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WHEAT STUDIES

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DEVELOPMENTS IN THE WHEAT SITUATION APRIL TO JULY, 1925

I. INTRODUCTION

The dominant influence in the world wheat situation, during the last four months of the crop year ending July 31, was the changing prospects for new crops of wheat and rye. The outstanding features of the period were considerable instability of wheat prices, unusually low export shipments, and somewhat more than the usual seasonal declines in visible supplies.

Because of the narrow margin between supplies and requirements in 1924-25, the changing prospects for new crops influenced developments to a somewhat unusual degree. In particular, good prospects in North Africa, Europe, Russia, and Canada led European importers to reduce their current demands; this reacted on prices and movements in exporting countries, and, in turn, on exports and carryovers. The United States winter-wheat prospects continued very poor, but the spring-wheat outlook, especially in the far northwest, has varied considerably. The Canadian crop has consistently promised well, but forecasts have varied from 350 to 500 million bushels, and later developments have dampened early hope of a bumper crop.

The present outlook is for a wheat crop in the northern hemisphere, outside of

Russia, 155 million bushels larger than the poor crop of last year. So great is the reduction in the American winter-wheat crop that only a small net export can be expected from the United States. The Russian crops, however, are much larger this year than last. In view of this fact and the different distribution of the 1925 crops, the prospective

position of the world wheat market appears distinctly easier than it was in 1924-25; but the position of the American market appears relatively tighter.

Wheat prices, after the pronounced decline in February and March, 1925, reached bottom early in April. A brief recovery was soon checked, but from late in April prices rose sub-

stantially, until early in June, in Liverpool and the United States, they were about at the same level as late in December and some 30 cents higher than at the low point of early April; in Canada, where the preceding decline had been most severe, cash wheat and May futures rose by about 60 cents between April 5 and May 28. In the next five weeks there was a substantial decline which wiped out the entire gain, except in Canada, where prices in May and June were often higher than in Liverpool. Toward the middle of July prices again

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rose sharply, gaining about 15 cents in less than two weeks, to decline again after July 18 and recover somewhat late in the month.

Over the period as a whole, prices showed no pronounced change in level. Broadly speaking, the level around which prices fluctuated was 35 cents below the level of last February, but about 50 cents above the level of April–May–June 1924. The fluctuations, though larger than usual at this season, were far less considerable than those of the preceding four months.

Wheat shipments from export areas were unusually low. Broomhall's figures show an 18-weeks total of 188 million bushels, against 232 and 273 millions respectively for corresponding periods of 1922–23 and 1923–24. Low figures were characteristic both of North America and the southern hemisphere, and negligible quantities moved from other export regions. While the low movement is in part explained by exceptionally heavy shipments in the earlier portions of the crop year, it was smaller

than many observers had anticipated.

Visible supplies of wheat in the northern hemisphere declined continuously throughout this period, except that in the United States the arrivals of new crop wheat brought the visible for August 1 to a little above that of July 1. Country reserves at the end of the crop year, while lower than usual, especially in Europe, were reported not much below average in the United States. The Argentine carryover was larger than usual, the Australian below average size. Supplies in Great Britain and afloat were reported somewhat lower than usual in recent years, and reserves on the European continent were generally low. On the whole, the world carryover on August 1 was distinctly smaller than those of the two preceding years, but not extremely low as compared with less abnormal periods.

In the following sections these subjects are discussed in some detail, and in conclusion attention is given to the present outlook for the crop year 1925–26.

II. PRICE FLUCTUATIONS AND THE MARKET POSITION

Chart 1, showing the daily quotations for the nearest future option in the three principal international markets, gives a good bird's-eye view of the course of the wheat market during the months of January–July 1925. The closing out of the May and July options caused these quotations to fluctuate somewhat abnormally in these particular months, but in general the quotations are fairly representative of the market movement during this period.

The advance and severe decline of the first three of these months were discussed in our previous survey.¹ From the first week in April until the first week in June, prices tended upward, although the rise was not steady, and there was a break from the May to the July option. In most of June, on the other hand, prices moved abruptly and consistently downward. A rally in the first fortnight of July was succeeded by another slump, which eased off in uncertainty toward the end of the month. In the United

States the July option advanced abruptly on the last day of the month because of a "squeeze" on the Chicago Board of Trade, but this was not typical of the market.

At approximately the opening of this period—i.e., on April 3—the May option in Chicago was quoted at \$1.41 and the July option at \$1.31. On June 6, at the culmination of the advance, the May option was no longer quoted, but July wheat was then at \$1.69. A month later, on July 3, the July option was back at \$1.42 and the September was quoted at \$1.40. During July the September option reached a high point of \$1.59 on July 17, but reacted and closed at \$1.49 on the last day of the month. The July option closed 17 cents higher than this, but for entirely local reasons. The range of the period in the Chicago market, disregarding "special conditions," was thus from approximately \$1.40 to \$1.70 a bushel. The September option, which alone was quoted throughout the four months, opened at about \$1.30 and closed at about \$1.50; but this increase is partially explained by the

¹ WHEAT STUDIES, April 1925, I, 145–150.

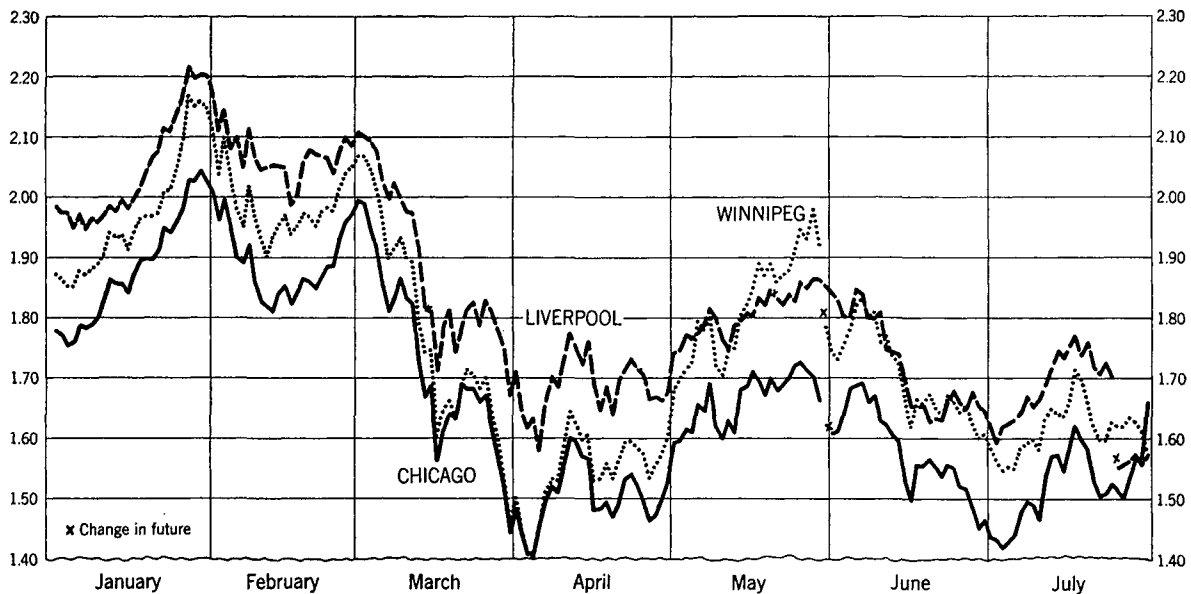
reaction from the extreme depression and the accumulation of carrying charges. Cash prices were much the same near the end of July as near the beginning of April.

The course of futures prices in Liverpool and Buenos Aires was substantially similar to that at Chicago, except at the end of May and July. In Winnipeg, however, the ad-

what offset by the fact that the drought in the southwest, on which the low-condition report was in part based, was broken during the early weeks of April; but it was evidently the opinion of the trade that these rains could not repair the damage suffered during the winter.

Although European buyers were not ac-

CHART 1.—PRICES OF WHEAT FUTURES IN CHICAGO, WINNIPEG, AND LIVERPOOL, DAILY, JANUARY–JULY, 1925*
(Dollars per bushel)



* Data from *Chicago Journal of Commerce*, and *Daily Market Record*. Quotations for nearest future.

vance during April and May was considerably greater in old crop options and the succeeding decline was somewhat more severe.

THE AMERICAN MARKET

The strength of the American market during April and May was the result primarily of the poor prospect for winter wheat in the United States and the activities of trading interests which were "short" in May wheat. The market was also apparently supported by expectations of a revival of European demand for imported wheat.

The report issued by the United States Government on April 9, indicating a winter-wheat condition only 68.7 per cent of normal (as compared with a ten-year average conditions on April 1 of 81.2), gave a decided boost to the market. This was some-

tively in the market during April, a considerable and influential element of the trade was convinced that Europe would have to make large purchases in the United States before her new crop became available. It was known that she could not supplement her supply appreciably from the new Indian crop, and the other leading exporters had shipped so heavily earlier in the season that it was thought their supplies were insufficient to fill prospective needs prior to harvest. Even Broomhall anticipated a revival of European buying before the season closed. Under these circumstances the market continued to receive speculative support even though purchases by mills and for export were light. Receipts at primary markets during April and later were not small for the time of year, but they were not large enough to weaken the market.

By the end of April it was clear that the United States crop had suffered severely during the winter. Unofficial estimates of the area abandoned because of winter killing ran as high as 20-21 per cent. The May 1 condition reports issued by commercial crop experts were distinctly bullish. The adverse reports of the *New York Journal of Commerce*, in particular, were given wide currency. The report issued by the government on May 8, although confirming the high estimates of abandonment already published, appeared to show the condition of the crop much more favorably than a month earlier and only 8.2 points below the ten-year average for that date. The divergence from other estimates gave rise to heated discussions over the government "par" system of expressing condition.¹ The May 1 official report placed a temporary damper on the market, but with the "tight" position that was developing in the May option because of the insufficiency of wheat of deliverable grade in Chicago, the decline was brief and not severe. Toward the end of May, extremely unseasonable weather in many parts of the wheat belt, with freezing temperatures over wide areas, gave further confirmation to the earlier reports of damage and caused sharp advances in the July and September options. (See Chart 2, p. 333.)

During this period the view that the United States would be on a domestic basis during the next crop year² began to gain adherents. It was generally agreed that the winter crop would not greatly exceed 400 million bushels. The spring crop was promising, but even reckoning on a spring crop of 300 million bushels—a figure exceeded only three times in the last fifteen years—it was calculated that the total supply of the country would only take care of normal domestic requirements, except for "incidental" exports of durum and Pacific soft wheat and low-grade flours. Good crops in the Pacific region were not expected to replace losses in hard winter wheat. Under these circumstances certain elements of the trade anticipated a marked advance in prices before the end of the crop year.

¹ See explanation by Nat C. Murray in *Modern Miller*, Aug. 15, 1925.

² See Section VI below.

When the government report indicating the June 1 condition of winter and spring wheat was issued on June 9, it pointed to deterioration in May but did not support trade opinion as to the extent of the decline during the month. Accordingly, there was a reaction in prices brought about by liquidation and short selling which continued, for this and other reasons, until early July. One of the important "other reasons" was the fact that Europe continued indifferent to American crop prospects. Excellent prospects in the spring-wheat belt, both here and in Canada, also favored a lower price level. Damage from one or another of the usual causes was widely rumored, but little credence was given to the reports. The American market apparently concluded that until more was known about the spring-wheat crop, it was dangerous to count on the United States being on a domestic basis. With crop prospects excellent in Europe and Canada, it seemed certain that world supplies for the new year would be forthcoming. Under these circumstances, the "long" holdings that had been built up in the speculative market during the preceding two months were extensively liquidated.

The advance in prices early in July was the market reaction to the unfavorably hot weather that developed at that time. Important portions of the United States spring-wheat belt were affected as well as the Canadian northwest. Since the crop was in a vulnerable stage of growth in much of this region, it was feared that the heat would cause serious damage. With the subsequent improvement in the weather in the northwest, the market again reacted downward under the influence of short selling; but not to the preceding low level, since it was held that the spring crop had actually suffered, especially in quality. On the last day of the month a small "squeeze" in the July option developed on the Chicago Board of Trade, with the result that the July contract closed 16 cents higher than the September future quotation on the same day.

OTHER MARKETS

The Canadian market was subject to the same general influences as the American.

But the narrow supply there, combined with the limited nature of the futures market at Winnipeg, caused the old crop future options (May and July deliveries) to rise considerably higher on the early advance than was the case in American markets. This was notably true of the May option which, according to reliable reports, was deliberately congested and controlled by combination. The pool and other traders apparently held enough wheat to force short interests to pay an exorbitant price. The July option received speculative support on the theory that it too could be advanced to artificial levels, but instead it weakened and closed only 7 cents above the September option at Chicago. During much of June, however, it was quoted little above the level of the July option in Liverpool. Indeed, whereas in late March and early April Winnipeg prices had been only slightly above Chicago prices, the margin widened later in April, and throughout most of the period here under review Winnipeg prices for the July option were ten cents or more above Chicago prices. (See Chart 3.)

The Liverpool market was less buoyant than the American. Price fluctuations were on the whole similar to those in Chicago, but usually less severe. The phenomenal dullness of international trade, combined with the good European crop situation, limited speculative interest.

In Buenos Aires also, fluctuations were broadly similar to those in Chicago but much less pronounced. Except for a few days early in April and two weeks early in July, prices ranged from about \$1.50 to about \$1.70, with the maximum late in May as elsewhere. Buenos Aires prices were above Chicago prices, for the most part, until July.

OLD CROP PRICES AT A PREMIUM OVER NEW

Throughout this period, except in Argentina, old crop wheat prices were at a considerable premium over new crop options, indicating the relative scarcity of old supplies. Charts 2 and 3 present graphically the situation in the Winnipeg and Chicago markets. In Canada the wheat delivered on a July option would necessarily

be from the old crop, while in the United States it might be from the new. In both countries the old crop options closed at appreciable premiums over the new, but the difference was considerably greater in Canada than in the United States because

CHART 2.—PRICES OF WHEAT FUTURES IN WINNIPEG, DAILY, APRIL-JULY, 1925*

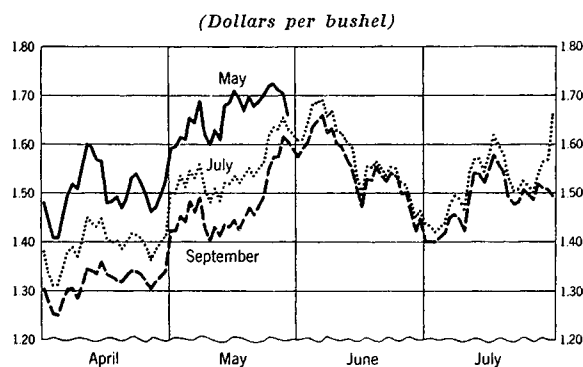
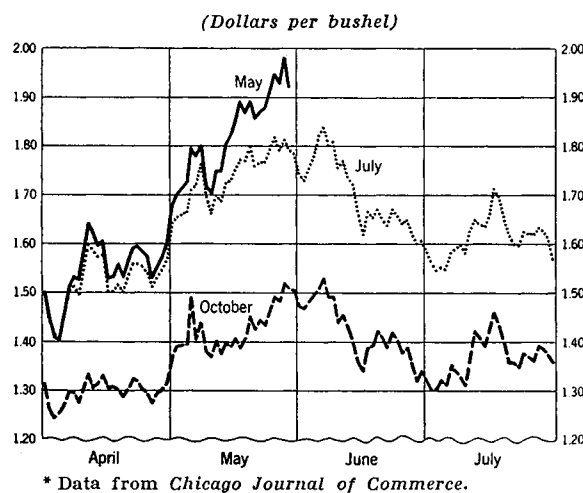


CHART 3.—PRICES OF WHEAT FUTURES IN CHICAGO, DAILY, APRIL-JULY, 1925*



of the different relations between old and new crops. The most striking disparity appeared in Canada, where the July option was 20-30 cents above the October option. The margin was greatest in May and early June, when the new crop looked most promising.

In the United States cash wheat of grades deliverable on future contracts was consistently at a premium over the future options of nearest date (except in the last

days of July), until the new crops became available—another indication of the relative scarcity of old crop wheat. The strength of the cash market resulted rather from the strong position of holders than from active demand from users. Milling and export demands were light, though June grindings were notably higher than in May. With substantial mill stocks in hand,¹ with adequate supplies in sight from the new crops, and with prices for grain of future delivery at a discount, few would buy who could postpone purchases until new wheat was available. The closing out of the May and (to a less degree) the July options gave support to the buying side during those months, since short interests were forced to fill their delivery requirements, but otherwise buying was from hand to mouth. As the new crop reached the market, premiums (except for quality) disappeared.

Canadian cash wheat was also dear, although not consistently at a premium over the nearest future. Small quantities of cash wheat, however, could be bought at both American and Canadian ports throughout the period at prices lower than the Winnipeg or Chicago prices plus transportation and other costs.

In Liverpool and on the Continent also, old crop options were at a considerable premium, partly because of local supply relationships, partly as a reflection of conditions in the exporting countries, but chiefly because of high expectations from new crops. In Buenos Aires, on the other hand, where new harvests were remote, the various options were close together, and later futures were at a slight premium. This reflects expectations of higher prices in the autumn, and helps to explain why Argentine shipments during the period were below expectations.

INTERNATIONAL COMPARISONS

The Liverpool cash market affords the best material for study of international price relations, since whenever an exporting country has wheat for shipment there

is almost certain to be a quotation on that market. Comparative monthly averages for leading grades in Liverpool are therefore presented in Table 1, and weekly averages in Appendix Table XIII.

TABLE 1.—AVERAGE PRICES OF LEADING GRADES OF WHEAT IN LIVERPOOL, APRIL–JULY, 1925*

Month	No. 1 Mani- toba	No. 3 Mani- toba	No. 2 Winter	No. 1 Northern Duluth	Rosafé	Aus- tralian
April	\$1.76	\$1.68	\$1.67	\$1.67	\$1.71	\$1.72
May	1.97	1.87	1.86	1.83	1.87	1.79
June	1.91	1.81	1.87	1.80	1.78	1.79
July	1.80	1.72	1.65 ^a	1.71	1.72	1.67

* For sources, and weekly data, see Appendix Table XIII.

^a First two weeks only.

Throughout most of the period American and Australian wheats were the cheapest available from the more important exporting countries. Canadian wheat, especially that of high quality, was dear. Argentine wheat was usually (though not always) higher than American or Australian. Statements that American prices were too high to permit exportation must therefore be taken with reservation. Probably more Australian wheat was delivered on contracts in Liverpool during this period than wheat of any other kind, but Duluth Northern was also delivered in considerable quantities. At the end of July, No. 2 red winter was the cheapest wheat quoted in Broomhall's *Corn Trade News* for early delivery. American hard winter, however, was not quoted. Although Canadian wheat for October delivery was relatively cheap, old crop Canadian wheat, even of No. 3 grade, was scarce and high.²

Monthly averages disguise the wide variations from day to day in the relative position of the different wheats. An experienced exporter states that there has rarely been a year when fluctuations in "differences" have been so radical. Wheat could frequently be bought in Liverpool at appreciably less than the price for which it could be obtained on the same date in Sydney, Buenos Aires, or Chicago (allowing for transportation costs); in other words, the markets in exporting countries were sometimes stronger than the Liverpool market. At times there was a considerable volume

¹ See below, p. 341.

² Cf. Broomhall's *Corn Trade News*, July 28, 1925.

of "distress" or "near distress" wheat to be picked up in Liverpool.¹

As always, prices for domestic wheat in European countries have been partially influenced by international market factors, partially by domestic conditions. In general, April was the lowest month since December. Prices advanced from early in April, until early in June, as the supply of old wheat became increasingly small, but declined sharply in later June and July as good crop prospects were confirmed and new wheat began to be available.² It is interesting to contrast the prediction of a prominent American speculator in April, that "wheat will be priceless in Europe in June," with the statement of a leading British grain merchant on July 1, 1925, that "... the general sentiment at present is very bearish, and ... buying is only of a hand-to-mouth nature. ... The demand is entirely absent and worse than I have known it at any time since the end of the war."

LARGE SPECULATIVE ACTIVITY

The fluctuating prices of the four months under review were the natural result of the approach to exhaustion of old crop supplies in North America, the prospect of very small crops of American winter wheat, the difficulties in predicting European demand in the face of good crop prospects, and the high degree of uncertainty concerning the volume of spring wheat to be harvested in the United States and particularly in Canada. Under such conditions speculation thrives, but there is reason to believe that, because of severe losses by speculative traders in February and March, the bulk of

the more recent speculative trading was professional.

The volume of future trading in the United States, which had been much heavier than usual in the first eight months of the crop year, therefore continued heavy in the last four, as shown by the following data for the average daily volume of trading in futures, in million bushels, in all American markets:

Year	Aug.-July	Aug.-Mar.	Apr.-July
1921-22	48.0	51.7	40.6
1922-23	37.1	35.4	40.5
1923-24	26.1	24.2	29.9
1924-25	63.2	64.4	60.8

While the volume of trade was lower in April-July than in January-March, 1925 (see Appendix Table XII), it was much higher even than in 1920, when the market was quite unsettled. There are numerous indications that the volume of speculative transactions was also unusually large in Canada.

Considering the price fluctuations in the light of actual information as to acreage, condition, development of plantings, climatic circumstances, devastations of pests, mill grindings, exports, and the various other circumstances affecting supply and demand, one cannot resist the conviction that the possible meanings of these facts were exaggerated in one direction by the "bulls" and in the other direction by the "bears"; and that the extent of the oscillations in price was in some degree the result of motivated exaggerations in the interpretation of the developing facts as expressed in buying and selling orders on the grain exchanges.

III. INTERNATIONAL TRADE, APRIL-JULY, 1925

Last April most experienced observers recognized that the international movement of wheat in the first eight months of the crop year had been heavier, on account

of rapid marketing and shipments in the fall and winter, than could be expected to continue through the last four months.³ It was also clear that the further movement would depend in considerable measure on crop developments, particularly in Europe and North Africa; and the favorable early indications in these areas also suggested a smaller scale of trade.⁴ Both views were

¹ According to testimony recently given before the Royal Commission on Food Prices, these conditions are not at all uncommon.

² See Appendix Table XIV.

³ See WHEAT STUDIES, April 1925, I, 152-155, 168.

⁴ *Ibid.*, 162-165.

realized, but the curtailment of shipments and imports was somewhat greater than most observers anticipated.

EXPORTS BELOW TRADE EXPECTATIONS

Broomhall, from early March until the middle of May, expected world shipments for the crop year to reach 752 million bushels, of which a balance of 225 millions remained to be shipped in the last 18 weeks.¹ Early in August he reported that actual shipments had been 715 million bushels, including some from minor countries not listed week by week. Hence shipments in the last 18 weeks of the crop year were not more than 188 millions—less by 37 million bushels (16 per cent) than his expectations. (See Table 2.) Actual shipments in the last 18 weeks were only about 26 per cent of the year's total, as against a usual percentage of about 34 and an expected percentage of about 30. Broomhall greatly overestimated the Argentine shipments, and underestimated only those of Australia and minor exporters.

TABLE 2.—BROOMHALL'S MARCH 3 ESTIMATE OF SHIPMENTS FOR 1924-25 AND THE LAST 18 WEEKS, COMPARED WITH ACTUAL REPORTED SHIPMENTS*

Export area	(Million bushels)			
	Crop year ending July 31		Last 18 weeks	
	March 3 estimate	August report	March 3 estimate	August report
North America	436	422.6	117.5	104.1
Argentina and Uruguay	152	121.4	61.4	30.8
Australia	104	117.1	31.3	44.4
India	40	31.7	12.6	4.3
Danube and Black Sea	20	{ 13.5 }	1.9	4.4
Other countries				
Total	752	715.2	224.8	188.0

* Data from Broomhall's *Corn Trade News*. See also Appendix Table VII.

Our own April estimate, on the basis of net exports rather than shipments, and including the United States on a July-June crop year and Canada on a September-August

crop year, was 749 million bushels, of which 729 were anticipated from the five leading exporters. Since these five countries had reported net exports of 544 million bushels to April 1, we anticipated a further export of 185 millions. "Whether as much as this will be exported," we stated, "depends largely upon the intensity of European demand, and upon the outlook for new crops. On the basis of present information we expect these figures to be approached but not exceeded." The actual reports are not yet available for the lesser countries, or for Canada for August. If, however, we accept Broomhall's figures for the lesser countries, and include Canada's exports from August 1, 1924, to July 31, 1925, we have the results shown in Table 3. Our advance estimates,

TABLE 3.—FOOD RESEARCH INSTITUTE ADVANCE ESTIMATES OF NET EXPORTS FOR 1924-25 COMPARED WITH REPORTED EXPORTS

Export area	(Million bushels)			Last 4 months	
	Crop year ending July 31			April	
	February estimate	April estimate	As reported	estimate	As reported
United States	250 ^a	260 ^a	251.8 ^a	43 ^o	35.3 ^o
Canada	175 ^b	184 ^b	191.9	57 ^a	53.8 ^o
Argentina	135	135	122.4	46	33.3
Australia	110	115	124.3	35	44.2
India	40	35	37.6	4	6.7
5 countries	710	729	728.0	185	173.3 ^o
Other areas	15	20	22.4 ^f		
Total	725	749	750.4		

^a Crop year ending June 30.

^b Estimates for year ending August 31.

^o Last 3 months.

^d Estimates for 5 months ending August 31.

^e If the Canadian figure for August 1925 were included, as it was in the estimates, the Canadian figure would slightly exceed our advance estimate and the total for five countries would probably fall slightly short of our advance estimate.

^f Broomhall's shipments.

in the aggregate, were in fact slightly exceeded; but since Canada's exports this August are unlikely to be as high as in August 1924, the comparable reported figure will probably be slightly below our suggested maximum.

It will be observed that net exports from the United States and Argentina fell slightly below our advance estimates, while Canadian, Australian, and British Indian exports exceeded them. The decline in the United States exports is readily explained by the

¹ WHEAT STUDIES, April 1925, I, 168. His earlier forecast, maintained from November 18 to March 3, was 720 million bushels, much closer to the truth.

continued poor prospects for United States winter wheat, coupled with the fact (which chiefly explains the small total of exports in this period) that Europe's demand fell off in view of continued good prospects for new crops. The reduced shipments from Argentina have left her carryover larger than was anticipated, while the heavier Australian exports were made from a larger crop than we believed Australia had harvested.¹

Since Canadian exports were probably slightly higher than our advance estimates, which were made on the assumption of a 1924 crop larger than the official estimate, we are still inclined to believe the official estimate will be revised upward. But our allowances for domestic milling and feed and waste may have been excessive.

Our present estimates of wheat supplies and disposition in the four principal exporting countries, for 1924-25 with comparisons, are given in Appendix Table XI. These are subject to further revision, and are at best only useful approximations.

The variations between our advance estimates of exports and the actual results seem within reasonable limits of error. The aggregate figure, however, is much closer to our suggested total than can be explained except as a coincidence. Nevertheless, the result tends to justify the mode of analysis we have pursued.

IMPORTS COMPARED WITH FORECASTS

Complete and definitive statistics for importing countries are not yet at hand. Broomhall's shipment figures for the 52 weeks ending August 1, however, show that only 640 million bushels were shipped to Europe, as compared with his March 3 forecast of 664 million, while shipments to countries outside of Europe are reported to have been 75 million bushels as compared with his March 3 forecast of 88 million and his earliest forecast of 112 million. While the year's shipments to Europe were the largest on record, and the total shipments were exceeded only in 1923-24, they fell considerably short of those which he antici-

pated from early March until mid-May.

The principal explanation for the decrease in general undoubtedly lies in the anticipation of good crops in importing countries and North Africa, which made it safe to reduce stocks to a low level prior to harvests. It is pertinent to add that whereas the harvests of 1924 were generally delayed in northern and western Europe, the crops of 1925 have been harvested promptly. Heavier imports would probably have been necessary had this year's harvests been late. Financial influences in certain countries were probably also a factor in restricting imports late in the crop year, especially in France and Italy; but it is difficult to assign any precise weight to this factor. Finally, the plane of substitution and retrenchment in consumption, which was raised in 1924-25 under the stress of limited domestic supplies and rising prices, probably reached its maximum in the closing months of the crop year. A leading British grain merchant writes, as of July 1, 1925: "None of us has reckoned sufficiently for the decrease in consumption owing to high prices, and the resulting economies. . . . Everybody is living from hand to mouth expecting good crops and lower prices. . . ."

Broomhall's detailed forecast by countries (March 3), and our own of April, compared with Broomhall's preliminary returns of early August, are given in Table 4. Germany, Poland, and Italy imported more than had been anticipated; France, the Baltic States, Russia, and European Turkey rather less. Our own advance estimates were closer than Broomhall's, in the aggregate and in the cases of Germany, France, and Poland; but not so close in the cases of Czecho-Slovakia and several smaller countries.

The large German imports are probably to be explained not so much by current requirements as by imports for the new year in anticipation of the tariff on grain and flour, which is about to go into effect. A similar influence probably operated to some degree in Italy and possibly in Czecho-Slovakia. The decrease in France is probably to be explained, in addition to the operation of economies in milling and consumption, by financial factors which

¹ The official figure is 164 million bushels, whereas in April we had accepted an estimate of 149.

have tended to restrict imports, and by expectations of early supplies from North Africa. The Polish, Russian, and Turkish

TABLE 4.—ADVANCE ESTIMATES OF WHEAT IMPORTS OF EUROPEAN COUNTRIES, 1924-25, COMPARED WITH BROOMHALL'S PRELIMINARY REPORT OF ACTUAL IMPORTS*

Country	(Million bushels)		Preliminary returns Broomhall
	Food Res. Institute April	Broomhall March 3	
Great Britain and Ireland	235	232	232
Italy	85	88	90
Germany	65	64	80
France	38	56	32
Belgium	38	40	40
Netherlands	27	24	24
Scandinavia	26	26	25
Switzerland	16	18	16
Austria	18	18	18
Czecho-Slovakia	24	26	26
Poland	6	—	11
Finland	5	16 ^a	4
Spain and Portugal	4	4	7
Greece	20	20	21
Others	5	—	3
Total of above	612	632	629
Russia	24	24	16
Turkey in Europe	8	8	4
Grand total	644	664	649

* See WHEAT STUDIES, April 1925, I, 151, and Broomhall's *Corn Trade News*, Aug. 4, 1925.

^a Baltic States.

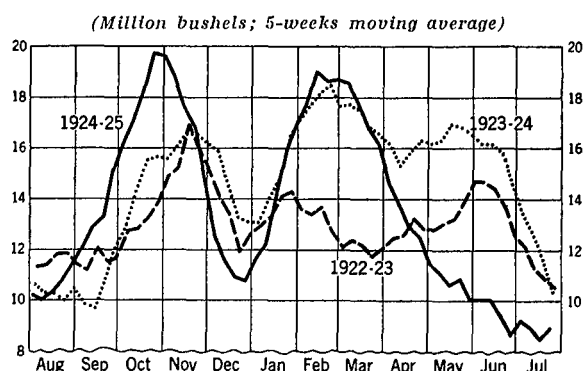
imports are all peculiarly difficult to predict, and the preliminary returns for these countries are especially subject to error.

THE COURSE OF EXPORTS AND IMPORTS

The contrast between export shipments in 1924-25 and those of the two preceding years is shown graphically in Chart 4, which shows Broomhall's weekly shipments smoothed by a 5-weeks moving average. In the past year, shipments were exceptionally heavy in the fall, rather light at the turn of the year, and as heavy in February and March as in 1923-24; but they tended steadily downward from early March until late in June, and in the last

three months of the crop year were far lower than in either of the two preceding years. There was no spring peak in 1925, as there usually is; North American surpluses had been largely shipped out earlier, and heavy shipments from the southern hemisphere had come early in response to high prices in the winter months. Weekly shipments of 10 million bushels or less, such as occurred in June and July, are rare except in August and September, and not very common in those months.

CHART 4.—WORLD WHEAT SHIPMENTS, WEEKLY, CROP YEARS 1922-23 TO 1924-25*



* Data from Broomhall's *Corn Trade News*

The flow of imports has been rather more uniform than the flow of exports, for the importing countries as a whole. But the detailed figures given in Appendix Table IX show numerous instances of sharp declines in May, June, or both, and complete figures will probably show sharper declines in July. Germany is almost the only large importer whose imports rose materially between March and June, and for this the prospective tariff was certainly partly responsible. In most other countries except Italy, the imports in the last half of the crop year promise to be materially below those of the first half.

REFLECTIONS ON IMPORTS OF 1924-25

When the European import figures are examined in connection with the 1924 crops, several facts to which we have previously called attention are exemplified.¹ It is clear that after a year of short crops, with high prices for wheat, imports have not been sufficient to make up for the crop

¹ See especially WHEAT STUDIES, December 1924, I, 32, 47; February 1925, I, 91, 93 f; and July 1925.

shortage except in a few countries. Generally speaking, European nations employed substitute foods and feeds, economized grain in various ways, drew upon stocks, and reduced consumption. The trade generally gave too little weight to the practical possibilities for reducing consumption. European consumption of wheat grain in 1924-25 was about the same as the low average of the four preceding years 1920-24, and far below the figure for 1923-24, when European crops were generally good and world wheat prices were abnormally low. Much the same was true of total bread grain consumption, including rye. An appreciable elasticity in wheat consumption

in the presence of cereal substitutes is clearly indicated. It is also clear that, in general, this variability was most notable in countries which produce a large proportion of the wheat they use, and least considerable in the countries which import more than they produce.

An even greater elasticity is apparent from the sparse data for imports of countries outside of Europe. In 1923-24, under the stimulus of extremely low prices, ex-Europe imported very heavily. In 1924-25 much higher prices caused shipments to these countries (according to Broomhall) to fall to about half the figure for the preceding year.

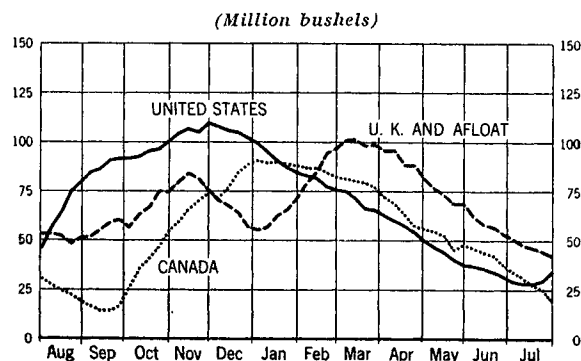
IV. SUPPLIES AT THE END OF THE CROP YEAR

The crop year 1924-25 opened with exceptionally large reserves of wheat in North America, and fair-sized stocks in other exporting and importing countries. Because of heavy marketing in the autumn and winter, visible supplies of wheat remained exceptionally high in most countries throughout much of the year. In North America, chiefly because of heavy exports and the small crop of 1924 in Canada, visible supplies reached their peak somewhat

from the southern hemisphere. (See Chart 5.) From March to July, however, stocks of all sorts, central and country, visible and invisible, declined rather more rapidly than usual until new crop wheat was harvested.

Broadly speaking, there is no doubt that the carryover of wheat into 1925-26 was much smaller than last year and somewhat smaller than two years ago; but it was not, on the whole, abnormally or dangerously low, as many observers expected it to be. This will be apparent from a consideration of the several available measures of elements in the carryover.

CHART 5.—VISIBLE WHEAT SUPPLIES IN UNITED STATES, CANADA, AND UNITED KINGDOM AND AFLOAT, WEEKLY, 1924-25*



* Data from *Bradstreet's, Canadian Grain Statistics*, and *Broomhall's Corn Trade News*, respectively.

earlier than usual, and declined with few interruptions after January 1. Floating supplies were vastly increased in January and February, as a result of heavy shipments

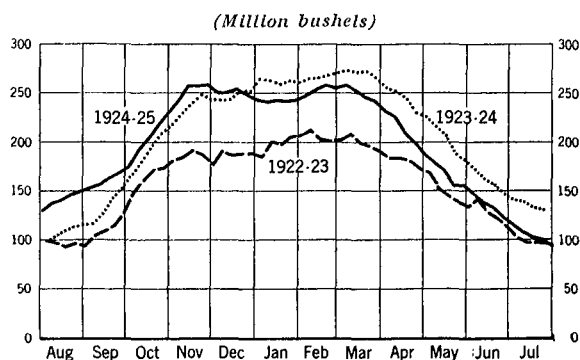
WORLD VISIBLE SUPPLIES, AUGUST 1, 1925

Comparable data for world visible supplies of wheat and flour on August 1, so far as they are gathered, are presented for several years in Appendix Table X. The principal items for the past six years are summarized below, in million bushels, in comparison with a pre-war and a post-war average:

	August 1	Total	United States	Canada	U. K. and afloat
1910-14 ave.		119.1	58.8	10.8	50.6
1920-24 ave.		135.7	57.5	16.4	61.8
1920		139.9	42.7	8.2	89.0
1921		130.7	56.2	8.9	65.5
1922		118.5	43.1	19.3	56.0
1923		134.5	73.3	14.1	47.2
1924		155.4	72.1	31.6	51.7
1925		122.2	57.2	23.5	41.5

The figure for United Kingdom and afloat is unusually low, even by comparison with 1923, when good European crops were in prospect. The total is 33 million bushels lower than on August 1, 1924.¹ If one recog-

CHART 6.—COMBINED VISIBLE WHEAT SUPPLIES IN UNITED STATES, CANADA, AND UNITED KINGDOM AND AFLOAT, WEEKLY, CROP YEARS 1922-25*



* Sources as for Chart 5.

nizes that world visible supplies were exceptionally high last year, the recent total is not remarkably low. It is slightly higher than the pre-war average or the total for August 1, 1922,² and only 13½ million bushels below the average for 1920-24.

Chart 6 shows the weekly movement of the combined total visible supplies of

¹ The United States Department of Agriculture issued early in July the following estimate of stocks of wheat in exporting countries and afloat on July 1, 1925, comparing this with similar estimates for the three preceding years:

July 1, 1922	236 million bu.
1923	269 " "
1924	305 " "
1925	230 " "

The estimate includes a rather heterogeneous group of items: namely, the United States carryover (consisting of country stocks as well as the visible), the Canadian visible, stocks "available for exports and carryover" in Argentina and Australia, the carryover in British India on April 1, and the wheat afloat the third week in June. Since the publication of this estimate the Department of Agriculture has increased its figure for the American carryover on July 1, 1925, by 7 million bushels. According to this compilation, the 1925 figure is the lowest in the four-year period but only very slightly under the 1922 total. Judging by other data, this estimate appears to overstate the reductions as compared with the carryovers of one and two years ago.

² The addition of Argentine and Australian visibles (see Appendix Table X) would increase the margin above the pre-war average, but this increase is partly due to increased port storage facilities in these countries.

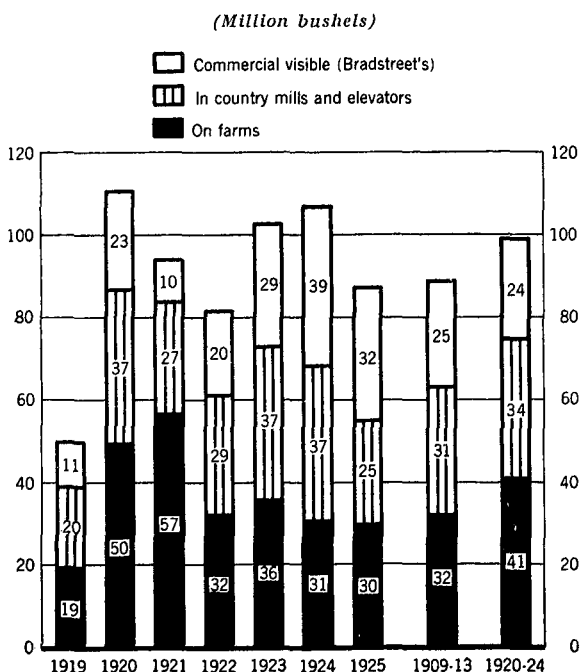
United States (*Bradstreet's*), Canadian, and United Kingdom and afloat—series not identical with those given in the table—in such a form as to render easy comparison of the past three crop years. During the period under discussion—April to July—the decline was steady and at approximately the same rate as in 1923-24. In spite of the complaints of a dull market, it is apparent that wheat was moving into consumers' hands at a rate probably better than normal.

To complete the picture it is necessary to consider other stocks than visibles, and unreported supplies in the southern hemisphere and in Europe.

UNITED STATES STOCKS, JULY 1, 1925

The Department of Agriculture summary of wheat stocks in the United States, as of July 1, 1925, with comparisons, is shown graphically in Chart 7. The aggregate fig-

CHART 7.—WHEAT STOCKS IN THE UNITED STATES, JULY 1, 1919-25, WITH PRE-WAR AND POST-WAR AVERAGES*



* Data of U. S. Department of Agriculture.

ure, 87 million bushels, is much the same as the pre-war average, but below the average for 1920-24, which included three high

figures. While country stocks were relatively low, in consequence of unusually heavy marketing, neither item appears extremely small, and visible supplies were larger than in any of the past six years except 1924. The combined figure of country stocks and visibles was 15 million bushels larger than our minimum estimate of last April, chiefly because milling and exports for April-June were somewhat below our suggested figures.

This year for the first time we have an estimate of stocks of city mills as of June 30, compiled by the Census Bureau. The total figures in million bushels, when adjusted for non-reporting mills, run as follows:

In country elevators	2.5
In other elevators and warehouses	3.9
In transit and in city mills	30.6
Total wheat	37.0
Flour, sold and unsold (as wheat)	17.5
Total wheat and flour	54.5

Excluding the first two items as included in country stocks or visibles, we have roughly 31 million bushels of wheat carried over but not heretofore included in reports of stocks. This is probably lower than the average for other post-war years, but not exceedingly small.

No comprehensive estimate of flour stocks is available. Russell's, the most comprehensive, and that of the *Daily Trade Bulletin*, which covers a smaller number of positions, agree in showing flour stocks much smaller on July 1 this year than on the same date in either of the two preceding years, but not markedly different from the post-war average. Probably most of the city-mill stocks of flour included in the tabulation above are not included even in Russell's estimate.

All told, the United States carryover of wheat and flour on July 1 was probably around 150 million bushels; undoubtedly much of this consisted of essential farm reserves and administrative stocks which tend to be larger when new crops are small.¹

¹ See WHEAT STUDIES, March 1925, I, 124-126.

CANADIAN CARRYOVER, AUGUST 1

The official estimate of the Canadian wheat carryover on August 1, 1925, was 24.2 million bushels. (See Table 5.) This

TABLE 5.—CANADIAN WHEAT CARRYOVERS, 1921-25*

(Thousand bushels)					
Date	Total	On farms	In elevators	In transit	In flour mills
Sept. 1					
1921	13,727	2,144	4,831	6,032	720
1922	19,463	2,360	11,025	4,578	1,500
1923	11,750	1,441	5,051	2,758	2,500
1924	28,358	5,035	17,507	1,816	4,000
Aug. 1					
1924	41,119	"	"	"	"
1925	24,224	2,709	17,939	1,576	2,000

* Data from *Canada Year Books; Crops and Markets*, Sept. 27, 1924; and Dominion Bureau of Statistics press release, Aug. 15, 1925.

" Figures not available.

includes wheat in all positions—on farms, in elevators, in transit, and in flour mills—but it does not include flour. The corresponding figure for August 1, 1924, was 41 million bushels, but this, after a large crop and low prices, and in the face of a small new crop, was exceptionally high. Although exact comparisons with other years cannot be made, figures for September 1 in previous years suggest that this year's carryover appears small only by comparison with 1924. It is possible that stocks were not materially larger, if at all, on August 1, 1921 and 1923.

SOUTHERN HEMISPHERE SUPPLIES ON AUGUST 1

No official estimates of Argentine or Australian stocks are available for August 1. By deduction it appears, however, that Argentine supplies were perhaps slightly above normal on that date and Australian somewhat below the comparable figure for recent years. According to our approximations to the supply and disposition of wheat in the two countries during the past three crop years (see Appendix Table XI), Argentine supplies on August 1, 1925, may be estimated at 61 million bushels, as compared with 60 million last year (when output was large), 54 million in 1923, and 67

million in 1922. These stocks are larger than most observers anticipated, because Argentine exports declined heavily after April 1. Such a supply is sufficient to permit a substantial exportation before the new crop wheat becomes available early in 1926. Broomhall reports an exportable surplus of 24 million bushels, Sir James Wilson one of 40 millions. The exportable fraction included in our figure would lie between the two.

Australian supplies were probably not larger than 35 million bushels on August 1 of this year, as compared with 41 million bushels one year ago and an average of 38 million bushels for the three years 1922-24. The figure is higher than our April estimate, since, although exports April-July were higher than our suggested figure, the crop is officially reported as 15 million bushels above the figure we had used. Exportation from Australia was very heavy throughout the early months of 1925 and consequently it is to be assumed that exports will be small during the months intervening between now and harvest. Broomhall reports that the exportable surplus on August 1 was negligible. Our figures, on the basis of a past crop of 164 million bushels, lead one to expect a further export of 4 to 8 million bushels before next January.

EUROPEAN STOCKS, AUGUST 1

Country stocks of old crop wheat in Europe were probably nearly exhausted on August 1. This was true of the countries of the Danube basin, which are normally exporters, as well as of European importing countries. Domestic crops had been small, and presumably had been pretty fully consumed. Commercial stocks were also presumably smaller than usual in most countries, because of the limited foreign purchases of recent months; but heavy imports into Germany and Italy, in anticipation of tariff levies, probably increased their reserves of import wheat. Stocks afloat and in the United Kingdom, although they had been very large earlier in the year, on August 1 were at the lowest point for this date since 1908. Comparable figures for these last items are shown in Appendix Table X.

All in all, the recent world carryover in exporting countries was not much below normal, though it was smaller than in either of the two preceding years. But in view of low stocks in Russia, the Danube basin, and most European importing countries, it is proper to assert that the world carryover into the crop year 1925-26 was unusually though not dangerously low.

V. THE CHANGING OUTLOOK FOR 1925 WHEAT CROPS

Between April 1 and August 1 the outlook for the northern hemisphere crops ordinarily becomes fairly definite, except for spring wheat and Russian wheat. Fall-sown crops are for the most part harvested by August 1. Spring-wheat crops have still to pass certain crucial stages, but are not far from harvest. Crop news is continuously important throughout this period, as indeed for six weeks more.

The first of the new wheat to reach overseas markets is that of British India. Her crop is usually harvested in February and March, and new grain may be expected to reach Europe in May or June. The next important crops to become available are those of northern Africa, southern Europe, and southern United States. These are cut

in May and June, and begin to come to market shortly thereafter. By the end of July practically all of the fall-sown wheat in the United States is harvested, and in July and August most of the later European crops are ripe. The spring-wheat harvests of Canada and Russia are not completed until September, but the American spring-wheat crop and portions of the others are usually harvested in August.

Because of their early harvest, and the fact that their exports may fill in a gap between the heavy movements from the southern hemisphere and those of North America, the crops of British India and North Africa sometimes have a psychological importance in the market greater than the volume of their exports justifies.

For the international market, however, the crop developments in Europe and North America are of outstanding importance during April, May, June, and July. This year, since the current margin between wheat supplies and requirements was undeniably narrow, the changeable prospects for new crops have been watched with the keenest interest.

BRITISH INDIA AND NORTH AFRICA

As early as April last it was recognized that British India would harvest a moderately small crop. A large acreage had been planted,¹ but drought did serious damage during the growing season, especially in the Punjab. The early official estimate of production (April 1925) was 322 million bushels, as compared with an average for the three preceding years of 368 million bushels and a pre-war average of 352 million. (See Table 6.) Certain observers considered the

TABLE 6.—BRITISH INDIA'S WHEAT, 1920-25*

(Million bushels)			
Year ending July 31	Crop	Net exports	Domestic utilization
1920-21	378	15	363
1921-22	250	(14) ^a	264
1922-23	367	29	338
1923-24	373	20	353
1924-25	364	38	326
5-year ave.	346	18	329
1925-26	325		

* Official data.

^a Net imports.

early estimate too low, and on June 9 Broomhall reported a figure of 331 millions. But this estimate was never confirmed from official sources, and revisions brought the final estimate up to only 325 million bushels. Since British India's domestic utilization of wheat has averaged about 329 million bushels a year in the past five years, it has been safe to assume that, even at the higher level of wheat prices prevailing this year, little wheat could be expected from

¹ 32,057,000 acres as compared with 30,731,000 acres in 1923-24 and a five-year average, 1920-24, of 29,196,000 acres.

² Broomhall suggests a figure of 2 million quarters, Sir James Wilson only half as much.

India during the crop year 1925-26.

The North African wheat crops consistently promised well, and turned out approximately as well as the good harvests of 1923. (See Table 7.) Egypt is normally an

TABLE 7.—NORTH AFRICAN WHEAT CROPS, PRE-WAR AND POST-WAR*

(Million bushels)					
Country	Average				
	1909-13	1920-24	1923	1924	1925
Morocco	17.0	19.6	20.0	23.9	21.1
Algeria	35.2	22.8	36.4	17.2	40.3
Tunis	6.2	6.9	9.9	5.2	8.7
Total exporters	58.4	49.3	66.3	46.3	70.1
Egypt	33.7	36.0	40.7	34.2	36.6
Total North Africa	92.1	85.3	107.0	80.5	106.7

* Official data.

importer, and with a crop of 36.6 million bushels is likely to import around 8 million bushels. Algeria, the principal exporter of the group, reports an excellent crop of 40.3 million bushels, and the three exporting countries together may have an export surplus of 12 to 15 million bushels, possibly more.² Already new crop wheat from Algeria has been shipped to France. Morocco's exports may be reduced because of military operations in connection with the Riff war.

UNITED STATES WINTER WHEAT

The outlook for the American winter-wheat crop was distinctly unpromising last April, but it was then so early in the season that substantial improvement was still possible. No such improvement occurred; indeed, at no time during the growing season was the outlook good. In much of the winter-wheat area drought had prevailed during the autumn, and winter snows and spring rains proved insufficient to compensate for the earlier lack. Winter-killing was extremely heavy all over the belt, and especially severe in the Pacific Northwest. Out of a total planted area of 42.3 million acres, some 9.5 million acres were officially estimated as abandoned. The percentage abandoned was double the average, and the

highest recorded except in 1917. Spring droughts greatly aggravated the damage in the hard-wheat region from Nebraska south. East of the Mississippi the spring opened favorably, but in May and early June excessive heat and dry weather combined to cause deterioration. Consequently, in both the hard-winter and soft-winter wheat regions the yield promised and turned out to be decidedly subnormal.

the trade to reason intelligently from the reported condition figures.

The first forecast of the crop, on April 1, was 474 million bushels. Succeeding forecasts were 445, 407, and 404 millions. Threshing returns in July indicated a slightly higher output than had been anticipated on July 1; hence the official estimate of August 1 was 12 million bushels above the final forecast. The winter-wheat crop

TABLE 8.—OFFICIAL ESTIMATES OF CONDITION AND OUTPUT OF UNITED STATES WINTER WHEAT, 1925*

	Condition (per cent)					Production (million bushels)	
	Dec. 1	Apr. 1	May 1	June 1	July 1	Aug. 1, 1925	1920-24 average
United States	81.0	68.7	77.0	66.5	65.9	416	592
Pennsylvania	82	85	85	86	86	25	23
Ohio	80	61	62	54	59	26	35
Indiana	81	72	74	64	67	28	29
Illinois	87	87	85	68	68	39	47
Michigan	83	85	83	75	65	16	16
Missouri	85	86	89	76	79	31	35
Nebraska	78	66	77	64	63	30	51
Kansas	76	63	75	59	53	66	126
Texas	75	47	38	42	6.0 ^a	4	19
Oklahoma	84	65	61	53	8.2 ^a	25	45
Colorado	88	87	86	60	55	14	16
Idaho	82	74	81	90	—	—	9
Washington	77	28	76	80	82	10	29
Oregon	87	55	80	90	91	7	18

* Data of Department of Agriculture.

^a Reported yield per acre.

Table 8 indicates the deterioration in leading states month by month, as shown by the condition figures of the Department of Agriculture, and also a comparison of the August 1 estimate of output for this year with an average of the final estimates for the past five years. The improvement shown in the government condition figures for May 1 was not altogether concurred in by unofficial observers. During that month the drought in the southwest was partially broken, but both Snow and the *Journal of Commerce* estimated deterioration in the crop as a whole, and neither Murray nor Cromwell showed a gain as large as the government. Leading experts substantially agreed that there was deterioration in the crop as a whole during May and June, although individual districts showed improvement.¹ But the method of expressing condition, in terms of a kind of "floating par," makes it somewhat difficult for even

as a whole is now officially estimated at 416 million bushels, about 175 million bushels less than last year or the average of the past five years. The average yield per acre harvested is estimated at 12.7 bushels as compared with 15.6 bushels for the five years 1909-13 and 14.7 for the five years 1920-24.

In every important wheat-producing state except Pennsylvania—in the soft-wheat as well as the hard-wheat regions—the August 1 estimate of output for this year was lower than the average for the preceding five years. The loss is greater in the hard-wheat regions than in the soft, but all parts of the country have suffered the same misfortune.

¹ Unofficial estimates were as follows:

	April 1	May 1	June 1	July 1
Cromwell	74.1	76.0	—	—
Murray	73.0	75.6	69.3	64.5
Snow	75.0	71.6	71.0	64.9
<i>Journal of Commerce</i>	68.4	67.9	61.3	58.4

The approximate amounts of red winter, hard winter, and white wheats, as estimated in July by Brookmire's Agricultural Research Service, may be compared as follows with corresponding crops of the preceding three years:¹

	(Million bushels)			
	1922	1923	1924	1925
Red winter	266	294	244	210
Hard winter	257	188	301	165
White	96	141	70	100

These estimates for 1925 would be slightly different on the basis of the August 1 estimate. It should be remarked that the white wheat includes some spring wheat, more than usual in 1925. Both the soft red winter and the hard winter crops are below the average domestic consumption of these wheats in recent years, which the Department of Agriculture estimates at 230 and 200 million bushels respectively.²

Fortunately, high quality partially compensates for the deficiency in volume. The wheat is practically all of high protein content and will make an excellent milling product.

EUROPE EX-RUSSIA

Europe, outside of Russia, grows chiefly winter wheat. The area planted last fall was slightly larger than that of the previous year, and considerably larger than the post-war average in most of the wheat-producing countries. Reductions in wheat acreage were few and relatively slight. The winter proved generally favorable, and the acreage abandoned was small. In the United Kingdom, indeed, the fall was unfavorable and the winter excessively wet, but though the crop suffered there was little killing of the plant.

During the spring the weather improved prospects in Great Britain and was very favorable in all parts of the Continent, with sufficient moisture and temperatures not unduly high or low except for brief periods

and in limited areas. By early June Broomhall was so confident of the promising developments that he stated that the outturn would be "much greater than last year." In the middle of the month he estimated the European and North African output of wheat and rye as 240 million bushels more than last year (in addition to an increase of equal amount from Russia).³

During July European crop conditions continued generally favorable, although in numerous scattered areas there were brief hot spells followed by violent storms or cold rainy weather. France, southern Poland, Roumania, and Bulgaria all reported serious local crop damage from these causes.⁴ The southern European crops were harvested early in the month and, according to Broomhall, are of excellent quality. Central European crops are probably not of such good quality because of heavy rains at the time of harvest. The German wheat ripened prematurely and consequently may not be of first-rate quality. Northern Europe began to harvest at the end of July and also encountered rainy weather, which disappointed highest expectations as to yield and quality but did not reverse the good prospects.

Forecasts or early estimates of the wheat crops are now available for 15 countries, including all the large European producers except Jugo-Slavia. (See Table 9 and Appendix Table I.) The total for these countries is 1,094 million bushels, as compared with 915 millions for the same countries last year. These countries produced, in 1923 and on the average in 1920-24, about 87 per cent of the total European wheat crop, outside of Russia. The total production of the exporting countries seems likely to be about 280 million bushels, and that of the importing countries about 976 million bushels. The grand total would therefore be about 1,256 million bushels, approximately the same as the good crop of 1923 and 200 million bushels larger than that of 1924. Though 100 million bushels below the pre-war average, it is 150 million bushels higher than the average for 1920-24.

The largest change as compared with the good harvests of 1923 is in the Spanish crop, which is reported 28 million bushels lower;

¹ Bulletin of July 25, 1925.

² Press release, Sept. 3, 1925.

³ Late in June he amplified this by estimating this year's output of wheat in Europe (including Russia) and northern Africa as 280 million bushels greater than last year's, and of rye 200 million bushels greater.

⁴ *New York Times*, Aug. 11, 1925.

but since Spain is practically self-sufficing, this change will not have a material influence on European import requirements.¹ The crops of the exporting countries of the Danube basin are apparently about 15 million bushels larger than in 1923, when the net exports were about 25 million bushels. Probably the export surplus will be somewhat larger than from the 1923 crop.

TABLE 9.—WHEAT AND RYE PRODUCTION IN EUROPE (EX-RUSSIA), 1925, WITH COMPARISONS*

Year	Wheat		Rye	
	15 countries	Total	12 countries	Total
1909-13 ave.	1,180	1,348	734	976
1920-24 ave.	965	1,105	515	696
1920	829	948	376	532
1921	1,068	1,216	557	757
1922	915	1,044	530	712
1923	1,100	1,261	631	827
1924	915	1,057	481	653
1925	1,098	1,256 ^a	683	895 ^a

* See Appendix Table I for sources and most details.

^a Estimated.

The European rye crops this year are distinctly the best since the war. Germany and Poland, the two most important producers excepting Russia, both appear to have excellent crops, and in other parts of Europe reports are also favorable. From the twelve countries which have reported their probable output, a crop of 683 million bushels is expected this year as compared with 481 million last year and a 1920-24 average of 515 million. The total European crop, outside of Russia, is likely to be nearly 900 million bushels, as compared with 653 million last year and 827 million in 1923. (See Table 9 and Appendix Table II.) Good rye crops are almost as important to Europe as good wheat crops. In many countries rye is a primary foodstuff directly complementary to the wheat supply. Consequently, the promising condition of the rye crop has been and will be an

important factor in limiting European demand for foreign wheat.

The early crop estimates, however, are always subject to error, and it is too early to state definitive totals for either wheat or rye. One reason for caution is that there is a tendency to overestimate good crops. Another is that harvest weather has been unfavorable in some sections since the estimates were prepared. Present indications, however, are that the final estimates will not be materially below the preliminary official figures used above.

RUSSIA

The Russian situation has been exceedingly difficult to adjudge, both because experience has shown that official reports are not altogether trustworthy, and because conditions have changed radically during the growing season. The fall and winter were distinctly unfavorable to fall-sown wheat and rye. The winter-wheat acreage was slightly increased, but this was more than counterbalanced by a decrease in acreage of winter rye. Much seed failed to germinate, and devastations by insects, by drought, and by freezing for lack of adequate snow-cover, were serious. As in North America, however, the spring was favorable. As early as April 21, Broomhall reported that it was "practically established that injury sustained by the winter crops through drought and frost was not so serious as feared. Nevertheless winter-killing has been more extensive than usual, being estimated at 8 to 10 per cent of the total seeded acreage."² Special measures were taken to insure extensive distribution of seed grain, with which to reseed abandoned areas as well as for customary spring planting, and spring sowings were reported unusually large.

The Soviet government has issued regular detailed reports on the condition of the crops in various parts of the country during the growing season.³ These indicate considerably better wheat and rye crops than those of last year and show consistent improvement in condition from May 1 to July 1. According to the condition-reporting system in use in Russia, in which 1 represents very bad conditions, 5 excellent, and 3

¹ Grain experts are said to estimate the crop at 150 million bushels, 22 million bushels above the latest official estimate.

² On May 12 Broomhall quoted the International Institute as reporting fall sowings, exclusive of Turkestan, Trans-Caucasia, and the Far East, as 12.9 million acres in wheat and 64.7 million acres in rye.

³ See London *Economist*, Aug. 8, 1925, and file of *Ekonomilcheskaya Zhizn*.

medium, the July 1 condition of all cereals in the federated Soviet republics was 3.3 this year as compared with 2.5 in 1924. Conditions were most favorable in the North Caucasus, but good also in the Ukraine and Kirghiz, and really bad only in small areas of the Central Governments. Earlier reports anticipated a crop comparable in size with that of 1923; but with the improvement in the later growing season, a considerably larger output has been expected for several months.

By the middle of June Broomhall counted upon a Russian crop of breadgrains 240 million bushels higher than last year's. Later in the month he reported an estimate by the Export Commissariat that Russia would have 60 million bushels of wheat and 40 million bushels of rye for export, presumably in addition to larger quantities for domestic consumption than last year, when Russia was a net importer of breadgrains. In July the United States Department of Agriculture reported Russian estimates that Russia would have a surplus of approximately 255 million bushels of breadgrains for export during the coming year.¹

The official estimate of the Central Statistical Bureau as of August 1 puts the wheat crop at the extraordinary total of 664 million bushels, double the crop of 1924, and the rye crop at 768 million bushels, as compared with 750 million bushels in 1923 and 624 million bushels in 1924.² This would mean total breadgrain crops 476 million bushels larger than those of 1924, and 352 million bushels above those of 1923. It is doubtful whether the harvests will prove as large as these optimistic estimates, but there is general agreement that Russian crops are by far the best since the war.

As Broomhall has pointed out, Russian grain has a way of "disappearing" before it reaches points of embarkation. The condition of the distributive system, the railways, and the waterways, is such as to limit exports. Consequently, even though the

surplus may be as large as estimated, by no means all of it will reach international markets.³ As early as July, however, Russia was reported an active seller of wheat, and attractive prices will prove a considerable stimulus to exports. The Soviet government may be counted upon to promote large exports to the best of its ability.

While it is too early to reach final conclusions, especially in view of the large proportion of spring-sown grain, all observers agree in anticipating a substantial export of wheat and rye from Russia during the coming year. The Russian surplus promises to be relatively more important as a factor in the international wheat market than in any year since the war, and the uncertainty concerning its size will probably be an unsettling factor for several months.

NORTH AMERICAN SPRING-WHEAT CROPS

The spring of 1925 was unusually favorable for the sowing of spring wheat in North America. Moisture supplies were ample, the season was early, and frosts were only a moderate handicap. In Canada less than the usual amount of fall plowing had been possible, and the acreage was much the same as in 1924 in spite of good weather and the price stimulus. In the typical spring-wheat states south of the border there was some increase of acreage, chiefly of durum wheat. But in Oregon, Washington, and Idaho, where fall-sown wheat had been heavily killed, large areas were reseeded, notably with Hard Federation wheat distributed with public and private assistance. This was accomplished with unusual success because of favorable weather conditions. The total spring-wheat acreage in this country is reported as 21.2 million acres, 3½ million larger than in 1924.

In the United States the June 1 condition report was not highly favorable, but that of July 1 was exceptionally high. (See Appendix Table III.) Conditions continued favorable until the second week of July, when excessive heat and high winds prevailed in many areas for a week or ten days. Normal temperatures and some rainfall followed during the rest of the month, but did not fully repair the damage. In the Pacific

¹ See *Foreign Crops and Markets*, July 13, 1925, p. 48.

² Broomhall's *Corn Trade News*, Aug. 25, 1925.

³ Broomhall and Sir James Wilson, early in August, counted on only 40 million bushels of wheat from Russia; but since the publication of the recent estimate Broomhall evidently thinks a much larger export probable.

Northwest, especially, high expectations suffered a rude shock. The August 1 condition report was, therefore, below average. The successive forecasts of the total spring-wheat crop, shown in Table 10, have been 254 million bushels on June 1, 276 million on July 1, and 263 million on August 1, as compared with 283 million bushels harvested in 1924. The September 1 estimate, however, raised the figure by 21 million bushels to 284, practically equal to the good crop of 1924. Further substantial revision is still possible.¹

TABLE 10.—OFFICIAL FORECASTS OF UNITED STATES
SPRING-WHEAT CROP BY STATES, 1925

State	(Million bushels)		
	June 1	July 1	Aug. 1
Minnesota	23.3	24.4	22.8
North Dakota	95.1	103.9	102.1
South Dakota	22.0	27.1	27.2
Montana	39.1	44.0	35.3
Idaho	17.9	18.4	18.4
Washington	28.6	28.5	26.4
Total crop	253.7	275.7	262.7

Threshing began in the southern sections late in July, and disclosed a wide range in yield and in quality. Some injury was caused by rust, but the major damage was due to heat. Very low yields were obtained in the districts where the heat was most severe. Durum wheat came through the season much better than bread wheats. The latter are apparently stronger in protein content than last year's crop, but are especially variable in weight per bushel.

In Canada conditions were exceedingly favorable until June, and some serious observers looked forward to a crop of perhaps 500 million bushels. In July, however, weather conditions were quite unfavorable in Alberta and Saskatchewan, and hopes of a bumper yield came to be discounted. The first official forecast for spring wheat, as of May 31, was 348 million bushels; the June 30 forecast for all wheat was 365 millions, that of July 31 was 375 millions, and that of August 31 was 392 millions. Trade

¹ Last year the final estimate of December 1 was 58 million bushels higher than the forecast of August 1, and 46 million bushels higher than the estimate of September 1; such improvement, however, is quite unusual.

² See Appendix Table IV.

opinion considered the first two forecasts unduly conservative, but later expected reductions rather than increases, in consequence of the weather in July and August, and regarded the estimates as misleading indexes of the developing conditions. The June 30 and July 31 forecasts were fairly close to the corresponding ones in 1923, when continuing favorable conditions led to the harvesting of a crop finally estimated at 455 million bushels. But the August 31 forecast has usually been within 10 million bushels of the final estimate as of December 31.²

NORTHERN HEMISPHERE CROP POSITION

The crop position of the northern hemisphere may now be summarized briefly. British India has harvested a crop which will about cover normal domestic requirements. The United States winter-wheat crop is apparently about 175 million bushels below that of 1924 or the average of the past five years. The spring-wheat crops of North America are very good, but the Canadian crop falls some 80 million bushels below the 1923 record, and the United States spring-wheat crop is about as large as the good crop of 1924. The North Africa crops are good, of much the same size as in 1923, and some 27 million bushels better than in 1924. Europe bids fair to have a wheat crop about as large as in 1923, around 200 million bushels greater than that of 1924. European rye crops are even better, probably 240 million bushels larger than in 1924. The Russian wheat crop is reported twice as large as last year,—an increase of well over 300 million bushels; and the rye crop is also the best since the Revolution.

Table 11 gives summary estimates for the northern hemisphere wheat crops of 1925, outside of Russia, with comparable data for earlier years. On the basis of information to September 10, 1925, these crops promise to be the best since the war except in 1923. Our preliminary totals are 155 million bushels larger than the poor crop of 1924, about 220 million bushels smaller than the excellent yield of 1923, and 55 million bushels above the average of the past five years. If European crops of rye are taken into account, the comparison

with 1924 and with the average for 1920-24 is improved, but even so the totals fall short turn out as large as the huge estimate of August 1, the northern hemisphere crops

TABLE 11.—NORTHERN HEMISPHERE WHEAT CROPS, EX-RUSSIA, PRE-WAR AND POST-WAR*
(Million bushels)

Year	British India	United States Winter	United States Spring	Canada	North Africa	Europe Exporters	Europe Importers	Japanese Empire	Total ex-Russia *
1909-13 ave.	352	441	249	197	92	330	1,018	32	2,711
1920-24 ave.	346	592	245	340	85	218	887	39	2,773
1920	378	611	222	263	63	173	775	41	2,526
1921	250	600	215	301	106	212	1,004	39	2,727
1922	367	587	281	400	70	229	815	40	2,789
1923	373	572	225	474	107	267	994	37	3,049
1924	364	590	283	262	80	208	849	36	2,672
1925	325	416	284	392	107	280 ^b	976 ^b	47	2,827 ^b

* See Appendix Table I for sources and greater details.

^a Excluding also Mexico, Turkey, and a few very small producers.

^b Including approximations for non-reporting countries.

of the excellent world harvests of 1923. If, however, the Russian wheat crop should including Russia will be the largest since 1915.

VI. THE NEW CROP YEAR

We are now in a position to consider some aspects of the trade and price outlook for the crop year 1925-26.

Certain facts seem established. The carry-over of old wheat into the new crop year was little below normal size in the leading exporting countries as a whole, though considerably smaller than a year or two years ago. In most importing countries, as well as in the exporting countries of the Danube basin, on the other hand, carryovers were apparently reduced to very small dimensions. The total world carryover of wheat was substantially lower than last year, indeed abnormally small. Northern hemisphere wheat crops, outside of Russia, now appear to be the largest since the war, except in 1923, and 155 million bushels larger than in 1924. Russian crops of both wheat and rye are the best since the war, and, if the August 1 forecast is correct, over 400 million bushels larger than last year. Wheat crops of European importing countries are about 127 million bushels larger than in 1924, and those of exporting countries (ex-Russia) about 72 million bushels larger than last year. European rye crops, outside of Russia, are substantially larger than even the good harvests of 1923, and perhaps 240 million bushels larger than in

1924. No useful forecast of southern hemisphere crops can be made; but it is noteworthy that Argentina is reported to have planted a record wheat area of 18.8 million acres, as compared with 17.8 millions in 1924, and that Australia has planted a large acreage. In both countries early conditions have been favorable.

From an international viewpoint, it is safe to say that abundant supplies of rye are in sight, and that the threat of stringency in the wheat market caused by the shortage of American winter wheat has been dissipated by favorable developments in Europe, Soviet Russia, and the North American spring-wheat belt. The world wheat position in 1925-26, while quite unlikely to be as easy as in 1923-24, does not promise the tightness which developed in 1924-25 and which, earlier in the season, was expected to continue in the current crop year. But concerning Russian crops and exports, which loom up as a major factor this year, uncertainty will reign for some time to come.

IMPORTERS' REQUIREMENTS

Broomhall's preliminary forecast of import requirements of importing countries for 1925-26 is 602 million bushels, includ-

ing 506 for European importers and 96 for importers outside of Europe. Sir James Wilson's corresponding estimates are 640, 520, and 120 million bushels respectively. Table 12 shows the details of these two

TABLE 12.—TWO PRELIMINARY FORECASTS OF EUROPEAN WHEAT IMPORTS COMPARED WITH BROOMHALL'S PRELIMINARY RETURNS FOR 1924-25 AND OFFICIAL DATA FOR NET IMPORTS FOR 1920-24 AND 1923-24*

Country	(Million bushels)				
	1920-24 average official	1923-24 official	1924-25 prelim. returns	1925-26 forecasts	
				Broom- hall	Wil- son
United Kingdom	214.2	241.4	232.0	224.0	232
France	46.0	53.0	32.0	24.0	16
Germany	49.4	30.9	80.0	40.0	56
Italy	96.4	69.8	90.0	56.0	32
Belgium	38.1	40.3	40.0	38.0	40
Netherlands	22.3	26.7	24.0	20.0	24
Switzerland	15.0	17.1	16.0	16.0	16
Spain	9.2 ^a		7.2	8.0	8
Portugal	4.0	2.0			
Denmark	5.0	9.2			
Sweden	7.9	12.4	11.6	8.0	12
Norway	5.5	6.1	6.0	6.0	4
Austria	16.3	18.2	17.6	16.0	16
Czecho-Slovakia	15.4	21.2	26.0	16.0	24
Greece	15.1	18.8	20.8	16.0	20
Poland	1.7 ^c	1.4 ^d	10.8	—	—
Latvia	1.0	1.5 ^d	2.0	1.6 ^e	12
Finland	4.0	5.1	4.4	4.0	
Turkey	5.7 ^f	3.4 ^g	4.0	4.0	
Others	1.6 ^h	1.6 ^g	.8 ⁱ	2.0 ^j	
Total Europe (ex-Russia)	573.8	580.1	632.8	505.6	520

* For sources, see WHEAT STUDIES, December 1924, I, 55; Broomhall's *Corn Trade News*, Aug. 4, 1925; and supplement to *Corn Trade News*, Aug. 18, 1925.

^a Average for 1920-23.

^b No figures available. Spain was a net exporter to a small extent.

^c Average 1921-24.

^d Latvia and Esthonia.

^e Calendar year 1923.

^f Esthonia.

^g Ten months only.

^h Calendar years 1920-23.

ⁱ Malta.

^j Malta and Gibraltar.

forecasts for European importers in comparison with Broomhall's statement of preliminary returns for 1924-25 and official figures for 1923-24 and the four-year average 1920-24. It will be observed that Broomhall anticipates not merely a reduction from 1924-25 of 127 million bushels in aggregate net import requirements (excluding Russia), but a reduction of about 75 million bushels from 1923-24 (or 1922-23). On the basis of present crop estimates, a net im-

port of 506 million bushels of wheat would give these countries about the same supplies of wheat (disregarding carryovers) as in 1924-25, but about 90 million bushels less than in 1923-24.¹

There is little doubt that the net imports of European importers will be smaller in 1925-26 than in 1924-25, because the 1925 wheat and rye crops of the importing countries are so much larger this year. It is rash to assume, however, that net imports of wheat will be reduced to the full extent of the increase in wheat crops, especially since carryovers are so much smaller than a year ago. Past experience shows that in years of small crops in importing countries (as in 1924-25), imports are not increased enough to compensate for crop deficiencies, but consumption is reduced, particularly in countries which produce a large fraction of their supplies; whereas in years of large crops in importing countries (as in 1923-24), consumption there is enlarged.² Already France has lowered the minimum rate of extraction and relaxed her requirements for mixing other grains with wheat in milling;³ and most of the special restrictions in force in 1924-25 are likely to be abolished.

The excellent crops of rye, however, will tend to reduce demands for wheat, to a degree not generally appreciated. It is important to add that European crops of maize and potatoes also promise well this year, and that if world conditions make for high prices of wheat, consumption of wheat for food and feed will be restricted in favor of substitutes.

The price factor bids fair to restrict imports in 1925-26, at least by contrast with 1923-24. Even if the level should be lower than that which now prevails, it seems certain to remain substantially higher than in

¹ Excluding Luxemburg, Lithuania, Esthonia, Turkey, and Malta, we have the following in million bushels:

	1923-24	1924-25	1925-26
Crop of importing countries (Table 11, p. 349)	990	845	976 est.
Net imports	575	628	500 est.
Total supplies	1,569	1,473	1,476 est.

² See WHEAT STUDIES, July 1925, I, No. 7.

³ From August 20 flour is required to contain 96 per cent of wheat flour and 4 per cent of rye flour. Last year an 8 per cent admixture of non-wheat material was required.

1922-23 or 1923-24, or even in the first part of the crop year 1924-25. It must not be forgotten that Europe's heavy purchases of wheat in 1923-24 were largely due to prevailing low prices, and that much of Europe's wheat imports in 1924-25 were bought in the summer and early autumn of 1924, before prices had risen to the level which prevailed after December. Nevertheless, it is doubtful whether the prospective price influence alone could cause importing Europe to reduce its wheat consumption below that of 1923-24 by as much as 90 million bushels.

Tariff influences may operate to restrict importations in certain countries. Germany recently (August 12) enacted a tariff law designed to protect agricultural interests among others. Substantial duties on wheat, rye, and flour go into effect September 1. Some competent observers expect these duties to have little effect, in the long run, on Germany's wheat imports, because of the impossibility of radical expansion of agricultural production within Germany. If enforced, however, the duties will probably raise prices and thereby reduce consumption and imports. Also, the heavier imports of recent months, made in anticipation of the tariff, may help to restrict the import requirements of 1925-26. The Italian government has reimposed, from July 24, the high duties established by the tariff of 1921. If these duties are enforced, wheat consumption may be materially reduced in favor of various substitutes. France also, on July 15, reimposed the import duties suspended during the preceding year of shortage, but these do not affect imports from North Africa and seem unlikely to affect total French imports to any large degree. Czecho-Slovakia has established a sliding scale of duties on wheat and flour; but at the present level of prices the tariff will not become effective, and its influence in 1925-26 can hardly be important.¹

¹ The following table shows the scale of duties effective in Germany, France, and Italy, expressed in American currency (counting the French franc at 5 cents):

Country	Date effective	Wheat (per bu.)	Flour (per bbl.)	Rye (per bu.)
Germany	Sept. 1, 1925	\$0.227	\$1.80	\$0.181
France	July 15, 1925	.191	.98	
Italy	July 24, 1925	.394	1.97	.221

Against these influences tending to reduce imports, there are a few partially counterbalancing factors. Prices of cattle, hogs, meats, and other animal products are considerably higher this year than one and two years ago. In some measure dearthness may reduce consumption of these products and make for increased consumption of breadstuffs. Moreover, while Europe has not regained normal equilibrium or prosperity, it seems probable that financial difficulties, such as reduced Germany's wheat imports to small proportions in 1922-23 and 1923-24, will not operate in 1925-26 in the case of any large importer, and that bread rations will not be materially restricted by poverty, as has been true in several areas in the past few years.

Probably a more important factor to consider in connection with import requirements for 1925-26 is the fact that carry-overs in the continental European countries, exporters and importers alike, were generally very low on August 1, if we may trust non-statistical evidence. An appreciable proportion of this year's crops and imports may be expected to be used to replenish stocks, except in the cases of Germany, and possibly Italy and Czecho-Slovakia as well.

In the light of these various influences, so far as they can be appraised at present, Broomhall's estimate of aggregate European import requirements appears conservative, and perhaps Sir James Wilson's higher estimate as well. But much will depend upon world wheat prices, and particularly upon exports from Canada and Russia. Should import prices decline considerably, and next year's crops promise badly, European imports may exceed Broomhall's suggested figure by considerable amounts.

Broomhall's estimate of 96 million bushels for ex-European importers seems a little high, on his basis of estimate, and Sir James Wilson's even further above the truth, especially since Japanese crops are reported 11 million bushels higher than last year. If prices should remain not far from their present levels, these countries seem to us unlikely to take much more than in the past year. Substantial increases are unlikely un-

less world prices should decline materially. Definite figures, however, are difficult to reach because of deficient statistics.

The aggregate wheat-import requirements of importing countries now seem likely to be somewhat over 600 million bushels, but not as high as 650 millions.

EXPORT SURPLUSES

Against importers' requirements of some 600 million bushels, Broomhall sets a preliminary rough estimate of 752 million bushels as "exporters' available surpluses,"¹ and Sir James Wilson arrives at a figure of 720 millions.² The details compare as follows, in million bushels:

	Broomhall	Wilson
United States	80	48
Canada	280	256
North Africa	16	8
Danube basin	64	56
Russia	40	40
Argentina	184	192
Australia	80	88
Chile	—	8
British India	8	24
Total	752	720

Since both estimates were prepared, the official forecast of the Canadian crop has been increased by 27 million bushels, that of the American spring-wheat crop has been raised 8 million bushels, and the large Russian estimate has appeared. For both experts, however, the category of "available surpluses" is much broader than "probable exports" and covers more than could ordinarily be exported. Thus Broomhall's North American items allow little for feed uses, and both Argentine items include carryover in but do not deduct carryover out. Figures for Argentina, Australia, and British India are based on assumptions regarding the next harvests. The estimate for Russia is avowedly conservative, but that for the Danube basin

gives little weight to forces which will restrict actual exports. Since the Russian spring-wheat crop is not yet determinate, since Russian exports are impossible to predict, and since the southern hemisphere crops are only in their early stages, it is premature to criticise the figures in detail or to prepare, at this time, any careful forecast of probable exports.³ In view, however, of carryovers in exporting countries and of present indications regarding Russian crops, there appears to be a larger margin between genuine export surpluses and probable import requirements than was true in 1924-25, although the above tabulations give an exaggerated impression of the size of this margin.

As we have frequently had occasion to emphasize, the margin between genuine exportable surpluses and importers' effective requirements is far more important in the wheat market than changes in the size of world crops as a whole. Because of the different distribution of the 1925 crops, the adjustment promises to be less close than a comparison of the past two crops and initial carryovers would suggest. The world wheat position as a whole now seems to us likely to prove distinctly less tight in 1925-26 than it was in 1924-25.

THE UNITED STATES OUTLOOK

The same cannot be said of the United States. The wheat position of this country in the crop year 1925-26 will be quite peculiar. The winter-wheat crop is one of the smallest in many years, ranking with the poor crops of 1910-12 and 1917. The prospective total crop is smaller than any since the two poor crops of 1916 and 1917. Our requirements have been increasing, and if domestic utilization should be as heavy in 1925-26 as in 1923-24 (estimated at 663 million bushels), the crops of 1925 (estimated at 700 million bushels) would provide very little net export. In fact, the adjustment will probably not be so close, but the margin available for export is sufficiently narrow to justify a careful analysis of the situation and some attempt to consider its effects upon prices and international trade.

¹ Broomhall's *Corn Trade News*, Aug. 4, 18, 1925.

² *Ibid.*, supplement, Aug. 18, 1925.

³ Broomhall's first estimate of probable exports is as follows, in million bushels:

United States	64	India	1.6
Canada	240	Danube basin	48
Argentina	128	No. Africa and Chile	16
Australia	64		
Russia	40	Total	601.6

DOMESTIC REQUIREMENTS

One approach to the problem lies through estimates of domestic requirements, for seed, flour, and feed. For each of these it is possible to suggest maximum and minimum limits.

Seed use may be estimated at 90-95 million bushels. The official estimate for seed sown for the 1925 crops is 88 million bushels. Reports from farmers to the Department of Agriculture indicate intended plantings of winter wheat as 9.7 per cent above the acreage sown last autumn. If these intentions are realized, the seed requirements for winter wheat are likely to be larger by $5\frac{1}{2}$ million bushels than in the past year. On the other hand, the spring-wheat acreage in 1925 was abnormally increased in consequence of the heavy abandonment of winter-wheat acreage. A range of 90-95 million bushels seems sufficient to allow for prospective changes in acreage of all wheat.

The wheat milled into flour for domestic consumption seems likely to range from 485 to 510 million bushels. The lower figure is based upon the estimated flour production of the crop year 1924-25, according to the monthly milling census (without adjustment for customs mills and for merchant mills producing less than 5,000 barrels a year, with deduction of net exports). The 103.8 million barrels of flour are converted to wheat at 4.58 bushels to the barrel, according to the average ratio reported by the Census Bureau for 1924-25, and a conservative allowance of 2 per cent is added for smaller mills. The higher figure is calculated in the same fashion from the milling census for 1923-24, and gives 106.8 million barrels, or 494 million bushels, but to this is added a slightly larger allowance of 16 million bushels to cover smaller mills. In view of the increase in population, the actual results would seem likely to be nearer to the higher figure than to the lower one.

¹ The Department of Agriculture, in a press release dated Sept. 3, 1925, stated: "The actual feed, seed, and wheat flour consumption of the present population of the United States may vary from 600,000,000 to 675,000,000 bushels."

² WHEAT STUDIES, March 1925, I, 126-131.

Feed uses are impossible to estimate at all closely. As a minimum figure we may take the average farm use for the years 1917-19, as estimated by the United States Grain Corporation—20 million bushels—plus an arbitrary allowance of 10 million bushels to represent dockage used for animal feed. As a maximum, we may take 8.1 per cent of the crop (reported to the Department of Agriculture on November 1923 as the usual proportion fed on farms), plus the arbitrary figure of 10 million bushels for dockage. With good feed crops in prospect, less than the usual feeding of wheat may be expected. This would give a range of 30 to 65 million bushels for feed and waste.

Summarizing, we have a range for domestic requirements of from 605 to 670 million bushels, as follows:¹

Seed	90- 95
Food	485-510
Feed	30- 65
Total	605-670

The higher limit was closely approached in 1923-24, when seed requirements were less than 80 million bushels and wheat prices were so low, both absolutely and in relation to other feed prices, that exceptionally large amounts were fed to animals. The lower limit is high only by contrast with 1921-22, when the working down of flour inventories made possible exceptionally low milling for domestic uses. The lower figure would allow a net export of about 95 million bushels, the higher about 30 million. Since the carryover into 1925-26 was little below average, possibly 10 or 20 million bushels might be drawn from this to add to these figures for exports, provided there were a sufficient motive; but except in the face of a heavy export demand next spring the carryover is as likely to be increased as to be reduced.

CLASSES OF EXPORTS

Another approach may be made through considering the character of America's wheat exports. These consist, as we have previously shown,² of several distinct fractions: (1) representative milling wheats; (2) durum wheat, which is grown to a con-

siderable extent for export; (3) Pacific wheats, which can move to eastern markets only under a heavy handicap of freight charges; (4) high-grade flour made from representative wheats or better; and (5) low-grade flours, largely a by-product of the milling of high-grade flour for the home trade. The export of representative milling wheats is the most variable, since there are forces at work to maintain exports of each of the other classes.

Durum wheat is used in this country chiefly in the manufacture of macaroni, and only slightly for mixing with other spring wheats for milling domestic flour. Out of a prospective crop of 60-70 million bushels or more, of high quality, 30 million bushels will presumably cover normal domestic uses, though we expect price differences to operate in favor of a maximum use of durum wheat for flour milling. This would leave 30 million bushels or more to pass into export, in competition with similar wheat from North Africa and Russia. This competition bids fair to be severe.

The Pacific region crop may be provisionally estimated at 120 million bushels—a large crop, though much smaller than early reports suggested.¹ Of this perhaps 10 million bushels will be used for seed. Pacific region uses for food and feed may be liberally estimated at 60-70 million bushels including perhaps 10-20 million bushels of hard wheats shipped westward over the mountains for blending purposes. Since the crop of 1924 was short and carryovers out were small, a substantial amount may be retained as a carryover next July. In quality the crop is above average, particularly in protein content. Since such white wheat can be blended with other wheats in manufacturing the standard flours of the Mississippi Valley or the East, some of it will doubtless move eastward in spite of heavy freight charges.² Small quantities of Pacific Coast flour will also move eastward by rail and water, as usual. These movements will be at least partially coun-

terbalanced by somewhat less than the usual westward movements of hard wheats, chiefly from Kansas and Montana, and of strong flours.

The extent to which Pacific wheat will be sought by central millers will depend largely on the price. It is a question of the c.i.f. price, let us say, of Washington wheat at central points from Minneapolis to St. Louis, in comparison with c.i.f. price of Canadian spring wheat duty-paid, the existing price difference to be judged in the light of the superiority of the Canadian wheat for the manufacture of bakery flour. The outcome will be a matter of trial and error, for which we possess practically no milling precedents.

Insofar as the surplus of Pacific region wheat does not go east, it will necessarily have to seek foreign markets at the world price, quality and type considered. The low-grade Pacific flours go naturally to the Orient; both low- and high-grade Pacific flours go to European markets. It is not unreasonable to imagine that, with due allowance for Pacific Coast uses and shipments eastward, at least 30 million bushels of the crop of that region will pass into export, as grain or flour. Even from the much smaller crops of 1922 and 1924, exports were 40 and 28 million bushels respectively, while from the large crop of 1923 (142 million bushels) 68 million were exported.

Flour exports from other milling regions are also certain to continue, despite a dearth of domestic wheat. American mills are very desirous of keeping their high-grade flours in foreign markets in order to continue trademark prestige and maintain their reputations as international vendors of flour. They will import Canadian wheat and grind it (in bond or with drawback) for export as American flour, unless this should be prevented by a Canadian export tax, as has been suggested in a recent report of the Grain Inquiry Commission and urged by Canadian milling interests. Such milling of Canadian wheat for flour export may run as high as 5 million barrels, representing some 23 million bushels of wheat.

Furthermore, clears and other low-grade flours, produced like mill-feed as a by-

¹ Including Idaho, Utah, Nevada, and Arizona, as well as the coastal states; and considerable spring wheat replacing winter-killed grain.

² According to information from trade sources, some Pacific wheat has already reached Mississippi Valley markets.

product of the routine operations of American mills, find little domestic sale and must be exported. Even in the face of a large price differential, Americans are unlikely materially to increase their consumption of low-grade flours. Nor are American mills likely to resort to a higher milling extraction, as was done during the war, except insofar as high quality of the crop permits comparable flour to be milled with higher extraction. Exports of these low-grade flours may perhaps run as high as 3½ million barrels, exclusive of those from the Pacific Coast—or say 16 million bushels of wheat.

Finally, we must anticipate the export of small quantities of soft red winter wheat and low-grade hard winter wheat, especially early in the crop year.

The foregoing considerations afford no basis for precise predictions. Clearly, however, it should occasion no surprise if our “incidental” exports of wheat and flour, of the above classes, were to reach 100 million bushels. If domestic requirements reach 640 million bushels and the crop proves no larger than the September 1 estimate, these exports would leave a deficiency that could be met only by substantial imports from Canada for domestic consumption, over the duty, in addition to Canadian wheat imported to be milled in bond for export. So far as representative wheats are concerned, the United States seems certain to be on a domestic basis rather than an export basis for most of the crop year 1925–26. Gross exports of wheat and flour may exceed 100 million bushels, but net exports seem unlikely to exceed 75 million bushels and will include little representative milling wheats.

EFFECT ON UNITED STATES PRICES

This situation, if we conceive it correctly, may profoundly affect American wheat prices in 1925–26. Durum and Pacific wheats, and low-grade flours, seem likely to follow the international price level. Representative wheats and flours, except high-grade flours milled from Canadian wheat in bond for export, are likely to be more or less above the world-market level, with due allowance for costs of shipment.

It is impossible even to suggest how large a margin will exist. If, however, as seems

probable, considerable amounts of Canadian wheat are imported for United States consumption, our domestic prices for representative wheats are likely to rule substantially above Canadian prices, possibly at times, and for certain types, to the full extent of the duty, now 42 cents per bushel. Probably the highest margin will appear in the months when Canadian prices are depressed because the wheat cannot move freely into export on account of transportation difficulties and high costs of shipment. The recent upward revision in the forecast of the United States spring-wheat crop, by 21 million bushels, suggests that the pressure for imports, and consequently the margin between American and Canadian prices, will be smaller than had previously seemed probable. Subsequent revisions of the crop estimate will deserve careful attention in this connection, for relatively small changes or errors may prove to have large bearings upon prices.

In several past years the United States has been on a domestic basis for representative wheats, at least during part of a crop year. In 1923–24 this was true of hard spring wheat and high-quality hard winter wheat, when even with a United States crop nearly 100 million bushels larger than this year, 13 million bushels of Canadian wheat were imported for domestic consumption over a duty of 30 cents per bushel.¹ Since the deficiency is in winter wheat this year, it is conceivable that imports may be sought from Argentina as well as from Canada.

The closest analogy to the present year is afforded by the crop year 1904–05. The 1904 crops were seriously deficient in the United States and to some extent in Canada also. The deficiency was greatest, however, in winter wheats. The revised figure for the American crop of 1904 is 597 million bushels, and the unrevised figures were 333 millions of winter wheat and 219 millions of spring wheat. Exports during the crop year were only 44 million bushels, almost all in the form of flour. Imports, over the tariff of 25 cents per bushel, were 3.3 million bushels. Close comparisons of prices are rendered impossible by deficiencies in avail-

¹ See WHEAT STUDIES, December 1924, I, 27 f, 42.

able data, but it is clear that during most of the year prices at Minneapolis, Chicago, and Kansas City were from 10 to 20 or even 25 cents above Winnipeg prices. If this was true in a year of short Canadian crops, a higher differential is conceivable this year, with a large crop in Canada and a much higher duty.

These observations must not be interpreted to mean that American wheat prices will normally be higher than their present levels to the extent of the tariff duty. On the one hand, world prices may be higher or lower than at present. On the other hand, prices in the United States already "discount" this situation to some degree. The margin between United States prices and world prices will vary during the year, and the world level itself will change. But it seems safe to assume that American prices of representative wheats will not be on an export basis for much of the year, and that a substantial differential over Canadian prices will prevail.

CONCLUSIONS ON TRADE AND PRICE OUTLOOK

International trade in wheat promises to be of much smaller dimensions in 1925-26 than in either of the two preceding crop years. In particular, the transoceanic trade will probably be materially reduced, for a considerable fraction of European import requirements, probably over 100 million bushels, will be supplied from North Africa, the Danube basin, and Russia. Moreover, since European crops are good and prompt,

while the United States winter-wheat crop (from which heavy autumnal shipments are usually made) is small and is being marketed slowly, this trade is likely to be smaller in the early autumn than in the same period of either of the past two years. Since the Canadian crop is fairly prompt, European demands seem likely to call forth relatively heavy autumnal shipments from Canada, and these will be supplemented by Argentine and Russian shipments.

So far as world prices are concerned, the indications are in favor of a reduction, rather than an advance, from the levels prevailing in August 1925; but the prospects for new crops in Argentina and Australia and the development of Russian exports will be important price factors. On the other hand, the indications are that for much of the year 1925-26, the United States will be on a domestic basis for representative wheats and will be importing appreciable quantities of premium wheat from Canada for domestic consumption. Hence prices of representative wheats here are likely to be out of line with world prices, though they may not be raised by the full extent of the duty. In view of the good quality of American winter wheat, premiums for quality are likely to be lower than in recent years. Prices of durum wheat and Pacific wheat, however, seem likely to be on an export basis, and these wheats will probably be employed for domestic uses rather more freely than is customary.

APPENDIX

TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS, PRE-WAR AND POST-WAR*
(*Million bushels*)

Year	United States	Canada	Argentina	Australia	British India	Roumania	Hungary	Bulgaria	Jugo-Slavia	Russia
1909-13 ave. ^a	690.1	197.1	147.1	90.5	351.8	158.7	71.5	37.8	62.0	758.9
1920-24 ave.	837.1	340.0	196.2	134.8	346.4	80.9	53.0	32.3	51.6	292.9
1920	833.0	263.2	156.1	145.9	377.9	61.3	38.3	30.0	43.0	318.2 ^b
1921	814.9	300.9	191.0	129.1	250.4	78.6	52.7	29.2	51.8	204.7 ^b
1922	867.6	399.8	195.8	109.5	367.0	92.0	54.7	37.7	44.5	279.2 ^b
1923	797.4	474.2	247.0	125.5	372.7	102.3	67.7	36.2	61.1	330.5 ^b
1924	872.7	262.1	191.1	164.0	363.9	70.4	51.6	28.3	57.8	332.0
1925 ^c	700.0	391.8	—	—	324.7	106.5	66.1	43.5	—	664.0

Year	Algeria	Tunis	Morocco	Egypt	United Kingdom	France	Germany	Italy	Belgium	Netherlands
1909-13 ave. ^a	35.2	6.2	17.0	33.7	59.6	325.6	131.3	184.3	15.2	5.0
1920-24 ave.	22.8	6.9	19.6	36.0	60.8	272.3	91.6	178.4	12.3	6.3
1920	8.4	5.2	17.9	31.7	56.8	236.9	82.6	141.3	10.3	6.0
1921	34.9	10.6	23.2	37.0	73.8	323.5	107.8	194.1	14.5	8.6
1922	17.0	3.7	12.9	36.6	65.2	243.3	71.9	161.6	10.6	6.2
1923	36.4	9.9	20.0	40.7	58.5	275.6	106.4	224.8	13.4	6.2
1924	17.2	5.2	23.9	34.2	52.6	282.3	89.2	170.1	12.6	4.6
1925 ^c	40.3	8.7	21.1	36.6	48.0 ^d	297.0	107.0	224.1	—	5.2

Year	Switzerland	Spain	Portugal	Scandinavia	Austria	Czecho-Slovakia	Poland	Baltic States	Greece	Japanese Empire
1909-13 ave. ^a	3.3	130.4	11.8	14.7	12.8	37.9	63.7	5.2	16.3	32.2
1920-24 ave.	3.2	137.6	10.2	19.2	7.3	33.4	37.0	5.1	11.0	38.7
1920	3.6	138.6	10.4	18.7	5.4	26.4	22.7	3.3	11.2	41.3
1921	3.6	145.2	9.4	24.4	6.5	38.7	37.4	4.5	11.2	39.5
1922	2.3	125.5	9.8	19.3	7.4	33.6	42.5	5.7	9.6	40.0
1923	3.6	157.1	13.0	20.5	8.9	36.2	49.7	6.0	13.4	37.2
1924	3.1	121.8	8.6	13.2	8.5	32.2	32.5	6.1	9.7	35.8
1925 ^c	—	129.1	—	—	—	—	51.4	—	—	47.0

* Sources: *Foreign Crops and Markets*, and U. S. Department of Agriculture press releases.

^a Including U. S. Department of Agriculture estimates for area within post-war boundaries. Russian figures include Asiatic territory.

^b Including Siberia and Kirghisia but not complete for Asiatic Russia.

^c Forecast or early estimates, except for British India.

^d England and Wales only; corresponding figure in 1924 was 49.8.

TABLE II.—RYE PRODUCTION IN PRINCIPAL PRODUCING AREAS, PRE-WAR AND POST-WAR*
(*Million bushels*)

Year	United States	Canada	Russia	Roumania	Hungary	Bulgaria	Jugo-Slavia	France	Germany	Italy
1909-13 ave. ^a	36.1	2.1	743.5	20.6	31.4	7.5	9.0	52.5	368.3	6.3
1920-24 ave.	70.4	20.4	543.0	8.6	24.5	6.2	5.8	38.8	231.3	5.8
1920	60.5	11.3	368.9 ^b	9.4	20.6	6.3	6.1	34.5	194.3	4.5
1921	61.7	21.5	403.1 ^b	9.1	23.2	6.1	6.2	44.4	267.6	6.5
1922	103.4	32.4	569.3 ^b	9.2	25.1	7.5	4.5	38.4	206.0	5.6
1923	63.1	23.2	749.9 ^b	9.4	31.3	6.9	5.9	36.5	263.0	6.5
1924	63.4	13.8	624.0	6.0	22.1	4.4	6.4	40.3	225.6	6.1
1925 ^c	52.0	15.8	768.0	7.1	30.3	7.4	—	—	301.9	6.3

Year	Belgium	Netherlands	Spain	Portugal	Scandinavia	Austria	Czecho-Slovakia	Poland	Baltic States	Twelve European producers
1909-13 ave. ^a	23.6	16.4	27.6	3.0	45.0	23.8	63.5	218.9	56.0	733.6
1920-24 ave.	19.7	15.4	27.3	5.1	35.4	13.6	47.5	163.5	45.6	515.1
1920	18.2	14.8	27.8	5.2	36.6	10.1	32.9	73.7	34.6	376.5
1921	21.3	15.0	28.1	4.6	39.9	13.2	53.7	167.6	48.5	557.4
1922	18.4	17.1	26.3	5.3	37.8	13.6	51.1	197.4	47.4	530.1
1923	20.8	14.6	28.1	5.4	40.3	15.8	53.4	234.7	52.4	630.6
1924	19.7	15.6	26.3	5.0	21.9	15.4	46.4	143.9	45.3	480.7
1925 ^c	—	16.5	30.9	—	—	—	—	239.0	—	682.6

* Sources and notes as for Table I.

TABLE III.—UNITED STATES WHEAT CROP CONDITION ESTIMATES, PRE-WAR AND POST-WAR*

(Percentages of normal)

Date	1909-13 average	1921	1922	1923	1924	1925
(A) WINTER WHEAT						
Dec. 1	88.7	87.9	76.0	79.5	88.0	81.0
Apr. 1	83.7	91.0	78.4	75.2	83.0	68.7
May 1	84.7	88.8	83.5	80.1	84.8	77.0
June 1	79.8	77.9	81.9	76.3	74.0	66.5
Harvest	79.1	77.2	77.0	76.8	77.9	65.9
Yield per acre (bu.)	15.6	13.8	13.8	14.5	16.2	12.7

(B) SPRING WHEAT

June 1	94.4	93.4	90.7	90.2	82.3	87.1
July 1	78.2	80.8	83.7	82.4	81.9	88.1
Aug. 1	75.4	66.6	80.4	69.6	79.7	73.9
Harvest	74.9	62.5	80.1	65.1	82.3	75.0 ^a
Yield per acre (bu.)	13.3	10.6	14.1	11.2	15.9	13.4 ^a

* Sources: *Agriculture Yearbook*, 1923, p. 606; *Crops and Markets*; and press releases.

^a September 1 estimate.

TABLE IV.—CANADIAN WHEAT PRODUCTION FORECASTS AND ESTIMATES, 1921-25*

(Million bushels)

Date	1921	1922	1923	1924	1925
June 30	309	339	366	319	365
July 31	288	321	383	282	375
Aug. 31	294	389	470	292	392
Oct. 31	330	391	470 ^a	272	—
Dec. 31	301	400	474	262	—

* Sources: Canadian Dominion Bureau of Statistics, *Monthly Bulletin of Agricultural Statistics* and press releases.

^a Figure for September 30. No October 31 estimate reported.

TABLE V.—WHEAT RECEIPTS AT PRIMARY MARKETS IN THE UNITED STATES AND AT FORT WILLIAM AND PORT ARTHUR, CANADA, MONTHLY, CROP YEARS 1920-25*

(Million bushels)

Month	United States primary markets					Fort William and Port Arthur					Month
	1920-21	1921-22	1922-23	1923-24	1924-25	1920-21	1921-22	1922-23	1923-24	1924-25	
Aug.	39.6	68.6	60.6	65.3	93.0	4.9	3.2	3.7	2.0	1.3	Aug.
Sept.	42.7	61.4	57.7	45.3	82.1	12.6	27.5	37.0	28.3	7.1	Sept.
Oct.	44.6	41.6	48.3	40.5	88.0	32.0	46.2	65.1	67.0	40.9	Oct.
Nov.	37.2	25.6	42.5	37.2	60.5	33.4	40.8	56.8	72.5	42.7	Nov.
Dec.	31.6	24.0	45.3	28.4	36.3	27.9	23.0	32.0	51.9	20.3	Dec.
Jan.	29.0	17.5	37.6	15.9	24.7	7.8	7.7	11.6	12.7	4.1	Jan.
Feb.	21.2	22.7	21.6	19.8	19.9	4.5	4.2	3.2	3.9	6.2	Feb.
Mar.	22.6	20.2	21.7	18.0	17.3	4.4	9.0	6.0	2.5	8.5	Mar.
8 months	268.5	281.6	335.3	270.4	421.8	127.5	161.6	215.4	240.8	131.1	8 months
Apr.	23.3	15.6	21.9	10.1	10.4	3.7	6.1	7.6	6.4	8.1	Apr.
May	27.0	29.1	16.7	15.4	17.7	4.4	11.7	10.6	15.8	7.1	May
June	30.2	21.0	18.2	16.4	21.9	3.6	5.6	6.9	21.2	4.1	June
July	62.0	39.5	33.8	35.1	41.8	4.2	5.4	6.0	13.1	6.7	July
4 months	142.5	105.2	90.6	77.0	91.8	15.9	28.8	31.1	56.5	26.0	4 months
GRAND TOTAL	411.0	386.8	425.9	347.4	513.6	143.4	190.4	246.5	297.3	157.1	GRAND TOTAL

* Sources: U. S., *Survey of Current Business*; Canada, *Canadian Grain Statistics*.

TABLE VI.—WHEAT RECEIPTS AT PRIMARY MARKETS IN THE UNITED STATES, AND AT FORT WILLIAM AND PORT ARTHUR, CANADA, WEEKLY, APRIL TO JULY, 1925*

(Thousand bushels)			
Week ending	United States primary markets	Week ending	Fort William and Port Arthur
Apr. 4	2,902	Apr. 3	1,645
11	1,797	10	1,019
18	2,839	17	709
25	1,952	24	2,395
May 2	2,848	May 1	4,141
9	3,186	8	3,380
16	2,879	15	2,127
23	5,192	22	2,192
30	5,453	29	2,066
June 6	5,748	June 5	1,946
13	4,833	12	1,436
20	4,614	19	1,687
27	5,021	26	1,458
July 4	4,952	July 3	1,525
11	7,589	10	2,304
18	7,747	17	2,321
25	11,668	24	1,996
Aug. 1	13,773	31	1,323

* Sources: U. S., *Price Current-Grain Reporter*; Fort William and Port Arthur, *Canadian Grain Statistics*. For earlier data, see *WHEAT STUDIES*, February 1925, I, 118, and April 1925, I, 168.

The Canadian data, while useful in showing the course of the movements, are not compiled in the same way as the monthly data given in Table IV, and are not wholly consistent with them.

TABLE VII.—BROOMHALL'S ESTIMATES OF INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, PRE-WAR AND POST-WAR, FOR THE PERIOD AUGUST 1 TO JULY 31*

(Million bushels)					
Area	5-yr. ave. 1909-14	1921-22	1922-23	1923-24 ^a	1924-25
North America	206.2	404.0	455.1	454.4	422.6
Argentina and Uruguay	82.1	118.3	138.3	174.4	121.4
Australia	54.5	110.8	47.8	77.9	117.1
Russia, Danube, and Black Sea	224.7	5.6	6.9	36.0	13.5
British India	46.9	0.2	26.1	17.4	31.7
Other countries	8.0	8.1	2.1	15.1	8.9
Total	622.5	647.1	676.4	775.2	715.2 ^b
To Europe	540.8	546.7	585.9	626.5	639.7
Ex-Europe	81.7	100.4	90.5	148.7	75.5
Aug. 1 to Mar. 31: total ^c	406.5	441.0	444.7	502.3	527.2
Apr. 1 to July 31: total ^d	216.0	206.1	231.7	272.9	188.0

* Source: Broomhall's *Corn Trade News*.

^a For 53 weeks.

^b Broomhall states that about 16 million bushels should be added to this for shipments across frontiers within Central Europe.

^c First 34 weeks of crop year; see *WHEAT STUDIES*, April 1925, Appendix Table IV.

^d Difference between reported total for year and total for first 34 weeks. The 1924-25 figure is somewhat exaggerated since Broomhall's reported total for that year exceeds the total of the 52 weekly items by 11 million bushels.

TABLE VIII.—NET EXPORTS OF WHEAT AND FLOUR FROM PRINCIPAL EXPORTING COUNTRIES, PRE-WAR AND POST-WAR*

(Million bushels)								
Year or month	Total including July-June for U. S.	United States July-June	Total Aug.-July	United States Aug.-July	Canada Aug.-July	Argentina Aug.-July	Australia Aug.-July	British India Aug.-July
5-yr. ave. 1909-14.....	388.6	103.4	395.4	110.2	95.6	84.7	55.1	49.8
1920-21.....	643.1	309.7	651.8	318.4	165.8	63.6	88.9	15.1
1921-22.....	666.8	262.5	655.5	251.2	185.4	118.1	114.6	(13.8) ^a
1922-23.....	699.7	202.1	697.2	199.6	279.3	139.4	50.3	28.6
1923-24.....	752.7	128.4	751.1	126.8	346.4	172.2	85.6	20.1
1924-25.....	728.1	251.9	729.9	253.7	191.9	122.4 ^b	124.3 ^b	37.6 ^b
1924 Aug.....	49.7	21.0	49.7	21.0	11.0	9.1	5.6	3.0
Sept.....	63.9	38.9	63.9	38.9	14.6	5.4	3.4	1.6
Oct.....	88.3	53.1	88.3	53.1	19.4	7.2	3.7	4.9
Nov.....	77.1	34.8	77.1	34.8	31.0	4.6	2.0	4.7
Dec.....	71.8	23.6	71.8	23.6	33.5	7.4	3.7	3.6
1925 Jan.....	60.9	12.6	60.9	12.6	10.0	19.6	14.3	4.4
Feb.....	67.5	10.1	67.5	10.1	7.8	21.6	21.7	6.3
Mar.....	66.5	16.1	66.5	16.1	10.6	16.4	20.3	3.1
Apr.....	52.6	12.4	52.6	12.4	8.1	11.6	19.8	0.7
May.....	52.5	12.3	52.5	12.3	17.0	6.6	15.4	1.2
June.....	43.3	10.7	43.3	10.7	12.2	6.8	9.9	3.7
July.....	34.0 ^c	6.3 ^c	35.8	8.1	16.7 ^d	6.1 ^b	4.5 ^b	0.4 ^b

* Sources: *Monthly Summary of Foreign Commerce of the United States*, and figures from the Department of Commerce; *International Yearbook of Agricultural Statistics* and *International Crop Report*; *Monthly Report of the Trade of Canada*; and *Canadian Grain Statistics*.

^a Net imports.

^b July estimated from Broomhall's shipments.

^c United States exports for July 1924, not July 1925.

^d Total exports.

WHEAT STUDIES: DEVELOPMENTS, APRIL TO JULY, 1925

TABLE IX.—NET IMPORTS OF WHEAT, INCLUDING FLOUR AS WHEAT, BY PRINCIPAL IMPORTING COUNTRIES, MONTHLY, AUGUST 1924 TO JUNE 1925*

(Million bushels)

Month	United Kingdom	Irish Free State	France	Germany	Italy	Belgium	Netherlands	Switzerland	Denmark
1924 Aug.....	23.42	2.27	6.00	1.35	5.45	3.38	1.87	1.12	.44
Sept.....	17.94	1.09	4.23	3.29	2.59	3.92	1.87	.67	.40
Oct.....	20.01	1.59	4.08	8.33	2.71	4.20	3.88	.70	.71
Nov.....	21.03	2.13	4.01	12.00	5.03	2.85	2.77	1.57	.95
Dec.....	20.38	2.28	2.88	9.38	8.66	3.52	3.23	2.29	1.07
1925 Jan.....	14.47	1.53	.75	7.13	10.02	} 5.81	1.80	2.72	.54
Feb.....	11.62	1.28	1.41	4.57	9.23		1.68	.80	.32
Mar.....	15.89	1.45 ^a	1.17	3.86	10.63	2.63	1.36	.97	.43
Apr.....	15.12	1.30 ^a	1.20	5.24	13.24	—	1.70	.93	.69
May.....	16.05	1.57 ^a	.66	6.58	10.91	—	2.27	.57	.69
June.....	15.38	1.43	1.86	8.09	6.16	2.70	2.12	.59	—
Month	Sweden	Norway	Austria	Czecho-Slovakia	Latvia	Finland	Estonia	Greece	Egypt
1924 Aug.....	.91	.13	1.56	2.21	.21	.33	.03	2.08	.42
Sept.....	.91	.35	1.52	2.61	.16	.30	.02	2.01	.54
Oct.....	.77	.92	2.02	2.73	.23	.51	.06	1.91	.80
Nov.....	1.06	.92	1.06	3.20	.20	.44	.08	2.06	.81
Dec.....	.97	.53	3.32	2.11	.08	.48	.13	1.54	.68
1925 Jan.....	.63	.35	} 1.47	1.65	.14	.43	.12	1.93	1.12
Feb.....	.99	.70		1.47	.14	.29	.08	1.79	1.04
Mar.....	1.14	.64	.89	1.52	.19	.29	.10	1.55	.90
Apr.....	1.16	.15	} 3.02	1.30	.15	.26	.06	1.52	.96
May.....	.86	.31		1.30	.14	.31	.06	1.92	.77
June.....	—	—	—	1.21	—	—	—	1.51	—

* Sources: Official statistics, *International Crop Reports*.^a Broomhall's *Corn Trade News*.

TABLE X.—BROOMHALL'S ESTIMATES OF VISIBLE WHEAT SUPPLIES ON AUGUST 1, 1920-25, COMPARED WITH PRE-WAR AND POST-WAR AVERAGES*

(Million bushels)

	1920	1921	1922	1923	1924	1925	1910-14 5-yr. ave.	1920-24 5-yr. ave.
United States—wheat.....								
East of Rockies.....	31.0	46.3	34.1	58.7	58.4	47.5	48.5	45.7
West of Rockies.....	3.0	2.2	1.6	3.9	4.1	1.4	1.8	3.0
Canada—wheat.....	7.6	8.7	19.1	13.9	31.3	23.3	10.2	16.1
U. S.—flour as wheat.....	8.7	7.7	7.4	10.7	9.6	8.3	8.5	8.8
Canada—flour as wheat.....	.6	.2	.2	.2	.3	.2	.6	.3
Total North America.....	50.9	65.1	62.4	87.4	103.7	80.7	69.6	73.9
Argentina.....	3.7	3.7	2.2	4.4	6.8	8.5	1.3	4.2
Australia.....	27.5	30.0	3.0	18.0	30.0	8.4	^a	21.7
Total Argentina and Australia.....	31.2	33.7	5.2	22.4	36.8	16.9	^a	25.9
United Kingdom—wheat.....	10.0	6.4	5.2	7.0	8.4	} 9.2	12.4	7.4
United Kingdom—flour as wheat.....	2.8	1.2	1.9	1.2	1.5		3.0	1.7
Afloat for United Kingdom.....	24.9	18.5	12.3	14.1	14.4	8.1	13.9	16.8
Afloat for Continent.....	39.9	28.8	22.3	18.2	15.2	14.2	12.3	24.9
Afloat for orders.....	11.4	10.6	14.3	6.7	12.2	10.1	9.0	11.0
Total United Kingdom and afloat.....	89.0	65.5	56.0	47.2	51.7	41.6	50.6	61.8
Grand total.....	171.1	164.3	123.6	157.0	192.2	139.2	^a	161.6
Excluding Australia.....	143.6	134.3	120.6	139.0	162.2	130.8	120.4	139.9

* Source: Broomhall's *Corn Trade News* and *Daily Market Record*.^a Data incomplete.

TABLE XI.—WHEAT SUPPLIES AND THEIR APPROXIMATE DISPOSITION IN LEADING EXPORT COUNTRIES, 1922-25*

(Million bushels)

(A) UNITED STATES: CROP YEARS ENDING JUNE 30				(C) ARGENTINA: YEARS ENDING JULY 31			
	1922-23	1923-24	1924-25		1922-23	1923-24	1924-25
Stocks, July 1.....	81.5	102.4	106	Stocks, Aug. 1.....	66.6	54.2	60
New crop.....	867.6	797.4	873	New crop.....	195.8	247.0	191
Supplies.....	949.1	899.8	979	Supplies.....	262.4	301.2	251
Exports of wheat.....	154.9	78.8	195	Exports, wheat and flour....	142.6	173.0	122
Exports of flour.....	67.0	77.6	63	Seed requirements.....	18.7	20.6	21
Imports (less re-exports), of wheat and flour.....	19.7	27.9	6	Consumption, feed, and waste.....	46.9	48.0	47
Net exports, wheat and flour.....	202.2	128.5	252	Total domestic use.....	65.6	68.6	68
Shipments to possessions....	2.8	2.9	3	Stocks, July 31.....	54.2	59.6	61
Seed requirements.....	91.4	79.4	88				
Domestic milling.....	550.3	496.1	477				
Feed and waste.....		87.2	72				
Total domestic use.....	641.7	662.7	637				
Stocks, June 30.....	102.4	105.7	87				

(B) CANADA: CROP YEARS ENDING AUGUST 31 AND JULY 31				(D) AUSTRALIA: YEARS ENDING JULY 31			
	1922-23 Sept.- Aug.	1923-24 Sept.- Aug.	1924-25 Aug.- July		1922-23	1923-24	1924-25
Stocks, Sept. 1 (Aug. 1)....	16.0	8.9	39.1	Stocks, Aug. 1.....	29.8	45.4	41
New crop.....	399.8	474.2	262.1	New crop.....	109.3	125.5	164
Supplies.....	415.8	483.1	301.2	Supplies.....	139.1	170.9	205
Exports, wheat and flour....	279.1	342.8	191.9	Exports, wheat and flour....	49.8	85.6	124
Seed requirements.....	39.8	38.6	38.6	Seed requirements.....	8.9	9.4	10
Milled for consumption.....	40.9	41.5	35.5	Consumption.....	30.4	31.2	32
Feed and waste.....	47.1	34.0	12.6 ^a	Feed and waste.....	4.6	3.5	4
Total domestic use.....	127.8	114.1	86.5	Total domestic use.....	43.9	44.1	46
Stocks, Aug. 31 (July 31)....	8.9	26.2	22.6	Stocks, July 31.....	45.4	41.2	35

* Sources: In the main, official data, except for seed, feed, and waste, and, in the cases of Argentina and Australia, stocks as well. See WHEAT STUDIES, December 1924, Appendix Table VII, for sources and earlier data.

^a We believe this item to be too low due to the under-estimate of the Canadian crop.

TABLE XII.—AVERAGE DAILY VOLUME OF TRADING IN WHEAT FUTURES AT ALL MARKETS, MONTHLY, 1921-25*

(Million bushels)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Year
1921	39.1	44.1	39.5	52.5	46.1	49.8	45.5	39.6	57.1	54.0	53.7	43.3	1921
1922	36.5	67.9	61.3	48.9	37.4	41.8	34.4	36.2	33.5	32.5	37.6	42.1	1922
1923	36.6	37.0	27.9	48.0	41.0	40.9	32.3	31.4	28.3	30.2	27.1	21.1	1923
1924	14.3	18.1	22.8	18.0	14.4	34.0	53.3	50.0	42.7	61.4	60.9	58.8	1924
1925	73.4	81.0	87.4	59.3	60.3	67.6	56.2	—	—	—	—	—	1925

* Source: U. S. Department of Agriculture, Grain Futures Administration.

TABLE XIII.—WEEKLY CASH PRICES OF REPRESENTATIVE WHEATS IN LEADING EXPORTING AND IMPORTING MARKETS, APRIL TO JULY 1925*

(U. S. dollars per bushel)

Month	United States			Canada	Argentina	Liverpool						
	No. 2 Red Winter (Chicago)	No. 2 Hard Winter (Kansas City)	No. 1 Dark Northern (Minneapolis)	No. 1 Manitoba (Winnipeg)	Barletta (Buenos Aires)	No. 1 Manitoba	No. 3 Manitoba	No. 1 Northern Duluth	No. 2 Winter	Pacific White	Argentine Rosafé	Australian
April	"	1.45	1.56	1.38	1.58	1.73	1.63	1.63	1.64	1.60	1.70	1.73
	"	1.49	1.57	1.58	1.60	1.78	1.75	1.75	1.68	1.61	1.75	1.72
	"	1.55	1.65	1.59	1.67	1.73	1.71	1.67	1.64	1.62	1.71	1.68
	"	1.50	1.62	1.60	1.69	1.79	1.65	1.63	1.72	1.62	1.68	1.74
May	1.75	1.46	1.59	1.68	1.64	1.83	1.80	1.78	1.77	1.76	1.80	1.72
	"	1.63	1.71	1.80	1.77	1.96	1.82	1.78	1.89	1.71	1.85	1.80
	1.84	1.59	1.69	1.82	1.74	1.99	1.90	1.84	1.86	1.69	1.89	1.80
	1.92	1.63	1.76	1.87	1.78	2.01	1.95	1.90	1.88	1.73	1.94	1.81
	1.90	1.64	1.78	1.92	1.80	2.04	—	—	1.92	1.70	—	1.80
June	1.87	1.63	1.73	1.84	1.75	2.00	1.91	1.88	1.90	1.73	1.91	1.81
	1.90	1.68	1.77	1.75	1.75	1.94	1.90	1.85	1.84	"	1.88	1.78
	1.86	1.60	1.67	1.67	1.63	1.85	1.76	1.70	1.72	1.67	1.71	1.62
	1.80	1.58	1.67	1.66	1.63	1.86	1.77	1.70	1.69	1.66	1.70	1.63
July	—	—	—	—	—	—	1.72	1.66	—	—	1.69	—
	"	1.49	1.58	1.57	1.55	1.78	1.68	1.66	1.62	1.60	1.64	1.60
	1.55	1.48	1.59	1.60	1.60	1.78	1.74	1.72	1.68	1.62	1.71	1.65
	1.63	1.55	1.70	1.71	"	1.82°	1.74	1.75	"	1.67°	1.75	1.70°
	1.57	1.55	1.72	1.63	"	1.80°	1.70	1.70	"	1.67°	1.76	1.72°
	1.58	1.55	1.70	1.57	"	—	—	—	—	—	—	—

* Sources: U. S. prices from *Crops and Markets*; foreign prices from *International Crop Report and Agricultural Statistics*, except Rosafé, No. 1 Northern Duluth, and No. 3 Manitoba, which are from Broomhall's *Corn Trade News*. U. S. prices are weekly averages of daily weighted prices for weeks ending Friday. Foreign prices are for Friday of each week, except Rosafé, No. 1 Northern Duluth, and No. 3 Manitoba, which are for Tuesday.

° No quotation.

° Not available.

° Tuesday prices, July 21 and 28, from Broomhall's *Corn Trade News*.

TABLE XIV.—AVERAGE PRICES OF DOMESTIC WHEATS IN EUROPEAN MARKETS, MONTHLY, AUGUST 1924 TO JULY 1925*

Month	Great Britain	France (Chartres)	Italy (Milan)	Germany (Berlin)	Great Britain	France (Chartres)	Italy (Milan)	Germany (Berlin)
	s. d. per quarter	francs per quintal	lire per quintal	gold mks. per quintal	U. S. dollars per bushel *			
1924 Aug.....	54-9	101.00	116.00	19.88	1.54	1.50	1.40	1.29
Sept.....	51-10	106.70	125.25	22.51	1.45	1.54	1.49	1.46
Oct.....	54-0	113.45	149.20	22.65	1.52	1.62	1.77	1.47
Nov.....	53-10	119.05	155.50	21.20	1.56	1.71	1.83	1.37
Dec.....	52-6	120.31	166.12	22.22	1.54	1.77	1.94	1.44
1925 Jan.....	55-5	127.75	194.80	25.38	1.66	1.87	2.21	1.64
Feb.....	58-4	131.25	206.00	25.08	1.74	1.89	2.30	1.62
Mar.....	56-11	132.60	188.62	25.21	1.70	1.87	2.09	1.63
Apr.....	52-7	125.00	166.25	24.72	1.58	1.77	1.86	1.60
May.....	54-2	131.50	174.40	26.26	1.64	1.85	1.93	1.70
June.....	55-1	135.00	172.88	"	1.67	1.75	1.80	"
July.....	51-1	128.60	158.00°	"	1.55	1.64	1.57°	"

* Sources: Great Britain, London *Economist*; France, U. S. Federal Reserve Board; Italy, *International Crop Report and Agricultural Statistics*; Germany, *Wirtschaft und Statistik*.

° Conversions made at average exchange rates for the month.

° Average for first two Fridays of July.

° Not available.

*This issue has been written chiefly by
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and E. Gail Benjamin.*

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