wheat remained entirely off the British market throughout January–April, as through the earlier months of the crop year.

The price spread between Liverpool and Buenos Aires May futures, commonly governed closely in January–April by shipment costs (with which must now be included duty), ruled smaller than usual in relation to costs in 1934—a reflection of government sales to exporters below a normal relation to the Buenos Aires futures. The course of the spread nevertheless roughly paralleled the course of quoted freight rates from the River Plate.

The Winnipeg May future, ruling slightly above Liverpool May after mid-January, was 3–6 cents higher, relatively, than during January–April of the years 1929–32, and some 8 cents higher than in the same period a year ago. The position of the Winnipeg future was in part a reflection of the premiums commanded by Canadian wheat in the United Kingdom.

Chicago May wheat during most of January–April stood even farther above Liverpool than in the corresponding months of 1931, when it was sustained by the price-pegging operations of the Grain Stabilization Corporation. During the first half of February Chicago prices averaged higher relative to Liverpool than at any other time during the crop year, save on a few days in the previous July and August (see Chart 6, p. 268).[2]

United States price spreads.—Kansas City futures prices ruled at a slightly greater discount under Chicago than in the two previous years (Chart 8), in contrast with common trade predictions early in the season that shortage in the crop of hard winter wheat would hold Kansas City prices comparatively high. By the end of March the price of Kansas City May wheat reached a discount of 8½ cents under Chicago May. This represented a full shipping difference for wheat with favorable freight billing, but brought only small quantities of wheat to Chicago. Minneapolis

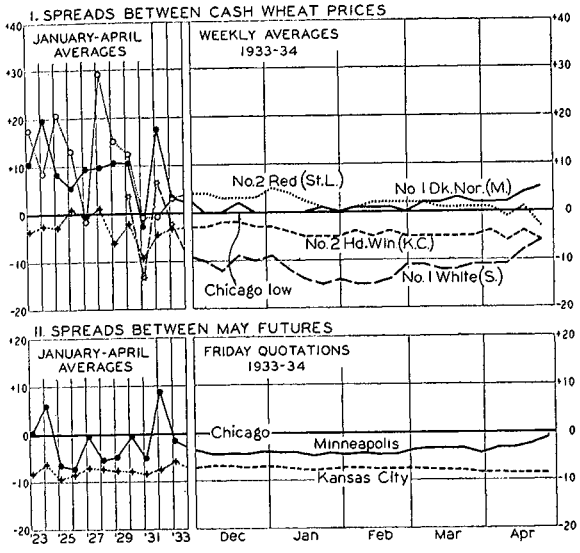
[1] At exchange rates then current the duty of 2 shillings per quarter (which became effective in November 1932) was equivalent to 4.3 cents per bushel.

[2] The condensed portion of Chart 7 (as also of Chart 8) shows only January–April averages, represented by dots. The lines in this portion of the chart serve only as convenient connectives; they have no necessary relation to the course of the spreads during months intervening between those included in the averages.

May wheat ruled mostly 4.5–5 cents under Chicago May until the end of February, but gained slightly on Chicago in March and gained sharply in April, influenced by deteriorating prospects for the new spring-wheat crop.

CHART 8.—PRICE SPREADS BETWEEN UNITED STATES WHEAT MARKETS*

(U.S. cents per bushel)



* Computed for cash prices from Food Research Institute compilation of prices of cheapest deliverable wheat at Chicago and U.S. Department of Agriculture weighted averages of prices at other markets (Table VIII); for futures prices, from closing quotations in the Chicago *Daily Trade Bulletin*.

Spreads of weighted average cash prices of No. 2 Hard Winter wheat at Kansas City and No. 1 Dark Northern at Minneapolis from Chicago cash wheat (cheapest contract grade) followed courses similar to the corresponding spreads between May futures. No. 1 Dark Northern stood notably lower relative to the Chicago cash price than in January–April of most recent years. Extra percentages of protein generally commanded no premiums or at most very small premiums, as in 1933; the weighted average price for the grade was only a few cents above the price of the cheapest wheat in the grade. At Kansas City protein premiums were also very low, with similar effect on the weighted average cash price. During January competition of soft white wheat from the Pacific Northwest caused Soft Red Winter Wheat at St. Louis to lose much of the small premium over Chicago low cash that it had earlier enjoyed; in March and April it declined further, influenced by the favorable prospects for the new soft winter-wheat crop.

The price of No. 1 White wheat at Seattle, closely tied to foreign markets through subsidized exportation, lost ground relative to Chicago in January as Chicago prices rose. The resulting wider discounts under eastern United States prices resulted in active shipping of Pacific wheat to the Atlantic seaboard. This continued until late February, by which time the decline in Chicago prices had left the Pacific Northwest out of line for free selling to the eastern United States.

Chicago September wheat maintained a premium over July of about 1 cent throughout January–April. This is a normal relationship for a year of large surplus for carryover, but absence of pressure of cash supplies. Chicago July wheat, after ranging 1–2 cents under May during January and February, held close to the price of May wheat or slightly above during part of March and most of April.

Failure of July wheat to go to a premium of 1–2 cents over May, such as was to have been expected from the liberality of supplies for carryover, was immediately attributable to shortage of contract stocks at Chicago. On April 28 only slightly over 1 million bushels of wheat was reported in Chicago public elevators, and of this all but 13,000 bushels of Yellow Hard Winter was of grades quoted at premiums over the May future. For the first time since 1928 there were no deliveries on Chicago wheat futures contracts on the first trading day in May. Behind the short supplies of contract wheat at Chicago lay an unusual concomitance of circumstances. Important among them were the strong country and mill holding of cash wheat during the current season; absence of even a minimum shipping difference between Kansas City and Chicago until late in the season; and a late rise in spring-wheat prices—owing to threatened crop damage—that prevented shipments from Duluth, previously considered probable upon opening of navigation on the Great Lakes.

Outlook for Exports

Total shipments and net exports.—The outlook for final totals for international trade during the crop year 1933–34 may now be considered most satisfactorily by reference to statistics to date and prospects for shipments (Broomhall's data) during the closing 13 weeks of the season — approximately May–July. Thus appraised, our January estimate of probable total net exports in 1933–34, at 550 million bushels, appears likely to prove about 15 million bushels too high.

The average seasonal relationship over the past decade is that fourth-quarter shipments equal 87 per cent of third-quarter shipments. If this average relationship should hold in 1934, fourth-quarter shipments would approximate only 116 million bushels, bringing crop-year shipments to 513 million bushels and crop-year net exports to 528 million—a figure 22 million below our January forecast. In general, fourth-quarter shipments tend to be lowest in relation to third-quarter shipments when the spring outlook for European wheat crops is relatively good and when, in addition, stocks of wheat afloat to Europe and in British ports on May 1 are relatively high. When these conditions held in 1925, fourth-quarter shipments were only 56 per cent of third-quarter shipments. When opposite circumstances prevailed in 1930, the percentage was 108.

This year, conditions do not appear similarly exceptional. May 1 stocks afloat and in British ports were relatively small (afloat rather than in ports), and the present outlook is for a moderate-sized European crop, trend considered, rather than one distinctly large or small. The stocks position and the European crop outlook seem to point toward a relatively heavy movement in the fourth quarter as compared with the third, but not so heavy a relative movement as in 1930, when May 1 stocks were lower than they were this year. As we appraise the situation, fourth-quarter shipments are likely to approximate 90–100 per cent of third-quarter shipments, or 120–133 million bushels. A figure of 124 million bushels, about the middle of this range, seems a reasonable forecast of shipments in the closing quarter of the crop year. This figure is 12 million bushels below fourth-quarter shipments last year, and 9 million below third-quarter shipments this year. It implies average shipments of about 9.5 million bushels per week in the last 13 weeks of the crop year; by reference to Chart 1 (p. 258) the relationships of this forecast to average and to 1933 end-season weekly shipments can be perceived.

Fourth-quarter shipments of 124 million bushels imply a forecast of crop-year shipments of 521 million bushels. Early in May, Broomhall's forecast was reduced from 552 to 528 million. Probable crop-year net exports may be set at 535 million bushels, 15 million below our January forecast but 10 million above the International Institute of Agriculture's October forecast, which was reiterated in March.

Distribution of probable net exports.—The following tabulation, in million bushels, summarizes the changes which now seem appropriate in our January forecast of net exports in total and by sources:

Country	January forecast	May forecast	Change
United States	40	33	− 7
Canada	215	192	−23
Argentina	110	140	+30
Australia	105	85	−20
Russia	30	35	+ 5
Danube	35	35	0
Others	15[a]	15[b]	0
Total	550	535	−15

[a] Algeria, Morocco, Tunis, Poland, Spain.
[b] Algeria, Morocco, Spain, Germany, India.

The prospective outflow from the United States, Russia, the Danubian countries, and "Others" ought to be predictable within a fairly narrow margin of error. Net exports from these countries in August–March are reported or can be estimated rather closely (see p. 260 and Table VII), and known facts provide fairly reliable indications of probable net exports in April–July.

United States net exports (including shipments to possessions) during August–March were 21.5 million bushels; the amount sold for export and remaining to be shipped by the North Pacific Emergency Export Association

on April 1 was about 9 million bushels; the Association had not purchased a great deal more up to May 15; and only a trickle of wheat and flour can reasonably be expected to be exported through ordinary commercial channels through July unless Chicago prices fall to export parity, which seems unlikely (see p. 280). Consequently a reduction of about 8 million bushels from our January forecast is indicated.

Russia exported about 33 million bushels in August–March, but the spring movement during the six weeks ending in mid-May was so small as to suggest that April–July net exports will not exceed 2–4 million bushels. Danubian net exports, about 26 million bushels in August–March, will probably be brought to our January estimate of 35 million bushels by continued exports mostly from Hungary, possibly involving a small upward adjustment in the Hungarian quota. Unless Danubian new-crop prospects turn more favorable in the near future, it seems unlikely that the estimate will be exceeded through enlargement of the outflow of wheat from Rumania and Yugoslavia in July, as sometimes happens. Discussion of the estimate of net exports from miscellaneous other countries seems superfluous, other than to observe that the August–March trade statistics involve a change in the list of countries constituting the group, as specified in footnotes to the tabulation above; and that India, though she could ship out moderately large quantities from her big new crop, probably will not do so because of the low level of world wheat prices.

The information that can be brought to bear upon probable April–July and August–July net exports from Australia, Argentina, and Canada seems less trustworthy. Australian weekly shipments through March and April and into May, however, have accorded roughly with the average seasonal movement, though at a lower level (see Chart 1, p. 258). There seems to be little reason to suppose, in view of the new-crop outlook, that Australian farmers will alter their disposition to restrain sales much before August 1, if then; and we therefore assume that Australian shipments can be expected to average only about 1–1.5 million bushels a week in the last 13 weeks of the season. On this assumption the year's shipments would approximate 80–87 million bushels—say 85—and net exports would be about the same.

We find no reliable basis for close allocation of the residual amount of estimated crop-year net exports (332 million bushels) between Canada and Argentina. Of this amount, Canada had already exported 133 million bushels in August–March and Argentina 91 million, leaving about 108 million probably to be exported from both countries in April–July. How much may go from each country depends partly upon the decisions of governmental agencies.

We assume that Argentina will export more than the 19 million bushels that remained to be exported in April–July from her original crop-year quota of 110 million. This will probably occur whether or not agreement is reached concerning enlargement of the quota. Argentine crop-year net exports may reach 140 million bushels, a figure 30 million in excess of the original quota. This involves the assumption that Argentine shipments will show less than the usual seasonal reduction between February–April and May–July. The 108 million bushels probably to be exported net by Argentina and Canada together in April–July would then be divided, 49 million bushels to Argentina, 59 million to Canada; and Canadian crop-year net exports may approximate 192 million bushels.

Quotas and net exports.—The trade forecasts given above for the crop year compare as follows, in million bushels, with 1933–34 export quotas under the International Wheat Agreement if these are eventually adjusted in accord with the proposal made in April but not yet adopted (see p. 254):

Country	Proposed quotas	Forecast, net exports
United States	35	33
Canada	194	192
Argentina	140	140
Australia	93	85
Danube	50–54	35
USSR	44–48[a]	35
Others		15
Total	560	535

[a] See footnote 1, p. 254.

Our forecast of the total falls 22 million bushels below world import demand as estimated in the Agreement. The United States, Australian, and Danubian quotas even under the proposed adjustment seem unlikely to be used up; the Argentine would probably be used to the full. The residual allowance of 44–48 million bushels, which no nation that will help to ship the wheat has accepted as a quota, will probably be slightly exceeded. Canadian exports may closely approach the proposed quota.

Outlook for Year-End Stocks

North America.—Official statistics of United States and Canadian stocks as of April 1, net exports, milling, and feed use provide a basis for revision of our January forecasts of probable outward carryover in these countries. The following tabulation, in million bushels, presents the pertinent data for the United States:

Apr.–June	Apr. 1 stocks	July 1 stocks	April–June disappearance			
			Total	Net exports	Milled net	Residual
1931	490	324[a]	166[b]	25	109	32[b]
1932	547	382[a]	165[b]	28	111	24[b]
1933	524	389	135	3	121	11
1934	397	260[c]	137[c]	11[c]	115[c]	11[c]

[a] Unrevised; probably a few million bushels too low.
[b] Probably a few million bushels too high.
[c] Our forecasts.

On the basis of these calculations, the carryover on July 1, 1934, now seems likely to approximate 260 million bushels, which is 20 million bushels more than our January forecast.

Stocks on April 1 were estimated at 397 million bushels. Out of these stocks, wheat will disappear in April–June as net exports of wheat and flour (estimated above, p. 275, as 11 million bushels); as mill grindings retained domestically; and as seed for spring wheat and feed. Net mill grindings in April–June will probably be moderately large. The outlook includes prospects for something of an increase in the processing tax about July 1, without imposition of a new or revised tax on flour stocks; and millers, bakers, and consumers therefore have and will have incentives to build up stocks of wheat flour as was done in the closing months of 1932–33, though probably not so extensively. Accordingly we place probable net mill grindings in April–June 1934 higher than in 1931 and 1932, despite some probable reduction in total flour consumption; but lower than grindings in 1933. No adequate basis seems to exist for appraising April–June disappearance of wheat for seed and for feed; the residual elements in the tabulation above have hardly seemed large enough to cover these items in past years. On the assumption that both feed use and seed use will be relatively small this year, we employ a residual item of about the same size as that of 1933. This residual item is to be interpreted not as a forecast of actual disappearance for feed and seed, but as an estimate of the residual which in retrospect will probably be calculable from official statistics if our forecasts of net exports and net mill grindings prove to be accurate.

A forecast of probable outward carryover reached in this way is consistent with forecasts of other items in disposition independently calculated and given in Table X. The calculations do not call into question the accuracy of the official crop estimate for 1933.

A similar calculation for Canada, given below in million bushels, leads to a forecast of the 1934 carryover of about 185 million bushels, 30 million larger than our January forecast:

Apr.–July	Apr. 1 stocks	Aug. 1 stocks	April–July disappearance			
			Total	Net exports	Milled net	Residual
1931	280	134	146	74	13	59
1932	246	132	114	66	12	26
1933	315	212	103	66	13	24
1934	278	183[a]	95[a]	62[a]	13[a]	20[a]

[a] Our forecasts.

The method is essentially the same as that used for the United States; and the same comments are applicable to the forecast of the residual item, which in 1932 and 1933 at least seems hardly large enough to cover April–July seed use and feed use of wheat. Reduction of this item from the figure for 1932–33 is indicated by the lower official estimate of crop-year feed use this year (p. 264) and the prospect for reduction of sown acreage (p. 279).

In spite of these substantial upward revisions, year-end carryovers in the United States and Canada will be substantially lower this year than last—together, by perhaps 155 million bushels. The reduction in the United States carryover will bring it to the lowest level in five years; but the total will be more than double the normal size. Flour stocks, which are not included in the carryover statistics, will be very heavy, though probably not so large as last year.

Small changes in our January forecasts of year-end stocks of United States wheat stored in Canada and of Canadian wheat stored in the United States are given in the tabulation on page 278, which summarizes the present outlook for world wheat stocks.

Other exporting countries and afloat.—The probable level of stocks next August 1 in Argentina and Australia may now be calculated by reference to revised estimates of supplies, net exports, and domestic use given in Table X. For Australia, a reduction in our January appraisal of initial stocks is much more than offset by a large reduction in probable net exports and an upward revision of the 1933 crop; and year-end stocks now seem likely to approximate 96 million bushels. This figure, 31 million bushels above our January forecast, is much in excess of any on record except during the war and shortly after. For Argentina, the upward revision of 30 million bushels in our forecast of crop-year net exports involves a corresponding downward adjustment of probable year-end stocks to 98 million bushels. Larger August 1 stocks than these were held over only in 1929. The appraisal rests on the standing official crop estimate; if this is too low, year-end stocks will presumably exceed the forecast.

Our earlier forecasts of stocks in India and the Danube basin remain unchanged. In the Danube basin, a small upward revision in the 1933 crop estimate for Rumania has been offset by upward revisions in appraisals of consumption in Rumania and Yugoslavia. Year-end stocks in northern Africa now seem likely to fall about 3 million bushels below our January forecast; but the calculations are insecurely founded. If our present forecasts of international trade in April–July are borne out, stocks afloat both to Europe and to ex-Europe will probably fall a little below our January forecasts.

Importing Europe.—A press dispatch from the meeting of the Wheat Advisory Committee at Rome, dated April 5, carried the statement that the Committee "was impressed by the fact that the probable increase in stocks in the principal European importing countries at the beginning of August, 1934, compared to the previous year, will amount to 100,000,000 to 120,000,000 bushels."[1] Writing last January, we appraised the probable increase of stocks in European importing countries as negligible — only about 2 million bushels.

The opinions of experts familiar with the wheat situation country by country in Europe are to be respected. We find no convincing evidence, however, in the crop statistics now standing, in the reported trade statistics, or in the fragmentary statistics of stocks in March and April (see p. 265) to justify the view that an increase of stocks in importing Europe more than half as large as 100–120 million bushels is reasonably in prospect. In our January forecast we allowed for changes in stocks as follows: increases in Germany (17 million bushels), Italy (6), Sweden (2), Czechoslovakia (7), Greece (2), Poland (1); decreases in Belgium (1), Spain (21), and Portugal (2); and only trifling changes elsewhere. As we interpret the information now available, these appraisals continue to serve fairly satisfactorily except so far as concerns the British Isles, France, and Italy. British stocks now seem likely to be enlarged somewhat, perhaps by 5 million bushels. The French crop estimate has been raised substantially, and France now seems likely to import more than we earlier calculated, to consume somewhat less, and hence to increase her stocks by about 35 – 40 million bushels rather than to leave them unchanged. Italian consumption may fall below our earlier rather liberal allowance, and year-end stocks may increase by about 11 rather than by 6 million bushels.

[1] *New York Times*, April 6, 1934, quoting a communiqué issued by the Committee.

Present indications therefore seem to us to point toward an increase of about 50 million bushels in the year-end stocks of European importing countries in the course of 1933–34. The much larger increase contemplated by the experts at the Wheat Advisory Committee seems to us a reasonable one only on the explicit assumption that the European wheat crop of 1933 was officially underestimated by 50–100 million bushels. If and when such underestimation is demonstrated, our forecast of stocks must be revised upward. In any event, the year-end stocks in importing Europe now seem likely to prove the largest in post-war years by a substantial margin.

Summary of stocks.—The foregoing revisions of forecasts of stocks about on August 1 next are summarized, in million bushels, in the following tabulation; revised estimates for 1933 appear in the first column:

Position	1933 (revised)	1934 (Jan. forecast)	1934 (May forecast)
United States	389	240	260
United States in Canada	4	4	2
Canada	212	155	185
Canadian in United States	7	7	7
Australia	55	65	96
Argentina	75	128	98
Afloat to Europe	32	32	30
Total above	774	631	678
Importing Europe	238	245	295
Danube basin	29	50	50
India	29	29	29
Northern Africa	18	13	10
Japan	5	5	5
Afloat to ex-Europe	11	11	10
Total above	330	353	399
Grand total	1,104	984	1,077

The outlook now appears to be for total "world" wheat stocks only some 25 million bushels smaller about on August 1 this year than last — not some 120 million bushels smaller, as we anticipated in January. The total will probably be the second highest in history. Very little progress has been made toward reduction of the world wheat surplus. The accumulated information of the past four months has affected our January calculations most noticeably with respect to (1) probable total supplies for the year, which now seem larger (see p. 253); (2) probable crop-year consumption of wheat in the world ex-Russia, which now seems likely to prove smaller, particularly in the United States (feed use), and also in France and Italy; and (3) probable outflow of wheat from the world ex-Russia to outside areas, especially China. Wheat disappearance in the world ex-Russia in 1933–34 (see p. 253) now seems likely to fall a little below disappearance in 1932–33 rather than to prove larger by about 30 million bushels.

If the Argentine, Czechoslovakian, or Hungarian crop estimates for 1933 should prove to be too low, the revised estimates of probable 1934 stocks given above would require to be increased roughly by the amount of the underestimate of crops. Upward revisions of crop estimates may conceivably bring total stocks next August 1 practically to the peak level of August 1, 1933, as the Wheat Advisory Committee anticipates. At the moment, this outcome seems to us not in clear prospect but within the realm of possibilities.

Outlook for 1934 Crops

On the assumption that weather conditions from May 1 to harvest will not be exceptionally favorable nor unfavorable, we summarize below, in million bushels, our appraisals of the present prospects for 1934 wheat crops by regions in the world ex-Russia, with comparisons:

Region	Reported			Prospective
	1931	1932	1933	1934
India	347	337	353	370
United States winter	818	476	351	440
United States spring	114	268	176	165
Canada	321	443	270	380
Importing Europe[a]	1,064	1,265	1,362	1,200
Danube[a]	370	224	365	310
Other Northern Hem.[b]	172	177	166	175
Argentina	220	235	256	250
Australia	191	213	174	145
Other Southern Hem.[c]	52	54	56	55
Total	3,669	3,692	3,529	3,490

[a] Countries included as in Table I.

[b] Mexico, Algeria, Morocco, Tunis, Egypt, Japan, Chosen.

[c] Chile, Uruguay, South Africa, New Zealand.

If ordinary weather prevails in coming months, the world crop ex-Russia will probably be relatively small, though not much below or above that of 1933. The major exporting countries as a group will probably harvest more wheat in 1934 than in 1933, while European importing countries will probably harvest less. The prospective distribution thus points toward a larger volume of international trade in 1934–35 than in 1933–34.

The latest official forecast of the Indian crop is 370 million bushels. In the past half-century, only seven crops were as large or larger. April forecasts of Indian crops more often fall below than exceed the final estimates; but this year may be exceptional.

The official May forecast of the United States winter-wheat crop was 461 million bushels. The crop entered the winter in poor condition, improved to April 1, and deteriorated in May. This deterioration brought forth the official pronouncement that in about mid-May a crop of only 440 million was in prospect. This we accept as the best available indication. Abandonment of 15.8 per cent to May 1 was moderately above the ten-year average but was less than seemed probable four or five months ago. A crop of 440 million bushels would be distinctly small, but 89 million above the strikingly short crop of 1933. Condition in May was excellent in the Pacific Northwest and fairly good east of the Mississippi, but low in most of the hard red winter-wheat belt. It may be taken for granted that there will be urgent demand for continued operation of the North Pacific Emergency Export Association, or an equivalent, in 1934–35.

In the United States spring-wheat belt (aside from the Pacific Northwest), spring conditions were decidedly poor because of almost complete absence of subsoil moisture, deficient topsoil moisture, a late sowing season, and prospects for a scourge of grasshoppers.[1] As of March 1, reports of farmers' intentions to plant were officially interpreted as indicating a probable harvested area of 18.59 million acres, without full allowance for results of the acreage-reduction campaign The unfavorable seeding conditions point toward a substantially smaller harvested acreage, which for purposes of calculation we guess to be about 17 million acres. On the supposition that present conditions and ordinary weather to harvest point to a yield per acre roughly 15–20 per cent below the average (12.1 bushels) of the 11 preceding years, the probable crop may be calculated as 165–175 million bushels—about the same as the poor crop of 1933, but above the very short crop of 1931. We employ the lower figure of this range.

The adverse circumstances in the United States Northwest extend into the southern portions of the Canadian spring-wheat belt,[2] but in the northern portions the outlook is much more favorable. An official report of intentions to plant as of May 1 points toward a reduction of the Canadian wheat area from 26 million acres in 1933 to about 23.7 million in 1934. A yield per acre in 1934 about 5 per cent below the average (16.7 bushels for 1923–33) now seems probable with ordinary weather to harvest. Such a yield on the prospective acreage sown would produce a crop of about 380 million bushels, much above the short crop of 1933.

In importing Europe, the acreage sown for the crop of 1934 now appears to have fallen slightly from the 1933 level, perhaps from 57.6 to 57.0 million acres unless winterkilled wheat has been fully replaced by spring-wheat sowings. The April–May condition of the plants, so far as can be ascertained, does not point to a good yield. An average yield per acre in importing Europe over the past 11 years is 20.2 bushels; but a 1934 yield extrapolated as an ordinate of the straight-line trend of yields over the period 1923–33 is 10 per cent higher, or 22.2 bushels. We appraise the available reports as indicating a yield per

[1] Although the situation regarding grasshoppers is potentially menacing, the efforts toward control have been effectively organized.

[2] With respect to grasshoppers, the Searle Grain Company estimated that 13.9 million acres of the wheat area in the Prairie Provinces are severely and very seriously infested this year, as compared with only .8 million acres last year. See *Grain Market Features*, April 5, 1934. With respect to moisture conditions, we rely upon an official Canadian analysis published in *Monthly Review of the Wheat Situation*, April 23, 1934, pp. 18–19. Some private reports give a more favorable view of the moisture supply.

acre in 1934 about 5 per cent below the 1934 ordinate of trend, which would be 21.1 bushels; even in 1924, when the spring outlook was worse than it is now, the yield as finally reported fell only 8.5 below the 1924 ordinate of trend. A yield of 21.1 bushels on an area of 57.0 million acres would produce a 1934 crop of about 1,200 million bushels. The assumption that weather to harvest will be ordinary involves the probability that the crop of 1934 will be inferior in quality to the crops of 1929, 1932, and 1933.

In the Danube basin the acreage sown for 1934 appears to have fallen about a million acres from the 1933 level of 20.0 million acres. Here also May condition appears to point toward a yield per acre about 5 per cent below the ordinate of trend for 1934. A yield of 16.3 bushels on an acreage of 19.0 million acres would produce a crop of about 310 million bushels.

For Argentina we assume for 1934 an increase of about 5 per cent in the sown acreage and an average yield per acre sown (1923–33) of 12.1 bushels, resulting in a crop of about 250 million bushels with ordinary weather to the harvest, still seven months distant. In Australia, some observers anticipate a wheat acreage for 1934 about 25 per cent below that of 1933, on account of remunerative wool prices and a feeling among farmers that a moderate or poor yield per acre is due after four successive good and near-average yields. We assume that a reduction about half as large as this is reasonably in prospect, bringing the acreage from 14.9 to 13.1 acres; and that the yield per acre may fall 5 per cent below the 1923–33 average to about 11.1 bushels. On these assumptions the crop would be a moderately small one of about 145 million bushels.

The appraisals of prospective 1934 crops in "other countries" of the Northern and Southern Hemispheres require no comment: wheat production in these groups of countries varies little from year to year.

In Russia, early-season indications point toward heavy production. A relatively large area was sown to winter wheat; relatively much land was plowed in the fall; spring seedings were relatively early; and the total area sown will probably be about as large as in 1933.

Outlook for Prices

Wheat price movements through August will be under strong influence from weather and crop developments, as is usual at this season of the year. Changing prospects for concerted action by the four major exporters may be also an influential price factor. Developments in these respects, substantially unpredictable, will meet a set of circumstances, more or less clearly discernible at the outset of the period, that will operate powerfully in controlling and limiting whatever price movements may be initiated by the unpredictable developments.

Liverpool futures prices appear unlikely either to rise or to decline more than 8*d.* per cental (about 10 cents per bushel) during May–August from the price of about 4*s.* 8*d.* (on the October future) on May 17. Some sustained decline appears rather more likely than a sustained rise. Even in the event of such severe damage to spring-wheat crops in North America as occurred in 1933, a Liverpool price advance as strong as that of last year appears improbable. Chicago September wheat, though some 15 cents higher on May 17 than on the same date last year, appears unlikely to come within 10 cents of the peak reached in July 1933. With average weather in the United States and no striking crop deterioration elsewhere, the Chicago high of May 11 may prove the top, or very nearly the top, for May–August. Unless winter wheat in the United States shows decided improvement before harvest, however, there may be little or no decline in Chicago prices before July or August.

The central feature of the wheat price situation is the continued burden of a surplus too large to be removed by natural crop shortages such as may yet occur in 1934. Scarcity prices in 1934–35 are beyond the range of reasonable possibility. Moreover, the distribution of the surplus is now such that even substantial shortage in harvests is not likely to induce strong price increases. Australia and Argentina promise to have some 65 million bushels more wheat than last

year available for export during the summer and autumn, and not likely to be strongly held. With stocks in European importing countries heavy, importers will not easily be persuaded to follow a rapidly advancing price schedule. Chicago, commonly a leader in upward price movements during the summer, has temporarily lost much of its former influence on foreign markets. If Northern Hemisphere crops develop well, Southern Hemisphere supplies may press heavily on the international market during the summer.

Continuing efforts to improve the wheat situation through international agreement may bring constructive action or may visibly approach breakdown before the end of the current season; but important influences on Liverpool wheat prices from international negotiations seem not in prospect before late August at least. We venture to assume that Argentina will be allowed an increase of her quota for 1933–34 to 140 million bushels; and that agreements reached or in prospect for 1934–35 will be regarded as hopeful and will tend mildly to resist international wheat price decline. We assume also that the gold values of the pound sterling and of the currencies of the four major wheat exporters will suffer no substantial change during May–August.

General economic recovery, though it may continue actively and support increases in prices of many commodities, seems unlikely to affect Liverpool wheat prices appreciably during the remainder of the season. In Australia prospective reduction of wheat acreage should be credited in part to the general business upturn. Here and there similar presumptive effects may be discernible; but in the aggregate, business recovery to the end of the coming summer will have caused little realized or immediately prospective change in either the production or consumption of wheat. A strong general price rise accompanying business recovery will ultimately find reflection in at least an equal increase in wheat prices, but wheat is still too much under the influence of its own surplus to benefit much from a general price rise.[1]

United States wheat prices may be affected significantly by factors unimportant for foreign markets and may respond rather differently from those of Liverpool to developments influencing both markets. If further crop deterioration carries the indicated production of all wheat in the United States below 575–600 million bushels, the Chicago September future is likely to rise above its recent premium of 14–18 cents over Liverpool October, and may maintain a premium of 20–25 cents over Liverpool through August. At that relatively high level, Chicago price movements might be expected to parallel those of Liverpool fairly closely.

If, on the other hand, winter-wheat condition should improve and seasonable rains in the Northwest promise a near-average yield on only moderately reduced acreage, Chicago prices may decline rather sharply relative to Liverpool. Promise of a total United States wheat crop in excess of 650 million bushels might occasion a decline of 10–20 cents in relation to Liverpool by the end of August.

This appraisal of probable price effect of a liberal domestic wheat crop is predicated largely on assumptions regarding policy developments which may not be wholly fulfilled. We assume that the Agricultural Adjustment Administration will make reasonably clear an intent to allow domestic wheat prices to decline to an export basis, and to rely on benefit payments from processing tax receipts to maintain grower income at or near a "parity" basis. Necessary decision for or against assistance to exportation, such as has been given in the Pacific Northwest this year, will throw important light on the general policy even though no formal policy statement is issued. Timing or character of announcements relative to the processing tax, to be expected in late June, and decision on acreage limitation to be required of contract signers on fall sowings of wheat, to be expected then or within a few weeks after, may have material effect on wheat market sentiment.

We assume also that federal monetary policies will encourage growing conviction that further substantial depreciation of the dollar

[1] We speak here of general price increases not directly related to currency depreciation.

in terms of gold and of foreign currencies[1] is not in prospect. If this conviction develops as we anticipate, it may be accompanied by increasing recognition that the normal effects on United States wheat prices of the existing degree of dollar depreciation have long since been fully exerted; and expectation that substantial "inflationary" price increases still in prospect will be witnessed, not among such commodities as wheat, but among commodities that have responded little hitherto.

Despite the influences that have prevented appearance of a carrying charge between May and July wheat at Chicago, the September future may go to a premium of about 2 cents over the July during June. Unexpectedly heavy orders for flour in advance of an anticipated increase in the processing tax might force mill buying that would hold July wheat at near its recent discount of only ¾ cent under September; but we judge mill stocks of wheat generally to be at levels providing amply against such unusual flour demand as is likely to develop during May–July.

If no *special* export assistance is announced for Pacific Coast wheat during the coming crop year, western soft white wheat is likely to move freely to the east during July–August in competition with soft red winter; No. 2 Red Winter may go to a discount under No. 2 Hard at Chicago before the end of July.

[1] Even further devaluation in terms of gold might cause relatively little rise in dollar values of wheat if the pound sterling and related currencies declined similarly in gold values, as they did in January 1934.

This issue was written by M. K. Bennett and Holbrook Working

APPENDIX

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS AND COUNTRIES, 1928–33*

(Million bushels)

Year	World ex-Russia[a]	Northern Hemisphere ex-Russia[a]	Four chief exporters	United States			Canada	Australia	Argentina	USSR	Lower Danube[b]	Other Europe	Northern Africa[c]	India
				Total	Winter	Spring								
1928.....	3,903	3,337	1,989	913	577	336	567	160	349	807	367	1,042	69	291
1929.....	3,424	3,070	1,417	822	586	236	305	127	163	694	303	1,147	77	321
1930.....	3,708	3,217	1,757	890	631	259	421	214	232	989	353	1,009	64	391
1931.....	3,669	3,206	1,663	932	818	114	321	191	220	786	370	1,064	69	347
1932.....	3,693	3,191	1,635	744	476	268	443	213	235	744	224	1,266	75	337
1933[d]....	3,482	3,012	1,215	527	351	176	272	160	256	1,021	361	1,333	67	353
1933[e]....	3,529	3,042	1,227	527	351	176	270	174	256	1,019	365	1,362	67	353

Year	Hungary	Yugoslavia	Rumania	Bulgaria	Morocco	Algeria	Tunis	Egypt	British Isles	France	Germany	Italy	Belgium[f]	Netherlands
1928.....	99.2	103.3	115.5	49.2	24.7	30.3	13.7	37.3	50.9	281.3	141.6	228.6	17.9	7.3
1929.....	75.0	95.0	99.8	33.2	31.8	33.3	12.3	45.2	50.9	337.3	123.1	260.1	13.5	5.5
1930.....	84.3	80.3	130.8	57.3	21.3	32.4	10.4	39.8	43.4	228.1	139.2	210.1	13.7	6.1
1931.....	72.6	98.8	135.3	63.8	29.8	25.6	14.0	46.1	38.6	264.1	155.5	244.4	14.2	6.8
1932.....	64.5	53.4	55.5	50.6	28.0	29.2	17.5	52.6	44.4	333.5	183.8	276.9	16.1	12.8
1933[d]....	90.1	96.6	115.6	58.9	27.0	30.5	9.2	40.0	63.4	338.7	205.9	297.6	14.4	14.9
1933[e]....	90.1	96.6	119.1	58.9	25.3	32.0	9.2	40.0	63.5	362.3	205.9	297.6	15.9	14.9

Year	Scandinavia[g]	Baltic states[h]	Spain	Portugal	Switzerland	Austria	Czechoslovakia	Poland	Greece	Mexico	Japan, Chosen	South Africa	Chile, Uruguay	New Zealand
1928.....	31.3	10.9	122.6	7.5	4.24	12.9	52.9	59.2	13.1	11.0	39.4	7.2	42.0	8.83
1929.....	31.5	13.7	154.2	10.8	4.21	11.6	52.9	65.9	11.4	11.3	38.8	10.6	46.7	7.24
1930.....	31.8	17.9	146.7	13.8	3.60	12.0	50.6	82.3	9.7	11.4	38.5	9.3	28.6	7.58
1931.....	27.7	14.6	134.4	13.0	4.04	11.0	41.2	83.2	11.2	16.2	39.2	13.7	32.4	6.58
1932.....	38.2	18.3	184.2	18.1	4.00	12.2	53.7	49.5	20.3	9.7	39.9	10.6	31.5	11.06
1933[d]....	40.0	19.2	131.9	14.7	4.81	17.4	72.9	68.3	28.6	11.8	47.6	9.4	....	....
1933[e]....	41.4	19.0	138.2	15.1	4.80	17.4	72.9	68.3	24.7	11.8	47.6	9.4	....	8.49

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

[a] Excluding also China and southwestern Asia.
[b] Hungary, Yugoslavia, Rumania, Bulgaria.
[c] Morocco, Algeria, Tunis.
[d] As of about January 15, 1934.
[e] As of about May 15, 1934.
[f] Including Luxemburg.
[g] Denmark, Norway, Sweden.
[h] Finland, Latvia, Estonia, Lithuania.

TABLE II.—WHEAT RECEIPTS IN NORTH AMERICA, OCTOBER–MARCH, 1933–34, WITH COMPARISONS*

(Million bushels)

Year	United States (14 primary markets)							Canada (country elevators and platform loadings)						
	Oct.	Nov.	Dec.	Jan.	Feb.	March	July–March	Oct.	Nov.	Dec.	Jan.	Feb.	March	Aug.–March
1928–29.....	84.4	43.5	33.0	22.5	28.7	27.2	469.5	105.6	107.0	43.9	17.5	16.5	21.0	449.0
1929–30.....	36.3	20.6	22.9	17.5	19.9	16.7	376.8	52.9	19.5	10.9	5.8	4.9	5.5	223.1
1930–31.....	28.9	24.6	21.5	29.5	30.7	30.8	413.1	53.8	52.4	17.3	9.3	9.8	9.6	278.6
1931–32.....	32.7	26.4	13.8	17.1	25.0	13.4	332.7	74.1	43.1	19.7	10.9	12.2	12.9	232.2
1932–33.....	27.2	17.6	13.9	12.8	9.9	12.7	214.2	82.7	36.5	18.5	11.3	11.5	20.8	319.5
1933–34.....	17.6	11.6	11.2	8.7	10.0	9.1	154.7	46.4	23.0	10.3	10.4	8.3	9.1	188.7

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

TABLE III.—WHEAT VISIBLE SUPPLIES, JANUARY–APRIL 1934, 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, 1929.....	522.5	144.4	7.3	180.9	47.5	380.1	54.4	6.1	60.5	76.0	5.9
1930.....	514.3	182.2	8.2	190.8	38.3	419.5	28.2	15.2	43.4	44.0	7.4
1931.....	535.4	199.6	4.8	185.4	31.7	421.5	27.3	20.0	47.3	60.0	6.6
1932.....	594.0	226.9	29.1	172.6	19.7	448.3	29.8	23.9	53.7	85.0	7.0
1933.....	549.7	168.5	6.9	224.2	13.8	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
May 1, 1929.....	407.3	113.4	1.7	137.1	27.9	280.1	55.2	9.6	64.8	48.0	14.4
1930.....	422.2	135.5	5.4	159.2	18.3	318.4	34.6	9.6	44.2	50.0	9.6
1931.....	503.4	206.5	5.9	156.1	2.8	371.3	48.1	9.9	58.0	67.5	6.6
1932.....	525.7	186.5	26.9	159.7	4.6	377.7	54.9	14.4	69.3	62.5	16.2
1933.....	478.9	124.4	5.4	217.3	2.5	349.6	40.9	12.5	53.4	61.5	14.4
1934.....	455.1	88.8	2.2	207.4	1.5	299.9	30.5	15.4	45.9	88.0	21.3
1934											
Jan. 6.....	486.8	129.9	2.3	226.3	13.1	371.6	22.5	18.0	40.5	64.0	10.7
13.....	508.9	127.1	2.2	225.3	11.7	366.3	24.5	17.4	41.9	90.0	10.7
20.....	514.3	123.2	2.3	224.4	10.8	360.7	26.8	16.3	43.1	99.5	11.0
27.....	520.9	119.8	2.3	224.6	10.4	357.1	33.6	14.5	48.1	103.5	12.2
Feb. 3.....	521.0	116.5	2.2	224.0	9.8	352.5	37.8	12.8	50.6	105.0	12.9
10.....	519.7	113.9	2.2	223.7	9.1	348.9	39.6	11.8	51.4	105.0	14.4
17.....	514.1	111.9	2.2	224.0	8.6	346.7	39.3	11.5	50.8	101.5	15.1
24.....	511.4	109.8	2.2	222.9	7.6	342.6	41.1	12.1	53.2	99.0	16.6
Mar. 3.....	507.4	107.2	2.2	221.1	8.8	339.3	40.0	13.3	53.3	97.5	17.3
10.....	501.9	103.4	2.2	219.5	8.9	334.0	40.0	14.2	54.2	96.0	17.7
17.....	498.1	101.5	2.2	217.8	7.8	329.3	41.0	15.4	56.4	94.0	18.4
24.....	488.9	98.7	2.2	218.6	6.7	326.3	37.4	14.8	52.2	92.0	18.4
31.....	483.1	97.1	2.2	218.3	5.7	323.3	36.6	14.8	51.4	90.0	18.4
Apr. 7.....	481.3	94.9	2.2	218.4	4.3	319.8	34.1	15.0	49.1	92.5	19.9
14.....	477.7	92.7	2.2	217.0	3.8	315.7	35.5	15.6	51.1	91.0	19.9
21.....	467.7	91.0	2.2	212.7	3.1	309.0	33.9	15.6	49.5	89.0	20.2
28.....	455.1	88.8	2.2	207.4	1.5	299.9	30.5	15.4	45.9	88.0	21.3

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

TABLE IV.—WHEAT STOCKS IN THE UNITED STATES AND CANADA, ABOUT APRIL 1, 1929–34*

(Million bushels)

Year	United States (March 31 and April 1)						Canada (March 31)						
	On farms	In country mills and elevators	Commercial stocks	In city mills[a]	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators	In terminal elevators	In transit	In flour mills	Total in five positions	Canadian grain in U.S.[b]
1929.....	117.7	....	124.8	99.1	.....	1.6	64.2	54.8	109.3	12.6	8.7	249.6	23.7
1930.....	129.5	80.0	153.1	93.2	455.8	5.9	46.3	77.2	92.7	4.4	8.0	228.6	24.4
1931.....	118.8	72.3	213.6	85.3	490.0	5.3	93.9	82.8	86.4	7.3	9.6	280.1	11.1
1932.....	170.0	69.4	207.2	100.6	547.2	27.6	61.8	89.8[c]	82.5	8.4	3.7[d]	246.2	11.7
1933.....	182.9	95.9	135.6	109.9	524.3	6.4	82.6	113.8[c]	105.7	9.7	3.5[d]	314.5	6.0
1934.....	114.6	83.6	97.1	101.3	396.6	2.2	49.9	109.9[c]	108.0	7.3	2.5[d]	277.6	5.7

* Official data, mainly from press releases of U.S. Department of Agriculture and U.S. Bureau of the Census and Dominion Bureau of Statistics.

[a] Census figures for wheat in and in transit to mills and wheat stored for others, here raised to 100 per cent. Figures for 1929–31 include estimates of wheat stored for others of 10, 10, and 18 million bushels, respectively.

[b] In bond for export as wheat; excludes some bonded wheat in transit by rail.

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

[d] In Eastern Division only. Stocks in Western Division included with stocks in country mills.

TABLE V.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND NET RETENTION, MONTHLY, JULY–APRIL 1933–34, WITH COMPARISONS*

(Thousand barrels)

Month	Production						Exports and shipments to possessions			Estimated net retention		
	All reporting mills			Estimated total								
	1931–32	1932–33	1933–34	1931–32	1932–33	1933–34	1931–32	1932–33	1933–34	1931–32	1932–33	1933–34
July	9,852	7,828	8,275	10,548	8,401	8,875	1,048	400	337	9,500	8,001	8,538
Aug.	9,658	9,005	6,719	10,342	9,649	7,225	692	460	362	9,650	9,189	6,863
Sept.	9,735	9,395	7,540	10,424	10,062	8,096	768	420	416	9,656	9,642	7,680
Oct.	10,399	9,382	8,181	11,128	10,049	8,776	825	416	346	10,303	9,633	8,430
Nov.	9,890	8,719	8,116	10,588	9,346	8,706	905	537	333	9,683	8,809	8,373
Dec.	8,148	8,323	7,332	8,741	8,926	7,875	942	447	348	7,799	8,479	7,527
Jan.	8,180	8,077	8,719	8,774	8,666	9,347	903	392	415	7,871	8,274	8,932
Feb.	7,692	7,216	7,867	8,257	7,752	8,442	753	344	325	7,504	7,408	8,117
Mar.	8,483	8,867	8,353[a]	9,096	9,503	8,958[a]	652	391	417	8,444	9,112	8,541[a]
Apr.	8,196	9,298	....	8,792	9,960	8,026[a]	582	282	...	8,210	9,678	7,600[a]
Jul.–Mar. ..	82,037	76,812	71,102[a]	87,898	82,354	76,300[a]	7,488	3,807	3,299	80,410	78,547	73,001[a]

* Reported production and trade data from U.S. Bureau of the Census press releases, *Monthly Summary of Foreign Commerce*, and U.S. Department of Commerce, *Statement No. 3009*. The estimates of total production represent the monthly census reports raised by the estimated output of unreporting merchant mills and by a constant allowance of 100,000 barrels monthly for custom mills; the preliminary estimates of total production and net retention for April are based on production reported to the *Northwestern Miller*.

[a] Preliminary.

TABLE VI.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY, DECEMBER–APRIL, 1933–34*

(Million bushels)

Week ending	Total	Shipments from							Shipments to Europe				Shipments to ex-Europe		
		North America	Argentina[a]	Australia	South Russia	Danube	India	Other countries[b]	Total	United Kingdom	Orders	Continent	Total	China, Japan	Others
Dec. 30....	10.42	3.43	1.95	2.95	1.50	.53	...	.06	6.63	2.90	2.33	1.40	3.79	2.30	1.49
Jan. 6....	7.61	3.62	1.06	1.02	1.32	.50	...	.09	6.05	1.96	1.24	2.85	1.56	1.00	.56
13....	10.13	4.36	2.40	1.97	.63	.27	...	.50	7.84	3.15	2.69	2.00	2.29	1.10	1.19
20....	12.67	5.18	3.14	2.98	.69	.47	...	.21	9.02	2.27	3.78	2.97	3.65	2.16	1.49
27....	13.33	4.08	4.06	3.32	1.37	.38	...	.12	10.10	3.86	4.51	1.73	3.23	1.29	1.94
Feb. 3....	12.43	4.99	3.57	2.65	.64	.40	...	.18	9.09	2.79	3.87	2.43	3.34	2.01	1.33
10....	11.54	3.88	4.19	2.16	.65	.31	...	.35	8.87	2.94	3.35	2.58	2.67	1.22	1.45
17....	10.57	3.70	4.10	1.98	.40	.15	...	.24	8.65	2.80	3.65	2.20	1.92	.62	1.30
24....	11.74	4.31	4.03	2.59	...	.58	...	.23	8.46	2.29	3.87	2.30	3.28	1.73	1.55
Mar. 3....	8.43	4.01	2.64	1.36	...	.29	...	.13	5.98	1.74	1.34	2.90	2.46	.90	1.56
10....	11.62	3.90	4.95	2.03	.33	.21	...	.20	9.07	2.94	4.26	1.87	2.55	1.06	1.49
17....	11.42	4.01	4.74	1.92	.15	.36	...	.24	7.31	2.25	3.29	1.77	4.11	2.91	1.20
24....	9.70	3.36	4.04	1.82	...	.44	...	.04	6.21	2.04	1.83	2.34	3.49	1.66	1.83
31....	9.22	3.54	4.04	1.10	.14	.38	...	.02	6.49	2.21	2.90	1.38	2.73	.97	1.76
Apr. 7....	8.06	3.27	2.42	1.32	.12	.86	...	.07	6.40	1.85	2.38	2.17	1.66	.61	1.05
14....	10.74	4.20	4.30	1.41	.14	.50	...	.19	7.82	2.07	3.53	2.22	2.92	1.16	1.76
21....	8.46	3.72	1.90	1.44	...	1.25	...	.15	5.54	2.85	.89	1.80	2.92	1.78	1.14
28....	7.93	3.70	2.22	1.20	...	.63	...	.18	4.91	1.31	1.50	2.00	3.02	1.31	1.71

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

[a] Including Uruguay.

[b] Mainly northern Africa, Germany, and France.

TABLE VII.—NET EXPORTS AND NET IMPORTS OF WHEAT AND FLOUR, MONTHLY FROM AUGUST 1933 WITH SUMMATIONS AND COMPARISONS*

(Million bushels)

A. NET EXPORTS

Month or period	United States[a]	Canada	Argentina	Australia	Four exporters	USSR	Hungary	Yugoslavia	Rumania	Bulgaria	Poland	Algeria	Tunis	India
Aug.	.99	10.78	16.51	8.10	36.38	2.25	1.82	.06	.01	.27	.06	1.36	.36	.05
Sept.	.72	22.13	7.12	7.26	37.23	6.23	4.37	.13	.00	.72	(.02)	1.16	.12	.07
Oct.	.57	25.60	5.81	4.79	36.77	5.74	3.67	.17	.07	.44	(.12)	1.01	(.20)	.05
Nov.	1.13	25.60	4.09	5.72	36.54	5.99	3.90	.02	.05	.51	(.17)	1.00	(.13)	(.09)
Dec.	6.21	19.32	6.25	7.57	39.35	7.04	1.67	.01	.10	.65	(.15)	1.01	(.15)	.08
Jan.	4.55	9.10	16.51	9.69	39.85	....	2.01	.02	.00	.12	.06	.82	(.10)	.06
Feb.	3.46	7.97	17.08	5.65	34.16	....	1.71	.01	.00	.10	.18	...	(.33)	.06
Mar.	3.88	12.28	17.38	....	.....	....	....	...	...	...	...	...	...	...
Aug.-Mar.														
1932-33	28.98	196.62	73.45	111.05	410.10	16.55	5.28	.94	.06	2.10	.04	6.07	3.78	(.59)
1933-34[b] ...	21.51	132.78	90.75	60.96	306.00	33.00	21.50	.45	.25	3.30	.10	7.00	(.60)	.30
Average[c] ..	79.57	175.42	96.41	83.56	434.96	61.66	15.10	8.86	9.97	3.42	2.57	4.70	3.21	(4.48)

B. NET IMPORTS

Month or period	British Isles			Three variable importers				Belgium[e]	Netherlands	Scandinavia				Switzerland
	U.K.	I.F.S.	Total	Total	France[d]	Germany	Italy			Denmark	Norway	Sweden	Total	
Aug.	17.15	2.09	19.24	2.81	1.98	.27	.56	3.89	2.69	1.38	.63	.16	2.17	1.55
Sept.	21.14	1.74	22.88	(1.05)	.89	(1.81)	(.13)	2.55	4.34	1.69	.65	.22	2.56	2.24
Oct.	20.83	2.26	23.09	.37	1.25	(1.22)	.34	3.41	3.40	1.10	1.04	.18	2.32	1.84
Nov.	20.66	1.24	21.90	.29	1.92	(2.21)	.58	4.14	2.23	1.52	1.04	.19	2.75	1.50
Dec.	16.73	1.29	18.02	.37	2.25	(2.16)	.28	2.76	.98	.97	.35	.11	1.43	1.39
Jan.	12.93	.97	13.90	.63	1.55	(.84)	(.08)	3.32	.37	.71	.64	.15	1.50	1.27
Feb.	15.07	1.24	16.31	3.92	1.64	.40	1.88	3.47	.55	.53	.19	.14	.86	.96
Mar.	20.05	...	...	...	...	...	...	4.91	1.23	...	...	...	...	...
Aug.-Mar.														
1932-33	140.68	11.93	152.61	30.77	24.86	(1.49)	7.40	26.09	18.22	8.83	5.20	2.61	16.64	13.40
1933-34[b] ...	144.56	12.44	157.00	10.50	13.00	(7.00)	4.50	28.45	15.79	9.00	5.00	1.30	15.30	12.50
Average[c] ..	147.04	12.39	159.43	77.36	29.45	20.15	27.76	28.19	20.91	8.84	5.66	4.21	18.71	12.26

B. NET IMPORTS (*Continued*)

Month or period	Austria	Czechoslovakia	Greece	Spain	Portugal	Finland	Latvia	Estonia	Lithuania	Four Baltic states	Egypt	Japan	New Zealand	South Africa
Aug.	.88	.15	1.34	(.00)	.08	.49	.00	.00	(.01)	.48	.01	.26		.00
Sept.	.37	.00	1.40	(.01)	.06	.34	.00	.00	(.01)	.33	.03	.09	(.14)	.01
Oct.	.81	.00	1.07	(.01)	.05	.39	.00	.00	(.00)	.39	.01	(.01)		.00
Nov.	.69	.01	.92	(.01)	.08	.32	.00	.00	(.01)	.31	.03	(.01)	.06	.01
Dec.	.71	.00	.52	(.01)	.09	.30	.00	.00	.00	.30	.02	(.51)	...	.00
Jan.	.63	.00	.85	(.00)	...	.33	...	.00	(.00)	.33	.02	.68	...	...
Feb.	.83	.00	.75	(.02)	.08	.34	...	.00	(.01)	.33	...	.96	...	...
Mar.	...	...	...	...	...	...	...	...	...	...	...	.63	...	...
Aug.-Mar.														
1932-33	7.81	3.68	11.21	(.01)	1.07	2.96	.03	.00	(.04)	2.95	.41	2.56	1.56	.25
1933-34[b] ...	5.50	.20	7.60	(.07)	.60	2.80	.00	.00	(.04)	2.76	.15	2.09	.15	.05
Average[c] ..	9.55	11.20	12.30	...	1.23	3.70	.94	.52	(.30)	...	6.35	8.89	.69	1.87

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

[a] Includes shipments to possessions.

[b] Including our approximations to data missing in the monthly figures.

[c] Five-year averages, 1928–29 to 1932–33, except USSR and Lithuania, 1930–31 to 1932–33; Bulgaria, Portugal, and South Africa, 1929–30 to 1932–33; Latvia, 1928–29 and 1930–31 to 1932–33.

[d] Net imports in "commerce général."

[e] Including Luxemburg.

TABLE VIII.—PRICES OF REPRESENTATIVE WHEATS, WEEKLY FROM JANUARY 1934*

(Cents per bushel)

Week ending	British parcels		Liverpool (Tuesday prices)					United States						Winnipeg		
			No. 1 Manitoba	No. 3 Manitoba[a]	Russian	Argentine Rosafé	Australian f.a.q.	Basic cash: Chicago		No. 2 Hard Winter Kansas City	No. 2 Red Winter St. Louis	No. 1 Dk. Nor. Spring Minneapolis	No. 1 White Seattle	Wtd. average	No. 3 Manitoba	Buenos Aires 80-kilo
Jan. 6.....	69	*44*	80	73	55	60	69	84	*53*	81	89	84	75	60	56	52
13.....	68	*44*	81	74	54	60	68	86	*55*	82	90	86	74	62	58	52
20.....	64	*40*	87	83	60	63	72	91	*56*	86	93	91	77	64	61	53
27.....	77	*48*	84	78[b]	56	60	69	90	*56*	85	91	91	75	63	60	52
Feb. 3.....	64	*39*	86	79	56	59	70	92	*57*	87	92	92	78	64	62	52
10.....	70	*42*	87	79	54	59	69	91	*55*	87	92	92	76	64	62	52
17.....	68	*41*	86	77	54	58	67	90	*54*	85	92	91	75	63	61	53
24.....	68	*41*	84	75	..	57	65	88	*53*	84	90	89	74	62	60	53
Mar. 3.....	69	*41*	84	74[b]	..	55	63	87	*52*	82	89	87	76	62	61	53
10.....	76	*45*	86	76[b]	..	57	65	87	*52*	82	89	89	76	64	63	53
17.....	70	*42*	87	78	..	56	65	88	*52*	83	89	90	76	64	62	53
24.....	66	*40*	84	74[b]	..	55	64	87	*52*	82	88	90	75	64	61	53
31.....	73	*44*	84	74[b]	..	57	67	86	*51*	81	87	88	75	64	62	53
Apr. 7.....	72	*43*	85	75[b]	..	61	68	86	*51*	82	87	88	75	64	62	54
14.....	71	*42*	84	74[b]	..	59	71	86	*51*	80	85	88	75	64	62	54
21.....	74	*44*	84	73[b]	..	60	69	77	*46*	73	78	81	69	62	60	..
28.....	66	*39*	82	72[b]	..	59	68	76	*45*	70	73	81	70	62	60	..

* For sources and methods of computation, see WHEAT STUDIES, December 1933, X, 140–41. Dots (...) indicate no quotations. Figures in italics are expressed in pre-devaluation gold cents, based on London prices of gold.

[a] Wheat shipped from Vancouver. [b] Parcels to London.

TABLE IX.—MONTHLY PRICES OF DOMESTIC WHEAT IN EUROPE, NOVEMBER–MARCH, FROM 1929–30*

(Cents per bushel)

Year	Nov.	Dec.	Jan.	Feb.	March	Nov.	Dec.	Jan.	Feb.	March	Nov.	Dec.	Jan.	Feb.	March
	GREAT BRITAIN					FRANCE					GERMANY				
1929–30.....	122	124	124	116	108	150	147	144	137	141	151	157	160	152	155
1930–31.....	87	80	73	67	67	176	177	179	187	190	160	161	168	177	186
1931–32.....	67	57	54	53	59	162	164	168	173	178	146	138	146	158	161
1932–33.....	48	47	48	49	47	119	116	115	114	110	128	122	120	125	129
1933–34.....	63	61	59	60	60	208	205	210	222	228	190	187	190	198	204
1933–34.....	*40*	*39*	*37*	*36*	*36*	*130*	*131*	*133*	*133*	*136*	*119*	*119*	*120*	*119*	*121*
	ITALY					HUNGARY					RUMANIA				
1929–30.....	185	190	194	189	186	110	112	118	113	110	110	106	105	103	92
1930–31.....	163	146	149	154	149	68	67	66	70	75	55	59	56	55	52
1931–32.....	140	143	150	163	167	56	65	63	62	66	50	48	48	48	53
1932–33.....	152	153	156	150[a]	148	62	60	67	72	72	103	98	93	...	97
1933–34.....	180	188	200[a]	199	200[b]	59	56	59	69	78[b]	92	98[b]	...	...	...
1933–34.....	*113*	*120*	*126*[a]	*120*	*119*[b]	*37*	*36*	*37*	*41*	*46*[b]	*58*	*63*[b]	...	...	...

* See WHEAT STUDIES, December 1933, X, 141, for sources and explanations. Dots (...) indicate no quotations. The 1933–34 figures in italics are expressed in pre-devaluation gold cents, based on London prices of gold.

[a] Three-week average. [b] Two-week average.

TABLE X.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1928–29*

(Million bushels)

Year	Domestic supplies			Domestic disappearance				Surplus over domestic use[c]	Net exports wheat and flour			End-year 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)											
1928–29	120	913	1,033	510	85	+ 51	646	387	145	114	31	242
1929–30	242	822	1,064	508	84	+ 26	618	446	143	116	27	303
1930–31	303	890	1,193	492	81	+181	754	439	115[d]	90	25	324
1931–32	324	932	1,256	485	80	+182	747	509	126[d]	98	28	382
1932–33	382	744	1,126	487	83	+131	701	425	36	33	3	389
1933–34[e]	386	527	913	447	72	+114	633	280	40	...	..	240
1933–34[f]	389	527	916	455	76	+ 92	623	293	33	22	11	260
	B. CANADA (AUGUST–JULY)											
1928–29	78	567	645	44	44	+ 47	135	510	406	314	92	104
1929–30	104	305	409	43	44	+ 26	113	296	185	119	66	111
1930–31	111	421	532	42	39	+ 59	140	392	258	184	74	134
1931–32	134	321	455	42	37	+ 37	116	339	207	141	66	132
1932–33	132	443	575	42	36	+ 22	100	475	263	197	66	212
1933–34[e]	212	272	484	42	31	+ 41	114	370	215	...	..	155
1933–34[f]	212	270	482	42	31	+ 29	102	380	195	133	62	185
	C. AUSTRALIA (AUGUST–JULY)											
1928–29	36	160	196	29	15	+2	46	150	109	78	31	41
1929–30	41	127	168	32	18	+6	56	112	63	41	22	49
1930–31	49	214	263	34	14	+3	51	212	152	85	67	60
1931–32	60	191	251	32	15	−2	45	206	156	103	53	50
1932–33	50	212	262	33	14	0	47	205	150	111	39	55
1933–34[e]	60	160	220	33	14	+3	50	170	105	...	..	65
1933–34[f]	55	174	229	33	12	+3	48	181	85	61	24	96
	D. ARGENTINA (AUGUST–JULY)											
1928–29	95	349	444	60	23	+9	92	352	222	136	86	130
1929–30	130	163	293	60	26	−9	77	216	151	118	33	65
1930–31	65	232	297	63	21	+9	93	204	124	61	63	80
1931–32	80	220	300	65	24	+6	95	205	140	94	46	65
1932–33	65	235	300	65	22	+6	93	207	132	73	59	75
1933–34[e]	75	256	331	65	22	+6	93	238	110	...	..	128
1933–34[f]	75	256	331	65	22	+6	93	238	140	91	49	98

* Based on official data so far as possible; see WHEAT STUDIES, December 1933, Table XXXII.

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

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

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

[d] Too low; does not include some wheat shipped to Canada and eventually exported from there.

[e] Estimates as of January 1934.

[f] Estimates as of May 1934.

WHEAT STUDIES *of the* FOOD RESEARCH INSTITUTE

VOLUME VIII

No. 1. *Cycles in Wheat Prices.* November 1931. $.75
No. 2. *The World Wheat Situation, 1930–31: A Review of the Crop Year.* December 1931. $1.00
No. 3. *Survey of the Wheat Situation, August to November 1931.* January 1932. $.50
No. 4. *Economic Nationalism in Europe as Applied to Wheat.* February 1932. $.25
Nos. 5 and 6. *Russia as a Producer and Exporter of Wheat.* March and April 1932. $1.00
No. 7. *Survey of the Wheat Situation, December 1931 to March 1932.* May 1932. $.50
No. 8. *The World Wheat Problem.* July 1932. $.50
No. 9. *Projected Waterways in North America as Related to Export of Wheat.* August 1932. $.50
No. 10. *Survey of the Wheat Situation, April to July 1932.* September 1932. $.50

VOLUME IX

No. 1. *Price Spreads and Restraint of United States Wheat Exports.* October 1932. $.60
No. 2. *The Voluntary Domestic Allotment Plan for Wheat.* November 1932. $1.00
No. 3. *The World Wheat Situation, 1931–32: A Review of the Crop Year.* December 1932. $1.00
No. 4. *Survey of the Wheat Situation, August to November 1932.* January 1933. $.50
No. 5. *Estimation of End-Year World Wheat Stocks from 1922.* February 1933. $.50
No. 6. *Price Relations between July and September Wheat Futures at Chicago since 1885.* March 1933. $1.00
No. 7. *World Wheat Crops, 1885–1932: New Series, with Areas and Yields, by Countries.* April 1933. $1.00
No. 8. *Survey of the Wheat Situation, December 1932 to April 1933.* May 1933. $.50
No. 9. *Britain's New Wheat Policy in Perspective.* July 1933. $1.00
No. 10. *Survey of the Wheat Situation, April to August 1933.* September 1933. $.50

VOLUME X

No. 1. *British Preference for Empire Wheat.* October 1933. $.50
No. 2. *Price Leadership and Interaction among Major Wheat Futures Markets.* November 1933. $1.00
No. 3. *The World Wheat Situation, 1932–33: A Review of the Crop Year.* December 1933. $1.00
No. 4. *World Wheat Survey and Outlook, January 1934.* January 1934. $.50
No. 5. *Price Relations between May and New-Crop Wheat Futures at Chicago since 1885.* February 1934. $1.00
No. 6. *Environment, Heredity, and Wheat Quality.* March 1934. $.50
No. 7. *World Wheat Survey and Outlook, May 1934.* May 1934. $.50

RECENT CONTRIBUTIONS FROM THE FOOD RESEARCH INSTITUTE

(Numbered reprints available free on request)

G 62. *Land Utilization Investigations and Their Bearing on International Relations,* Carl L. Alsberg. Prepared for the Fifth Biennial Conference of the Institute of Pacific Relations, August 1933
G 63. "Squaring the Circle of the International Account," Alonzo E. Taylor. *Harvard Business Review,* April 1933
G 64. "Some Economic Consequences of Commodity Control," Carl L. Alsberg. *Law and Contemporary Problems,* December 1933
The A.A.A., Joseph S. Davis. (No. 7, 1934, of the Day and Hour Series of the University of Minnesota. Obtainable from the University of Minnesota Press, Minneapolis, price 25 cents.)
G 65. "Wheat, Wheat Policies, and the Depression," Joseph S. Davis. *Review of Economic Statistics,* April 1934
G 66. "New Chinese Agricultural Statistics," M. K. Bennett. *Journal of Farm Economics,* April 1934
E 42. "Some Effects of Epinephrine-Like Substances on Metabolism in Rabbits," Melville Sahyun. *Archives internationales de pharmacodynamie et de thérapie,* Volume XLV, Fascicule III, 1933
E 43. "The Influence of Arterenal and Epinephrine on the Distribution of Glycogen in Rats," Melville Sahyun and George E. Webster. *Ibid.,* Volume XLV, Fascicule III, 1933

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.

PUBLICATIONS

WHEAT STUDIES

Ten issues yearly, published at approximately monthly intervals; $6.00 per volume. Each volume includes a comprehensive annual review of the world wheat situation, a survey and outlook at four-month intervals, and usually six special studies. For partial list, see inside back cover.

FATS AND OILS STUDIES

A series (books, issued irregularly) of studies in 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.

GRAIN ECONOMICS SERIES

A series (books, issued irregularly) covering topics in grain economics not suited to full discussion in *Wheat Studies*.

MISCELLANEOUS PUBLICATIONS

A series (books, issued irregularly) embodying the results of research in fields other than those covered by the series listed above.

CONTRIBUTIONS

Reprints from periodicals of articles written 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