

UNITED STATES DEPARTMENT OF AGRICULTURE  
Bureau of Agricultural Economics  
Washington

F. S.  
WH-44

December 20, 1929

FOREIGN NEWS ON WHEAT

WORLD WHEAT CROP AND MARKET PROSPECTS

The world wheat crop outside of Russia and China appears to be about 3,415,000,000 bushels and the disappearance for the season is likely to be about 3,650,000,000, thus reducing the world's carryover at the end of the season about 200 million bushels below what it was at the beginning of the season, according to the United States Department of Agriculture.

The market outlook for the remainder of the season has improved. Shipments from the Southern Hemisphere have declined and the expected reductions in new crops have been confirmed by recent reports. Congestions in Continental European markets are disappearing and the European demand for overseas wheat is beginning to show some evidences of increasing. The advance in cash wheat prices forecast a month ago is under way but large available supplies in the United States tend to hold the advance in check or cause recessions after marked advances.

Since many of the surplus countries have short crops and deficit countries have good crops, the world's trade in wheat for the season will be materially reduced. The surplus production in the principal exporting countries amounts to only about 460 million bushels as compared with 1,035 millions last year. These countries will undoubtedly ship more than this and reduce their surplus stocks. Attempting to match probable imports with exportable surpluses, it seems likely that the international trade in wheat including wheat flour will amount to about 750 to 800 million bushels, as compared with over 900 million bushels in the past season.

European deficit countries have produced more wheat this year than last but their total takings of foreign wheat are likely to be nearly as great as they were in the past season. Some of the important countries such as France and Italy will take less while Germany and some of her northern neighbors will take more than in the past season. As a rule large domestic production and relatively low prices result in heavier consumption. France and Germany have undertaken special measures to strengthen the domestic markets for their own producers, but for the entire season these measures are not likely to reduce their takings very much below what they would have been without such measures. Larger corn crops in the Balkan countries are releasing larger supplies of wheat for export from those countries and in Italy will reduce somewhat the consumption of wheat. Considering all these factors it is possible that the European takings of overseas wheat in our marketing season, July 1 to June 30, will be reduced by 50 to 100 million bushels.

Non-European countries are also likely to reduce imports. Not much change is to be expected in the takings of the Central and South American countries. The Orient has taken a fairly good share of the shipments in the first half of the season but, with fairly large stocks of flour in China, takings for the remainder of the season are likely to fall considerably short of the amount taken in the corresponding months of the past season. It is possible that non-European takings for the season, which last year amounted to about 225 million bushels, will be reduced to about 160 millions for the present season.

The Balkan and Southern Hemisphere countries have furnished a large share of the international trade in wheat in the first half of the season. Recently the shipments from these sources have been reduced. Small crops have greatly reduced the exportable surpluses in the Southern Hemisphere and not much remains to be shipped from the Balkan countries. Consequently, during the remainder of the season the importing countries must turn to North American countries for a larger share of their supplies.

It seems likely that the world's visible supply has reached its peak for the season. Much has been said about the large visible supply on November 1, which amounted to 563 million bushels. The peak in the past season was 566 million bushels on January 1, after which the visible declined rapidly to 351 million bushels by the first of July. Since a larger part of the world visible supply is in North America and the visible stocks in the United States have declined about 15 million bushels in the past six weeks, it is probable that the January 1 visible supply will be less than it was a year ago.

The weekly shipments from surplus producing countries have recently fallen below what would be normally required to meet the needs of importing countries. In the last few weeks they have been averaging under 15 million bushels per week. These relatively small shipments have resulted in a considerable reduction in the amount of wheat afloat and a clearing up of congestions at Continental European ports. These conditions are preparing the way for a stronger market and ultimately more wheat must be moved.

Table 1.- WHEAT: World supply, price and disappearance,  
1923-1929

Year	Production						All other <u>b/</u>
	United States	Canada	Argentina	Australia	Europe <u>a/</u>		
	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels
1923-24	797	474	248	125	1,257	650	
1924-25	864	262	191	165	1,058	610	
1925-26	676	395	191	115	1,397	667	
1926-27	831	407	221	161	1,210	596	
1927-28	878	480	239	118	1,268	678	
1928-29	915	567	340	160	1,409	552	
1929-30 <sup>c/</sup>	807	294	175	112	1,408	619	
	World production <u>b/</u>	Shipments from Russia	Stocks accounted for July 1	Total supply	Total disappearance	Average price per bushel British parcels	
	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	Million bushels	
1923-24	3,551	21	305	3,877	3,528	121	
1924-25	3,150	1	349	3,500	3,209	179	
1925-26	3,441	27	291	3,759	3,484	170	
1926-27	3,426	49	275	3,750	3,403	164	
1927-28	3,661	5	347	4,013	3,570	154	
1928-29	3,943	0	443	4,386	3,773	129	
1929-30	3,415	0	613	4,028	3,650	(150 - 160)	

<sup>a/</sup> Excludes Russia.<sup>b/</sup> Excludes Russia and China.<sup>c/</sup> Preliminary.

World Production and Crop Conditions

Reports during the past month have not indicated any material change in the estimate of the world production outside of Russia and China, the world's crop is now estimated to be about 3,415,000,000 bushels compared with 3,943,000,000 bushels in the past season, and an average of 3,524,000,000 bushels in the past five years. Forecasts and estimates of production in 37 countries received to date total 3,113,000,000 bushels, compared with 3,486 millions last year. These countries do not include Argentina which will probably produce about 175 million bushels, compared with 340 millions last year, and an average of 236 millions in the past five years. Some further changes in estimates are likely to be made before the end of the year. The outturn of the Argentine crop is still somewhat uncertain. Mr. Dawson, our Berlin representative, believes that the German crop is underestimated by about 5 million bushels and the French crop by about 15 million bushels. On the other hand, he considers that the Italian crop is overestimated by 15 million bushels. However, it is not believed that all such changes will make any material change in the estimate of the world's crop.

The distribution of production is very different from what it was a year ago. The surplus producing countries have smaller crops and many of the deficit producing countries larger crops. The European crop is now estimated to be about the same as a year ago. France, Italy and Spain have large crops, considerably in excess of the crops harvested a year ago, while the Balkan and some of the northern countries have smaller crops. The North African crop is somewhat larger than a year ago, amounting to 119 million bushels, as compared with 104 millions a year ago. In this connection it should be noted that the figures previously published for Algeria were erroneous, representing not all of the country. The production in that country is estimated at 34 million bushels against 30 million bushels a year ago. The production of the principal exporting countries, the United States, Argentina and Australia, amounts to about 1,387 million bushels, as compared with 1,981 millions last year, a reduction of about 600 million bushels.

It is now time to begin to look forward to the next crop. In Canada the autumn rainfall exceeded that of a year ago but was still below normal. Analysis of the relation of Autumn weather conditions to the outturn of the crop indicates that the 1930 spring wheat crop of Canada is not likely to be above average. Weather conditions have likewise been unfavorable to the development of the wheat crop in our far Northwestern States. Our Agricultural Commissioner in Berlin believes that the European acreage has been expanded to some extent. It is reported that the Russian winter grain area has been increased 3.8 per cent. This figure of course includes both wheat and rye. The condition of the growing crop in Germany as of the first of December was above average but not so good as a year ago. Little is known about conditions in other countries.

Carryover and Stocks

As previously indicated, the 1929-30 marketing season began with larger stocks than existed at the beginning of the previous marketing season. The carryover in the United States, added to the visible supply in Canada, the estimated total stocks in Australia, the exportable surplus in Argentina, and port stocks and floating supply for the United Kingdom, as of July 1, totals 613 million bushels as compared with 443 millions July 1, 1928, an increase of 170 million bushels. Taking these figures to represent the change in carryover, the total world supply for the 1929-30 season is about 360 million bushels less than the supply available for the 1928-29 season.

A statement of the carryover and surplus stocks as of July 1, 1928-1929 in the principal exporting countries, together with some indication of probably carryover or surplus stocks on July 1, 1930, is presented below. In the case of the United States these figures represent the stocks accounted for in all positions. In the case of Canada, Argentina and Australia they represent wheat available on July 1, for export, and carryover at the end of the marketing seasons of the respective countries. It will be observed that computing carryover and stocks upon this basis makes little change in the relation between the carryover July 1, 1929 and July 1, 1928. The estimates for July 1, 1930 are based upon estimated requirements and estimated exports for the entire season or the remainder of the present season. It seems likely that the carryover in these positions on July 1, 1930 will be at least 200 million bushels less than on July 1, 1929.

Table 2. Wheat: Carryover or stocks accounted for July 1, 1928 and 1929, and probable carryover or stocks, July 1, 1930

Position	1928	1929	1930 (Probable)
	Million bush.	Million bush.	Million bush.
United States .....	128	245	160 - 180
Canada <sup>a/</sup> .....	114	125	60 - 80
Argentina <sup>a/</sup> .....	78	114	25 - 45
Australia <sup>a/</sup> .....	30	33	20 - 30
United Kingdom, port stocks and floating supply	60	61	50 - 60
Total .....	410	578	315 - 395

<sup>a/</sup> Only surplus for export or carryover at end of season.

Argentina and Australia

Weather and crop reports indicate that the wheat crops of Australia and Argentina probably will amount to a little less than 300 million bushels, as compared with 500 millions harvested last year and a five-year average of 380 million bushels. The carryover of old wheat in these two countries on January 1, 1930 may amount to 20 to 30 million bushels or about the same as on January 1, 1928, but more than on January 1, 1929.

The Argentine crop now appears likely to be only about one-half as large as that of a year ago, and the crop is reported to be of poor quality, whereas the previous crop was of good quality. Our estimate of the Argentine crop is explained at length later in this report. Assuming that the Argentine crop turns out to be about 175 million bushels and the carryover of old wheat approximately 20 millions, the exportable surplus from Argentina would be about 110 million bushels, as compared with the export of over 250 million bushels in the past year. How much of this surplus will be shipped in the next six months, is a question of some significance. Reviewing Argentine shipments for a number of years, excluding the war years, it will be noted that the exports in the first six months of the year have varied from about 57 per cent to 89 per cent of the total for the year. This is a wide range and would indicate the possibility of the exports in the next six months ranging from about 60 to 90 million bushels, as compared with the actual exports of 153 million bushels in the corresponding period of the past season. It seems more likely that the shipments will be between 70 and 80 million bushels, leaving a surplus on July 1 of 25 to 45 million bushels for export and carryover at the end of the season.

The latest information indicates that the Australian crop is about 112 million bushels and there may be some carryover of old wheat. Assuming a carryover of 5 million bushels old wheat, the supply at the beginning of the season would be 117 million bushels; and allowing for domestic disappearance of about 50 millions, the surplus for the year would be 37 million bushels. Trade estimates generally indicate that the surplus will not be over 60 millions. The shipments of Australian wheat in the first half of the season have varied from 59 to 85 per cent of the total, which would indicate an export of 40 to 57 million bushels in the first half of the year, as compared with 77 millions shipped in the corresponding period of last year. It seems more likely that the exports will fall between 45 and 55 million bushels and that the surplus stocks on July 1 will be 15 to 20 millions as compared with 33 millions in 1929 and 30 millions in 1928.

Canada

The Canadian estimate of 294 million bushels, as compared with 567 millions produced last year, seems about correct. The Northwest Grain Dealers Association accounts for 272 million bushels in the Prairie Provinces. It is estimated that farmers have in hand to be marketed in the remainder of the season only about 24 million bushels.

The Canadian visible supply is large. Since the amount remaining in producers' hands is very small, the visible supply probably will not continue to increase to any extent.

The lakes have closed with about 80 million bushels of wheat at Eastern points and about 13 millions at Pacific ports. Only small amounts will be moved from the interior by rail before the lakes open in April. Last year Canada had about the same amount of wheat at these ports when the lakes closed and exported 83 million bushels in the period January through April. After the Lakes open, exports will move more freely and the total shipments for the season may amount to 220 to 240 million bushels, leaving a carryover or surplus on July 1 of 60 to 80 million bushels, as compared with 125 million bushels last year.

#### The United States

The change in the estimate of the wheat crop of the United States from 792 millions to 807 million bushels has but little effect upon the wheat situation in general. The changes are mostly in states which indicate somewhat larger supplies of hard red winter wheat. The bulk of the crop has been marketed. The exports to date are about 10 million bushels short of exports in the corresponding period of the past season. The visible supply of wheat is still large but declining. Stocks in public elevators and afloat, as reported to the Department of Agriculture, declined about 12 million bushels in November and continued to decline in December. While the public elevators at many terminal markets are still well filled, the congestions that depressed cash markets below futures have disappeared.

Considering the great reduction in exportable surpluses from the Southern Hemisphere and also the smaller supplies available from Canada, it is not unlikely that the United States will find an opportunity to export large amounts in the latter half of the season. In reviewing the past years free from war disturbances, it will be observed that the exports in the latter half of the season have varied from 44 to 25 per cent of the exports for the entire season. In no recent year has the world situation been more favorable than at present for heavy exports in the latter half of the season. It seems quite reasonable to expect that exports from the United States in the latter half of the season may exceed the exports of the season to date, and that the carryover in the United States will be reduced from 245 millions to a figure somewhere between 160 and 180 million bushels.

Table 3.- WHEAT, DOMESTIC: Stocks in store and afloat, United States markets, October 5, 1928 - January 25, 1929 and October 5 - December 14, 1929

Week ended	Stocks		Increase over previous week	
	1928	1929	1928	1929
	: 1,000 bushels:	: 1,000 bushels:	: 1,000 bushels:	: 1,000 bushels:
Oct 5 . . . . .	123,797	199,157	8,328	1,714
12 . . . . .	128,989	200,517	5,192	1,360
19 . . . . .	134,706	201,023	5,717	506
26 . . . . .	138,486	202,620	3,780	1,597
Nov 2 . . . . .	139,493	202,461	1,007	- 161
9 . . . . .	139,670	199,529	177	-2,932
16 . . . . .	138,369	197,907	-1,301	-1,622
23 . . . . .	138,908	192,895	539	-5,012
30 . . . . .	140,172	189,926	1,264	-2,969
Dec 7 . . . . .	139,830	188,801	- 342	-1,125
14 . . . . .	141,349	a/ 187,970	1,519	- 831
21 . . . . .	142,092		743	
28 . . . . .	144,351		2,259	
Jan 4 . . . . .	142,326		-2,025	
11 . . . . .	138,685		-3,641	
18 . . . . .	134,804		-3,681	
25 . . . . .	133,262		-1,542	

Compiled from commercial grain stocks in store in principal United States markets, as reported to the market news service of the Bureau of Agricultural Economics.

a/ Preliminary.

#### Exports and Carryover of Principal Exporting Countries

The probable exports for the latter half of the season and the carryover at the end of the season in the principal exporting countries are summarized below:

WHEAT INCLUDING FLOUR: Probable exports for the season 1929-30, and probable carryover, July 1, 1930

Countries	Probable exports	Probable exports	Carryover or
	season 1929-30	Jan 1 - June 30, 1930	surplus stocks, July 1, 1930
	Million bushels	Million bushels	Million bushels
United States . . . . .	230-250	145-165	160-180
Canada . . . . .	220-240	130-150	60- 80
Argentina . . . . .	195-210	70- 90	25- 45
Australia . . . . .	65- 75	45- 55	20- 30
Total . . . . .	710-775	395-460	265-335

The situation with respect to the Balkan countries is dealt with in the special report upon European countries.

Table 4.- WHEAT INCLUDING FLOUR: Shipments from principal exporting countries

Country	Total shipments or exports		Shipments, week ended			Net movement from July as far as reported		
	1927-28	1928-29 a/	Nov 23	Nov 30	Dec 7	To and incl.	1928-29 bush.	1929-30 bush.
	1,000	1,000	1,000	1,000	1,000	Date	1,000	1,000
	bush.	bush.	bush.	bush.	bush.		bush.	bush.
Canada:								
Shipments, 4.								
markets b/.	333,335	458,649	9,649	9,385	6,555	Dec 7	295,280	114,131
United States:	206,259	163,687	2,673	2,170	3,665	" "	86,974	77,341
Argentina.....	178,135	217,903	2,068	1,216	3,341	" "	52,343	92,321
Australia.....	72,962	114,272	624	192	520	" "	23,839	20,140
Russia .....	5,408	8	0	0	0	" "	8	0
Danube & Bulg/	32,847	33,842	680	832	736	" "	1,784	12,544
British India :	15,668	d/21,739	0	0	0	" "	296	d/327
Total .....	844,614	966,622	15,894	13,795	14,817		460,524	316,150

Compiled from official and trade sources.

a/ Preliminary.

b/ Shipments from Ft. William, Port Arthur, Vancouver and Prince Rupert.

c/ Yugoslavia, Rumania, Hungary and Bulgaria.

d/ Net imports.

#### The Demand for Wheat

With a smaller crop and higher prices it is not to be expected that the world's consumption of wheat will equal that of the past year. Low prices in the past season greatly encouraged consumption. The world's disappearance in the past season amounted to about 3,770 million bushels, as compared with 3,570 millions in the preceding year and 3,400 millions on the average in the five preceding years. The fact that British parcel prices averaged only 129 cents per bushel is a very important factor in effecting this large disappearance. In estimating consumption for the 1929-30 season, we must also take into account the fact that the world's demand for wheat seems to be increasing at the rate of about 70 million bushels per year. At present it appears that prices for the season may average about the same as in the 1927-28 season. It would appear, therefore, that the world's disappearance in the 1929-30 season may be approximately 3,600 to 3,650 million bushels. This would reduce the accounted for carryover by about 200 to 250 million bushels.

The demand for wheat in some European countries has been reduced by larger corn crops. Large rye crops and low prices in many of the North European countries also tend to curtail the demand for wheat. The potato crop may have some effect upon the demand for wheat in some countries. The crop is short in Germany but large in several other countries.

Much has been said about higher duties in certain European countries and other attempted restrictions upon imports. They will have some effect, but in this connection it is of interest to note that the United Kingdom, the Netherlands and Denmark are large importers who produce but very little wheat of their own, impose no duties and have no other restrictions upon consumption. France has a large crop which is reported to be about equal to domestic requirements, but in the first three months of the season her net imports of wheat including flour have amounted to 18 million bushels. The 3 per cent milling requirements for the remainder of the season would bring the net imports for the season to over 20 millions, and for certain purposes more than 3 per cent can be mixed with domestic wheat. The principal effect of the German regulations is likely to be the consumption of their own crop earlier in the season. The Export Certificate System, together with the requirement that 50 per cent of domestic wheat be used in milling until the end of January, strengthened the market for domestic wheat. Some has been exported. Larger quantities have been consumed so that farmers report 25 million bushels less on hand for sale than they had a year ago. This reduction in domestic supplies will have to be made up by larger imports in the latter half of the season. Considering all available data, it appears that European imports for the season will be only about 50 to 75 million bushels less than in the past season.

#### The Orient

In the season to date the Orient has taken about as much wheat as in the corresponding period of the past season, and the prospect for marketing wheat from the United States in the Orient is better than it was a year ago because of lessened competition from low grade Canadian wheat. Consul Sturgeon reports from Tokyo that prospects are favorable for the purchase of American wheat owing to high-priced Canadian wheat and the high price and poor quality of Australian middle grade wheat. Mill stocks, however, are somewhat larger than normal and the export demand for flour milled in Japan is only fair. The Tientsin flour market is still overstocked. However, arrivals are expected to continue to decrease. It is reported that no orders are being placed for future delivery. These conditions indicate a dull market for a period with some increase in activity toward the end of the season. Commissioner Nyhus reports that Shanghai mills have practically finished the grinding of available supplies of domestic wheat and are watching quotations for opportunities to buy foreign wheat. The Shanghai flour market has been strong since many of the mills have closed. Doubtless the takings of the Orient in the remainder of the season will be less than a year ago.

#### European Imports

A table of European imports in the past season, estimates for the current season, and imports reported to date is presented on next page. The estimates of probable imports for the season are based upon an analysis of data as to production, imports and prices in recent years, and judgment based upon the observations of our representatives abroad.

Table 3.- Wheat including flour: Net imports into principal importing countries, year beginning July 1, 1928.

Country	1928-		Preliminary estimates	July 1 to	Net imports reported	
	1928-	1929			1928-	1929-
	Million bushels	Million bushels			Million bushels	Million bushels
United Kingdom	304	195 - 210		Oct 31	63	84
Italy	82	55 - 65		Oct 31	27	10
Germany	68	75 - 85		Oct 31	29	25
France	51	20 - 30		Sept 30	13	18
Belgium	41	42 - 45		Sept 30	11	12
Netherlands	29	33 - 35		Oct 31	10	11
Czechoslovakia	17	18 - 17		Oct 31	7	6
Greece	22	16 - 18		Sept 30	4	5
Irish Free State	18	18 - 19		Aug 31	3	3
Austria	14	14 - 17		Sept 30	3	3
Switzerland	15	16 - 18		Oct 31	5	8
Sweden	8	7 - 9		Oct 31	3	3
Norway	9	7 - 9		Sept 30	2	2
Denmark	17	10 - 12		Sept 30	3	2
Finland	6	6 - 7		Sept 30	1	2
Poland	4	2 - 6		Sept 30	2	a/
Spain	a/ (15)	0 - 1				
Estonia	1	1 - 2		Sept 30	a/	a/
Latvia	3	2 - 3		Sept 30	1	1
Total	624	537 - 608			187	195

a/ Unofficial.

OCEAN FREIGHT RATES CONTINUE AT LOW LEVEL

The lack of a strong demand for export grain during the past six months has been reflected in the low level of ocean rates on wheat from the United States and other grain producing countries to European markets. The present rates on grain are very near the 1913 level.

Ocean rates on grain are highly competitive; the rates being determined, on the one hand, largely by the supply and demand for export grain and, on the other hand, by the supply and demand for ocean tonnage. Thus, a heavy export movement will tend to advance the rates, with the grain shippers bidding for cargo space, while a slackening in the export movement means a lessened demand for ocean tonnage and places the steamship carriers in the competitive position of seeking parcels and cargoes of grain for their vessels.

The ocean rates on grain to the United Kingdom from the United States and other grain exporting countries during the month of October, 1929, with a comparison of rates for the corresponding period in 1928 and in 1913 are shown in the following tabulation compiled from the reports published by the International Institute of Agriculture and other sources indicated:

Table No. 86.- Ocean freight rates on wheat to the United Kingdom in October, 1913, 1928 and 1929.

From -	Oct 1913	Oct 1928	Oct 1929
	Cents per bushel	Cents per bushel	Cents per bushel
<u>United States:</u>			
Northern Range to U.K. (and Continent) <u>a/</u> . . . . .	7.30	6.84	<u>b/</u>
New York to Liverpool. . . . .	5.07	8.11	4.56
New Orleans (Gulf to U.K.) . . . . .	9.12	10.90	8.36
North Pacific ports (via Panama Canal) . . . . .	<u>c/</u>	18.90	15.89
<u>Canada:</u>			
Atlantic coast to U.K. . . . .	( 7.60	<u>d/</u> 10.64	<u>b/</u>
Montreal to Liverpool . . . . .		8.62	5.70
<u>Argentina:</u>			
Down River ports to U.K. . . . .	7.30	13.52	8.31
Up River ports to U. K. . . . .	8.80	14.50	9.40
<u>India</u> (Karachi) to U.K. . . . .	11.73	13.71	<u>b/</u>
<u>Australia</u> to U. K. . . . .	<u>e/</u> 20.37	<u>d/</u> 26.56	<u>d/</u> 19.55

Compiled from reports of the International Institute of Agriculture, Rome.

a/ Average of North Atlantic ports, including New York.

b/ No quotation.

c/ Panama Canal was not officially opened until August 15, 1914,

d/ Cargoes.

e/ Sailing vessels.

Prices

The advance in cash wheat prices forecast a month ago is underway, but large available supplies in the United States tend to hold the advance in check or cause recessions after marked advances.

The prices of all classes and grades of wheat in the United States dropped to a low point in the middle of November, averaging 115 cents per bushel, advanced 15 cents in three weeks, and then dropped 8 cents in one week. The marked drop in November was caused mainly by the crash in the stock market, and the rise was due in part to recovery from that panic and to reports indicating a material reduction in the Argentine crop. The recession from the high point reached early in December has been largely a reaction from the marked advance. The fundamental supply and demand conditions have not changed in the past few weeks.

The relation of cash prices to futures is materially improved. Apparently the depressing influence of congested terminals has disappeared. In November the average of cash prices of basic grades upon the principal markets was in excess of the price of the near futures. This is normal inasmuch as the average of cash prices includes premium wheats. The spread between the near and the distant futures has also been reduced to a more nearly normal basis.

The relation of prices in the markets of the United States to those in foreign markets has become more favorable to exports. This point is developed in the report submitted by our Berlin office, in which it is shown that the prices of domestic wheats in the markets of several European countries have increased in relation to prices in the markets of the United States. The small Canadian crop has resulted in relatively high prices for Canadian wheat, and reports from the Orient indicate that price quotations there are favorable to the importation of wheat from the United States rather than from Canada.

In reviewing the attached table of prices in the United States and important foreign markets, it should be noted that the character of the wheat deliverable upon contract, as well as transportation and supply relations, cause differences in prices. A review of recent prices in the Liverpool market, for example, indicates that the December future in November was fairly closely in line with the price of Rosafe wheat from Argentina. The transportation cost from Argentina to the United Kingdom in October varied from about 8 to 10 cents per bushel, and consequently the Buenos Aires near futures are about that much below the Liverpool near futures. Since the rates in October were unusually low, the ordinary price spread between Buenos Aires and Liverpool would be greater than indicated by the November quotations. It will be noted that Winnipeg futures are above Liverpool. The Winnipeg future calls for the delivery of No. 1 Manitoba, whereon No. 3 Manitoba is deliverable at a discount of 8 cents per bushel. In Liverpool during November No. 3 Manitoba arranged about 16 cents per bushel above the December futures and the Argentine wheat. At the end of November No. 1 northern Manitoba wheat in Liverpool was about 23 cents above the Liverpool future, and this is not far from the cost of transportation from the head of the Lakes to Liverpool. It will be noticed that December futures at Kansas City in November were 9 to 12

cents under Liverpool. The transportation charges on wheat from Gulf ports is about 8 cents. In Kansas City No. 2 hard winter is deliverable upon contract. No. 2 hard winter wheat at Liverpool in November averaged about 3 cents over the Liverpool future, indicating that Kansas City and Liverpool prices were fairly closely in line upon an export basis from Kansas.

Past supply and price relations indicate that the world supply as reported to date might be expected to result in British parcels prices for the season averaging about 162 cents per bushel, on the basis of the 1928 price level. But the depression in the stock market and reduction in general price level which has taken place are likely to cause prices to average below what might be expected on the average. For the present we are assuming that prices may average 5 per cent below what might be expected, or around about 154 cents per bushel, as compared with 129 for the past season. In this connection it is of interest to note that at the low point on November 13, when Liverpool futures were selling on the basis of 120 cents per bushel, No. 3 northern Manitoba was selling at about 135 cents a bushel, by the end of the month had risen to 154 cents per bushel and No. 1 northern Manitoba was selling at the equivalent of 159. Undoubtedly the high prices paid for Canadian wheat will be a factor in maintaining the average price in the British markets.

Developments in the past few weeks have not changed the outlook for prices of the several different classes of wheat in the United States. The spring wheat markets continue very weak. Although the supply of durum wheat in the United States is but slightly larger than domestic requirements, the price of this class of wheat continues on a low level. Apparently the foreign demand has been very weak for the season to date as very little has been exported even at these low prices. Since the Canadian crop also appears to be small, it is still possible that the foreign demand for durum from the United States will increase toward the end of the season. Hard red spring wheat continues on a higher level than the hard winter wheat, but the large supply of hard winter wheat is apparently a factor in holding the price of the No. 1 dark northern spring wheat about on a level with the price of comparable grades of spring wheat in Canada. Should conditions continue to be unfavorable for the 1930 spring wheat crop in Canada, the price of hard red spring wheat is likely to be well maintained, and may advance materially toward the end of the season. The price of soft red winter continues above that of hard red winter but somewhat below the average for the past season. This is to be expected because the soft red winter wheat crop is considerably larger than that of the past season, but still only about equal to domestic requirements.

As expected, the large surplus of hard winter wheat continues to hold that class of wheat closely to an export basis. The prices of this class of wheat for the remainder of the season will be determined by changes in the world market price level. Improvement in European demand probably will cause prices to rise in the next two months. The course of prices for the remainder of the season will depend largely upon the outlook for the new crop. The prospect of heavy winter killing would maintain prices but should winter killing seem likely to be only about normal or less than normal, prices might decline for a period at least. The prospect of another world crop no larger than the 1929 crop would cause an upward trend in prices toward the end of the season, while a larger crop might cause a downward trend.

Table 7.- WHEAT: Closing price of December and May futures

Date	Chicago		Kansas City		Minneapolis		Winnipeg		Liverpool		Buenos Aires a/	
	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929	1928	1929
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
	<u>December futures</u>											
Nov 7	114	123	108	117	110	126	118	134	134	129	b/116	b/116
14	116	116	110	111	111	120	120	128	135	120	b/115	b/114
21	117	124	110	118	112	127	119	136	135	130	b/116	b/118
28c/	115	124	109	119	111	127	117	136	134	130	b/113	b/120
	<u>May futures</u>											
Dec 5	122	138	115	130	116	137	123	149	133	149	b/112	b/126
12	122	133	115	126	116	133	124	144	134	140	b/110	b/120
19	121		114		115		123		134		b/110	
26	121		114		115		123		134		b/110	

a/ Prices are of day previous to other prices. b/ February futures.

c/ 1929 prices are as of November 27.

Table 8.- WHEAT: Weighted average cash prices at stated markets

Week ended:	All classes and grades:		No. 2		No. 1		No. 2		No. 2		Western white	
	six markets	Kansas City	Minneapolis	Minneapolis	St. Louis	Seattle a/	1928	1929	1928	1929	1928	1929
	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents	Cents
Nov 1:	110	121	112	119	124	128	121	122	140	131	117	121
8:	108	120	110	118	112	130	114	118	141	130	115	119
15:	109	115	113	113	123	125	110	111	146	122	117	116
22:	110	123	114	120	125	130	118	119	145	129	118	121
29:	109	125	114	121	125	132	116	121	145	132	118	125
Dec 6:	109	130	113	125	124	138	117	128	143	138	116	128
13:	107	122	111	120	121	130	107	124	141	132	117	124
20:	107		111		123		110		137		118	
27:	106		110		120		109		135		116	

a/ Weekly average of daily cash quotations basis No. 1 sacked 30 days delivery.

Canadian pool marketings and prices

The Canadian pool has recently released a report on the past season which shows deliveries to the pool and sales monthly throughout the season. The report presents some interesting data for consideration with reference to sales policies and prices. The data are submitted below in connection with receipts at country elevators and platform loadings, exports of wheat, and the monthly average price of No. 3 northern at Winnipeg.

Apparently the pool distributed sales more evenly than the average producer, if producer sales are to be judged by receipts at country points. It will be observed that three-fourths of the marketings for the season were delivered at country points in the first three months of the season. In these three months the pool received 150 million bushels, but sold only 77 million bushels. The pool received in all 244 million bushels and sold less

than one-third of this amount in the first three months of the season. The balance was distributed throughout the remaining nine months.

Reviewing the average monthly prices of No. 3 northern wheat at Winnipeg, it is obvious that the average return for the season could vary greatly with different sales policies. During the period when three-fourths of the wheat was delivered at country points, the monthly prices ranged from 106.5 to 111.2, and for the season ranged from 106.5 to 152.2. In the month of highest prices, July, only 2 million bushels were delivered to the pool and 4 million bushels were received at country points, but the pool sold 14 million bushels thus helping to raise materially its average for the season. Selling wheat as delivered to the pool, at the average prices of No. 3 northern at Winnipeg, would have brought an average of about 111.3 cents for the year, and as delivered at country points, an average of 111.9 cents. Following the distribution of the pool's sales, the average would have been 115.5, and the exports 114.9.

Hindsight is always better than foresight, but it is obvious that had one been able to forecast the course of prices through the season fairly accurately, sales could have been adjusted so as to have brought even higher prices than what could have been realized by the pool distribution of sales. For example, heavy sales in September pulled down the average. This was offset to some extent by light sales in May when prices were low. In making this observation, however, the cost of holding should not be overlooked. With a very large crop it was necessary to move a considerable part of the crop early in the season. Somewhat heavier sales, however, in February, March, July and August would have raised the average returns for the season.

Table 9 .- CANADA: Marketings, exports and prices of wheat, 1928-29

Month	Deliv- eries to pool	Receipts at country elevators from platform loadings	Pool sales	Exports of wheat includ- ing flour	Price of No. 3 northern at Winnipeg
	Million bushels	Million bushels	Million bushels	Million bushels	Cents per bushel
1928					
Sept	27	134	30	31	106.5
Oct	69	106	25	49	111.0
Nov	62	107	22	31	111.2
Dec	42	44	22	53	108.7
1929					
Jan	17	17	18	25	112.4
Feb	6	17	16	20	119.7
Mar	8	21	16	27	119.2
Apr	5	9	13	10	115.0
May	2	5	5	31	106.8
June	3	8	20	30	112.4
July	2	4	14	21	152.2
Aug	1	14	4	13	151.8
Total	244	486	a/ 205	391	b/ 113.9

Compiled from The Canadian Wheat Pool Annual Report, 1928-29, issued November 28, 1929 and Canadian Grain Statistics.

a/ Carryover August 31, 1929 was 48 million bushels.

b/ Simple average.

The Continental European wheat market situation during November 1929 a/

The relation of wheat prices in Continental European markets to prices in the United States improved in November, indicating a tendency toward an improvement in the demand for wheat from this country. This improvement is attributable to the passing of the season of the heaviest marketings of domestic wheat, some reduction in port stocks, a material reduction in the surpluses remaining in the Danube countries and smaller receipts from Argentina.

Domestic wheat prices on the Continent of Europe generally declined during the first half of November, but the movement was less extensive than in the United States so that the price parity of American wheat, relative to wheat in European import markets, improved. This resulted in increased takings from overseas sources around the middle of the month, which was followed by a change in the price-relationship in favor of domestic wheat, prices of which increased during the second half of the month b/ but to a less extent than in America. Nevertheless, except for such temporary changes, price comparisons over longer periods clearly indicate that domestic wheat quotations have risen compared with American and therefore improved the import position of the latter.

a/ Based on report by Assistant Agricultural Commissioner Owen L. Dawson, Berlin, Germany, prepared November 27, 1929, and brought up to date by cables to December 12.

b/ France excepted, where prices continued to decline slightly.

Table 10 .- PRICE PER BUSHEL - SPREAD CHICAGO - EUROPE

Date	BERLIN	PARIS	GENOA	VIENNA	HUNGARY
	"Markischer Wheat" Spot	Domestic wheat nearest month	Domestic wheat nearest month	"Vienna Boden wheat", spot	Tisza wheat 79/80 kg. spot
	above (+) or below (-) Chicago.				
	Cents	Cents	Cents	Cents	Cents
Sept 7	+ 14.6	+ 21.1	-14.8	- 5.4	- 5.9
Sept 21	+ 15.6	+ 26.8	- 9.0	- 4.1	- 6.1
Oct 11	+ 17.3	+ 20.5	-11.2	-10.8	- 9.3
Oct 24	+ 21.9	+ 29.2	- 3.6	+ 3.0	+ 6.4
Nov. 2	+ 18.4	+ 27.8	- 6.6	- 5.7	- 1.4
Nov. 9	+ 25.0	+ 33.7	- 2.4	- 1.8	+ 3.5
Nov 16	+ 30.6	+ 34.5	- 0.1	+ 4.6	+ 9.9
Nov 22	+ 32.9	+ 26.0	- 4.1	- 1.3	+ 4.0
Nov 29	+ 32.8	+ 25.7	- 1.7		

While this year the price-spread shows clearly a relative increase in European prices compared with American during September/November, developments during the same period last year were adverse. The setback during the second half of November, 1929, is indicative of the fact that domestic European supplies available for sale are still important, though considerably reduced by heavy marketing in recent months.

Business on Continental wheat markets was restricted during the first half of the month with flour business in important consuming regions likewise unsatisfactory. The heavy price-decline of American wheat around the middle of the month resulted in rather active Continental purchases from overseas, but also from domestic surplus regions which were, however, neglected compared with the former. Fairly large quantities of Danubian wheat were sold during the month, and shipments ran heavy. Trade and port stocks of wheat have declined through the month, and port stocks, though still rather important, are by no means near to capacity.

Rye prices in Central Europe continued to decline considerably until the middle of the month, when, particularly as a result of prospective measures by the German government, an increase in prices took place - an increase which also reflected the generally upward tendency in feed grains.

The demand for feed grain was restricted during the first half of November with prices of corn and barley tending downward. The improved bread grain situation, however, influenced the feed grain market quite favorably after the middle of November. Transactions in corn and feed barley were rather important following November 15 and prices increased moderately. In Germany an increase of the feed barley duty is expected and this stimulated the import market to some extent. Oats which were neglected at the beginning of November also showed a slight improvement. The Danube surplus countries continued to ship large quantities of feed barley to Northern Europe; exports from the abundant corn crop have not yet reached a high level but improved recently. Weather was generally mild so that cattle could stay on pastures in large parts of Europe. Favorable growth as a result of the fine autumn partially alleviated the fodder shortage.

Estimates of the Continental wheat crop are but little changed. A new estimate of the Agricultural Council induces us to increase our estimate of the German crop to our early private estimate (July and August) of 110,000,000 bushels. Quality reports for this year's continental wheat crop are favorable and continue to indicate that the quality in some cases may be superior to that of last year. The Continental wheat crop seems to be about  $1\frac{1}{2}$  per cent below last year or about 10 per cent above the average 1927-1928.

Table 11.- Estimates of the Continental European wheat crop, 1927-1929, and average 1924-1928

Country	Average 1924-1928	1927	1928	1929
	<u>bushels</u>	<u>bushels</u>	<u>bushels</u>	<u>bushels</u>
Germany . . . . .	112,991	120,522	141,593	<u>a/</u> (121,253)
Italy . . . . .	211,208	195,809	228,596	<u>b/</u> (246,180)
France . . . . .	280,140	276,128	281,285	<u>c/</u> (334,364)
Belguim . . . . .	14,910	16,277	17,986	15,995
Netherlands . . . . .	5,886	6,157	7,336	4,666
Czechoslovakia . . . . .	40,876	47,203	51,499	48,065
Switzerland . . . . .	3,852	4,119	4,270	<u>d/</u> 5,791
Greece . . . . .	11,481	12,970	13,385	13,981
Austria . . . . .	10,695	11,960	12,915	11,582
Denmark . . . . .	9,200	9,408	12,214	(10,288)
Poland . . . . .	54,826	61,093	59,219	60,259
Sweden . . . . .	13,460	15,835	19,155	18,724
Norway . . . . .	594	605	798	729
Finland . . . . .	941	1,064	998	1,095
Latvia . . . . .	2,148	2,636	2,499	2,366
Estonia . . . . .	859	1,079	1,037	1,268
Spain . . . . .	139,136	144,825	119,884	149,251
Portugal . . . . .	10,121	11,447	7,546	(9,186)
Total, 18 deficit countries:	923,324	939,137	981,915	1,055,043
Rumania . . . . .	99,664	96,734	115,544	<u>e/</u> (88,184)
Yugoslavia . . . . .	73,541	56,568	103,294	94,982
Hungary . . . . .	74,859	76,933	99,211	<u>f/</u> (77,161)
Bulgaria . . . . .	39,093	42,121	50,691	34,443
Total, 4 surplus countries:	287,147	272,356	368,740	294,775
Grand total, 18 countries:	1,210,471	1,211,493	1,350,655	1,349,818

Figures in parenthesis are estimates as made by Mr. Dawson, November 27. Since his report made October 24, Mr. Dawson has raised his estimate of production in Germany 5,500,000 bushels. The official estimates of production in Sweden, Norway and Finland are used in the above table which total about 650,009 bushels less than Mr. Dawson's estimates as of October 24. Only official estimates are used in the summary table of production on page 4.

a/ Official estimate is 115,584,000 bushels.

b/ Official estimate is 260,657,000 bushels.

c/ Official estimate is 319,863,000 bushels.

d/ Includes spelt and meslin.

e/ Official estimate is 99,758,000 bushels.

f/ Official estimate is 71,833,000 bushels.

No official estimates of production in Denmark and Portugal have been received.

Estimates of the deficit and surpluses of individual continental countries have been changed only in the case of Germany and Italy. The deficit estimate for Germany was reduced, because of an increase in the crop estimate and possibly increased competition of rye with wheat as rye prices are extremely low. The deficit estimate for Italy was reduced because of the belief that the competition of corn will be considerable and because of very low imports to date. The 1929-30 net wheat deficit of the European Continent (22 countries) is expected to range from 2 to 18 per cent below last year on basis of the following deficit and surplus estimates for individual countries.

The winter sowing campaign started rather late in most parts of the Continent as the drought of the late summer and early fall made the preparation of fields very difficult. This delay, however, was made up during October and early November when weather conditions were very favorable. The sowing campaign is now practically finished in all parts of the Continent. Germination is reported to be generally good and in sections very good. In some places the young plants are too far developed (as in parts of Hungary) and cooler temperatures are needed. Some observers believe the continental acreage of winter grain has somewhat increased; however, information at this date is rather meager to give much weight to such reports.

#### Germany

Germany's purchases of foreign wheat continued rather small during early November but improved during the latter part. Prices fluctuated early in the month but showed greater resistance to declines than in America. The last part of the month witnessed a decided improvement in prices. Decreased imports and farm marketings have greatly reduced the weight of stocks although the amount in trade channels is still somewhat large. The government order stipulating that mills must use at least 50% domestic wheat in October and November is thought to have been an important factor in support of domestic wheat prices especially in the early part of the month. The more decided upturn in prices later in the month is largely attributed to firmness in world markets. The probability that the order prescribing the milling of 50% domestic wheat would be prolonged for December and January also had an effect in sustaining domestic wheat prices. <sup>a/</sup>The large supplies of rye at low prices compared with wheat will to some extent reduce the demand for wheat chiefly as it applies to stock feeding but the effect of cheaper rye may be offset in part at least by higher potato prices.

The rye market has continued to be very weak. Prices recently have strengthened due to expected government relief measures. Stocks on the farm and in the channels of trade are abundant and the introduction of export bounty measures in Poland has also been an unfavorable factor. There is some possibility of the German government raising the duty on feed barley from 13.9 cents per bushel to 25.9 cents. This is a measure to induce the feeding of rye instead of barley and is expected to affect the hog raising districts of Northwestern Germany where imported barley for hog feed is important.

<sup>a/</sup> Cable December 5 reported that operation of milling provision was extended to January 31.

The following table shows the development of domestic wheat and rye spot prices:

Table 12.- Germany: Price per bushel of domestic wheat and rye, October 2-December 11, 1929

Date	Wheat			Rye
	Hamburg <u>a/</u>	Breslau <u>b/</u>	Berlin <u>a/</u>	Berlin <u>d/</u>
	Cents	Cents	Cents	Cents
October 2	156	145	145	109
9	164	148	153	112
16	163	148	151	106
23	161	147	149	107
30	160	145	147	104
Nov 6	159	143	144	97
13	154	144	144	96
19	160	146	149	100
27	167	154	157	108
December 4	168	154	158	106
11	163			100

a/ Wheat of any German district of at least 58.7 pounds per Winchester bushel.

b/ Wheat of any German district in carloads of 370 bushels of at least 58.7 pounds per Winchester bushel.

c/ "Markischer" wheat of 58-59 pounds per Winchester bushel.

d/ "Markischer" rye of at least 56 pounds per Winchester bushel.

October imports of foreign wheat remained small, being 3,087,000 bushels as compared with 3,571,000 bushels in September 1929 and 9,071,000 in October, 1928. Exports of wheat increased from 1,122,000 bushels in September 1929 to 1,312,000 in October 1929, so that net imports were very small. During the period July-October 1929 net imports of wheat were about 3,500,000 bushels smaller than last year. It is likely that most of the foreign wheat stocks which were accumulated by the large imports during July have been absorbed by consumption. Arrivals at ports and at the Dutch frontier at the beginning and towards the end of October showed a slight increase but remained below the corresponding figures of last year.

Port stocks at Bremen have increased in November and are larger than the corresponding figures for last year, but were much smaller than during August and September 1929. The visible stocks of wheat in Berlin declined from 765,000 bushels on September 30 to 712,000 on October 31, compared with 613,000 bushels on October 31, 1928. The apparent disappearance of wheat in Berlin during October 1929 was about 10 per cent smaller than last year.

Trade stocks of rye decreased somewhat during October but remained very large as compared with last year. Exports of rye were very large and the export surplus was about 4,000,000 bushels for rye and rye flour for the period July to October.

The farm stock figures of the German Agricultural Council as of November 15 show that the total wheat stocks on farms as well as stocks available for sale (if the farmers do not change their minds) are about 25,000,000 bushels smaller than last year. The quantities to be used on farms seem to be fully as large as last year. This indicates that the share for feeding will also be about the same as last year, and inasmuch as the unfavorable rye price compared with wheat a/ will result in but small quantities of wheat being fed this year it seems that feeding of wheat last year was apparently less important than was indicated by trade reports. Total farm stocks of rye were about 1,500,000 bushels smaller than last year but stocks available for sale were about 4,000,000 bushels smaller which would indicate that farmers intend to feed considerable quantities of rye.

The final estimate of the German Agricultural Council indicates higher yields for wheat than the first Council estimate and the preliminary official crop estimate. The Councils estimate indicates a crop between 120,000,000 and 125,000,000 bushels. The Fall sowing campaign was finished under favorable weather conditions and evidently the delay caused by drought has not seriously affected the condition of the crops. The condition of the crop as officially reported was 109 per cent of the 1919-1928 average condition as of that date as compared with 112 per cent last year and 103 per cent in 1927.

#### France

The prevailing trade sentiment in France during the larger part of the period was reported pessimistic concerning future price improvement, being chiefly influenced by the stock situation in North America and evidence of rather heavy domestic supplies. Recently a slightly more hopeful view is expressed in view of some easing in the Continental stock situation and reports of decreased exportable surplus in Argentina. The long discussed measures for relieving the unfavorable situation in the domestic wheat market have just been passed by the Senate b/. It is doubtful, however, to what extent they will improve prices of this year's crop and whether much wheat will be exported.

Prices of wheat have declined since November 12 but are now expected to strengthen on account of government measures and increased milling demand, which has been quite slow this season. The price comparison with Chicago at the close of the month was slightly more favorable than at the beginning but less favorable than last year, especially in view of the increased import duties on wheat this year.

Net imports of wheat from July to September have been greater than last year but for the whole season we do not expect them to exceed 50% of last year and if recent government measures enable exports this proportion may even be reduced. Marketings of farmers during the first part of the period were light but later, in fear of a price drop because of developments in America, greater quantities of wheat were marketed. Increased threshing following

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a/ Prices of wheat are at present about \$14.05 per short ton higher than for rye so there appears to be a great inducement to feed rye instead of wheat this season.

b/ The measure includes provisions that the government may regulate the proportion of foreign grain in flour and also raise duties by decrees.

completion of seeding was also a contributing factor in increased farm offers. As mills were reluctant buyers prices were forced down and at the close of the month were somewhat lower than at the beginning. In sympathy with the drop in wheat prices flour prices also fell off. Prices of corn and oats in France have moved much in sympathy with wheat prices.

Sowings in general are well advanced and will be completed by December 1. It is thought that the acreage exceeds a year ago despite expectations to the contrary, in view of farmers complaints against present wheat prices. The condition of the sown grain is apparently good.

### Italy

The Italian wheat market was generally quiet the second half of October and during November with sales of domestic wheat moderate and import business nearly at a standstill but became more active in December. Hungarian wheat was offered at a lower price than overseas and was therefore preferred. Imports of grain remained very small; total imports for the period July-October only amounted to 9,774,000 bushels compared with 25,904,000 bushels for the corresponding period in 1928. The wheat price spread between Italian and American markets at the close of the month was considerably improved with the beginning of the month. Imports are expected to increase materially during the next few weeks but for the whole year, to fall much short of last year because of the good domestic wheat crop and the more available supply of other grain. Durum deficit small due to large increase in crop in southern Italy where durum is produced.

### Netherlands and Belgium

The wheat market was rather quiet during the first half of November, but towards the end of October a temporary revival of the demand was noticed and since November 15 the market has been active. Prices picked up again recently, following a declining tendency up to the middle of November. There was some demand from Belgian and Dutch flour mills and the grain trade of Northwestern Germany made some purchases toward the end of October and was again an active buyer after November 15. Offers of Danubian wheat which have been of unusual importance until recently in Dutch and Belgian markets have fallen off and are expected to be light in the near future. German flour mills preferred Bahia Blanca. Hard winter, however, also became quite important recently. Port stocks at Rotterdam have decreased considerably since October and in Antwerp a slight reduction of port stocks also took place, but the volume is still large.

Trade opinions were very pessimistic until recently owing to the large visible stocks of wheat in overseas countries and the congestion in English ports. It seems now that trade opinion is getting somewhat more optimistic as to the market outlook.

### Danubian Basin

Export business of wheat was less active during November compared with the previous month, but fairly large quantities were sold and the turnover became rather extensive during the second half of the month when a general revival of business was noticed on the Continent. Surplus supplies were further reduced as shipments were resumed extensively following the rise in the water level of

the Danube. Italy, Switzerland, and Greece were important customers, while the importance of Western Europe as a purchaser of Danubian wheat decreased due to price spreads between Danubian and overseas wheat in favor of the latter.

PRICE SPREAD PER BUSHEL, 1929

Hungarian Tisza Wheat, 51/62 pounds spot above (+)

Chicago Futures, nearest month

	Cents		Cents		Cents
Sept 6	+5.86	Oct 4	-10.70	Oct 31	-1.42
" 13	+9.86	" 11	-9.34	Nov 8	+3.50
" 20	+6.05	" 18	-3.04	" 15	+9.91
" 27	+6.76	" 25	+6.37	" 22	+3.91

While earlier in the season considerably below Chicago, Hungarian wheat rose gradually compared with North American and is now above Chicago quotations. It is to be noted that the position of American wheat compared with Danubian wheat has varied significantly during recent weeks. Continental buying of Danubian varieties was evidently affected by the price comparison with overseas. Whenever Danubian prices rose above the normal relationship with overseas, Continental imports from the Danube fell off and when they fell relatively lower than overseas imports were resumed. The reaction of Danubian wheat to these fluctuations seems to indicate surplus supplies still available and it is likely that somewhat improved price conditions may have increased the share of the crops available for sale <sup>a/</sup>, as the previous estimates of crops remain unchanged. The heavy movement of Danubian surplus wheat to date nevertheless indicates that supplies still available are not heavy compared with usual supplies.

Apart from these temporary changes in the price spread, developments through a longer period of time clearly show a price movement toward import parity for American wheat, with a price spread of -11 to -6 from the beginning of September to the middle of October, but from -3 to +10 since October 15.

Wheat business in Danubian deficit regions, Austria and Czechoslovakia, was quiet with flour sales unsatisfactory. Considerable improvement, both for wheat and flour, was registered during the second half of November, as was the case practically everywhere.

Business in corn was limited, with good improvement in the Italian, Danish, and British demand for Danubian corn during the second half of the month. The Rumanian crop estimate was reduced to 340,144,000 bushels. The trade complains that the corn is too wet, a condition which, in cases, renders exports impossible at present.

The Autumn sowing campaign is practically over. Grain is reported to have made satisfactory progress and have benefitted from damp weather during past weeks. Some complaints are heard from Austria and Czechoslovakia as well as parts of Rumania on account of greatly delayed sowings due to dry weather earlier in the Autumn which was also unfavorable to grain previously sown.

<sup>a/</sup> Sufficient allowance for this possibility is made in the range of our surplus estimates which, therefore, are unchanged.

Poland

Farm deliveries of wheat and rye were comparatively small during the second half of October and in November. This was partly seasonal but was somewhat induced by expected government measures to help prices. The demand continued restricted and prices did not increase the first half of November despite small farm offers. Recently, however, prices have shown some improvement. On November 16 export bounties were introduced by government order. From November 16 to April 15, 1930 a bounty of 18 cents per bushel is paid on exports of wheat, 17 cents on rye, for 6.5 cents on oats and 10 cents on barley, and for flour a bounty of 51 cents per 100 pounds (according to other reports 46 cents). Agricultural organizations have formed an export syndicate for carrying on business in grain exports. This export syndicate has also the work of standardizing grain, as export bounties will only be paid for grain conforming to certain standards. According to private reports about 275,000 short tons of all grains will be exported during this season. Export business will be attempted mainly to Scandinavian countries. At present negotiations are under way between the Polish syndicate and the biggest German flour milling concern (Scheuer-Gruppe) for the purpose of making an agreement with respect to the export policy of both groups. According to rumors a similar syndicate to that in Poland will be established in Germany and the two syndicates will endeavor to cooperate on the export market.

Soviet Russia

There is little possibility of Soviet Russia appearing on the world market this year either as seller or buyer of wheat. In the first instance, in view of the Government's desire to build up large reserves of grain, only very pressing needs for foreign exchange would force the Government to resort to wheat exportation. It is also unlikely that exports of rye will take place. The success of the Russian grain procuring campaign coupled with reported building up of stocks of grain in the Government's hands makes the question of imports less important than during the past year.

After a slight slackening tendency experienced during the first part of October, Russian grain procurings picked up again in the second half of October and are now approaching an end. Seeing that about 93 per cent of all grain foreseen by the plan was procured by November 15, there is scarcely any doubt about completing the campaign by December-January - the period provided for by the Government. Procurings of bread grains continue to lag behind total procurings, only 88 per cent of the plan having been procured to November 15, still they are considerably higher than last year.

The rapid development of procurings has caused the problem of adequate storage to arise. Measures are being taken in order to protect grain from insect and fire damage. Fortunately, this year's grain is reported to be very dry as a rule and can thus be stered with less danger of subsequent damage than in other years.

It has been officially reported recently that reserves for emergency cases have been built up to the extent of 1.5 million tons a/. Barring extraordinary events, this fact, coupled with the planned considerable increase of the 1930 grain production, may lead to renewal of exports next year. However, it is impossible at present to judge to what extent the planned increase of grain production will actually take place, as aside from weather and crop conditions, the aggressive class policy of the Soviet Government in the villages may lead to greater reluctance on the part of the peasants, particularly the more well-to-do, to produce more than absolutely necessary. At the same time the rapid rate of collectivization in grain farming is likely to cause serious organization difficulties so that a decline in peasant production may not be offset by a corresponding increase of the socialistic sector, at least for the next year or two.

### Sowing Campaign

A preliminary official report places the winter grain acreage for Soviet Russia as a whole (U.S.S.R.) at 95,400,000 acres compared with 91,900,000 acres last year, or an increase of 3.8 per cent. The winter acreage of Russia proper (R.S.F.S.R.) increased 4.2 per cent and of Ukraine 3.7 per cent. The autumn sowing "plan" was not fully executed in important winter wheat regions, but exceeded in some other regions. Thus winter wheat sowings in Ukraine were 21.2 per cent below the "plan", while rye sowings were 5.4 per cent above the plan. Total grain procurement of the State and cooperative organizations up to December amounted to 99 per cent of the annual "plan"; but the procurements of bread grains alone amounted to 94 per cent of the annual "plan".

The condition of winter crops as of November 13 was reported average in all sections of RSFSR, excepting parts of the Central Fertile region and Middle Volga region b/ where conditions are below average, though reported improving in the Central Fertile region. Prolonged warm weather was reported a favorable factor, which allowed the delayed crops to reach their normal condition before the setting in of the frosts, thus increasing their power of resistance.

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a/ Later information indicates a somewhat higher figure.

b/ As expected in our report of September 30, 1929.

### The Argentine wheat crop

A study of the relation of the Argentine wheat yields to weather during and preceding the growing season tends to confirm current reports of a substantial decrease in the 1929 crop of that country. The most probable size of crop appears from this study to be about 145 to 175 million bushels.

The 1929 probable yield indicated by the study is 6.6 to 8.2 bushels to the acre sown. On the 19,430,000 acres officially reported as sown for the 1929 harvest this yield would give a crop of 130 to 160 million bushels. This estimate is based on the past relation of certain weather factors to the yield as officially reported. For the years 1927 and 1928 figures available on exports and stocks at the beginning and end of the seasons have indicated that the actual harvest was probably 30 to 35 million bushels greater than the official estimate. It is not known whether the difference was due to an underestimate of the yield or of the acreage sown. Various unofficial reports have expressed the belief that the acreage has been underestimated. In order to make partial allowance for a similar possible contingency this year 15 million bushels have been added to the harvest figure indicated by the study, giving a probable crop of 145 to 175 million bushels.

The analysis on which the 1929 yield is based is the result of a multiple curvilinear correlation for the period 1896 to 1928 using six weather factors; monthly mean temperatures averaged for two stations Cordoba and Bahia Blanca for the months July, August, September and October, and total rainfall at Cordoba for two periods, February to May inclusive, and June to August inclusive. The two stations were chosen as two of the three in the wheat zone for which the weather records are available for a long series of years. The third station, Buenos Aires, was included in preliminary studies but the results in general were not improved by the addition.

In this study changes in yield were more closely associated with changes in October temperature than any other factor used; high yields accompanied low temperatures and vice versa. In August and September temperatures above average were accompanied in general by reduced yields, as were also unusually low temperatures. Changes in July temperature were not shown to have a very close relation to the changes in yield. Low rainfall at Cordoba in the period February to May inclusive was associated on the average with low yields and heavy rainfall with high yields. In the June to August period, on the contrary, the relationship indicated by the study was one of decreasing yields with increasing rainfall except in years of very slight rainfall. It is probable that rainfall after the close of August and temperature in November and December also effect the yield more or less. In this study, however, an attempt to include them as additional factors did not improve the results. Frost in the maturing season is probably also a factor of some importance in some years. Simple methods to determine its importance did not indicate any improvement in the results of the study through its use.

The reduction in the 1929 yield indicated by this study is associated with deficient rainfall in the period before planting and above average temperatures in the growing and maturing season. Total rainfall at Cordoba in the months February to May was only about 3.7 inches compared with an average of

about 11.3 inches in the 33 years studied. The 1929 rainfall was lower in these four months than in the corresponding period for any of the preceding 33 years. The rainfall in the usually dry period June to August amounted to about 2.8 inches in 1929 compared with the average of about 1.4 inches.

The mean July temperature for the two stations was 52.5 degrees Fahrenheit this year compared with the 33-year average of 48.6 degrees Fahrenheit. The August temperature was 52.9 degrees Fahrenheit compared with the average of 51.0 degrees Fahrenheit. In September it was between 58 and 60 degrees this year compared with an average September temperature of 56.2 degrees, and in October it was between 61.5 and 63.5 as against an average October temperature of 61.2 degrees. The spread in the 1929 estimate of yield is due to the fact that definite figures are yet available for the temperatures in September and October.

Table 13 - Argentine wheat yield per acre sown, 1896 to 1929

Year	Yield per acre sown		Year	Yield per acre sown	
	As officially reported	Calculated from weather <sup>a/</sup>		As officially reported	Calculated from weather <sup>a/</sup>
	Bushels	Bushels		Bushels	Bushels
1896	5.1	4.5	1913	6.4	6.7
1897	8.3	10.1	1914	10.9	11.4
1898	13.3	13.4	1915	10.3	9.9
1899	12.7	11.6	1916	5.2	5.8
1900	9.0	10.4	1917	13.1	11.8
1901	6.9	7.4	1918	10.6	11.7
1902	11.4	11.8	1919	12.5	13.9
1903	12.1	11.9	1920	10.4	9.7
1904	12.4	11.8	1921	13.4	12.0
1905	9.6	10.6	1922	12.0	12.7
1906	11.1	10.0	1923	14.4	15.6
1907	13.5	13.4	1924	10.7	11.5
1908	10.4	12.4	1925	10.0	10.4
1909	9.1	10.1	1926	11.5	10.4
1910	9.4	8.9	1927	12.1	11.5
1911	9.8	9.1	1928	14.7	12.7
1912	11.0	9.8	1929	-	6.6-8.2

a/ The factors used were temperature Cordoba-Bahia Blanca July, August, September and October and rainfall Cordoba February to May and June to August. Results were as follows:  $P = .905$ ,  $\bar{P} = .860$ ,  $S_e = 1.0$  bushels,  $\bar{S}_e = 1.2$  bushels. The "corrected" standard error and the "corrected" index of correlation are calculated from the following formulas developed for linear correlation:

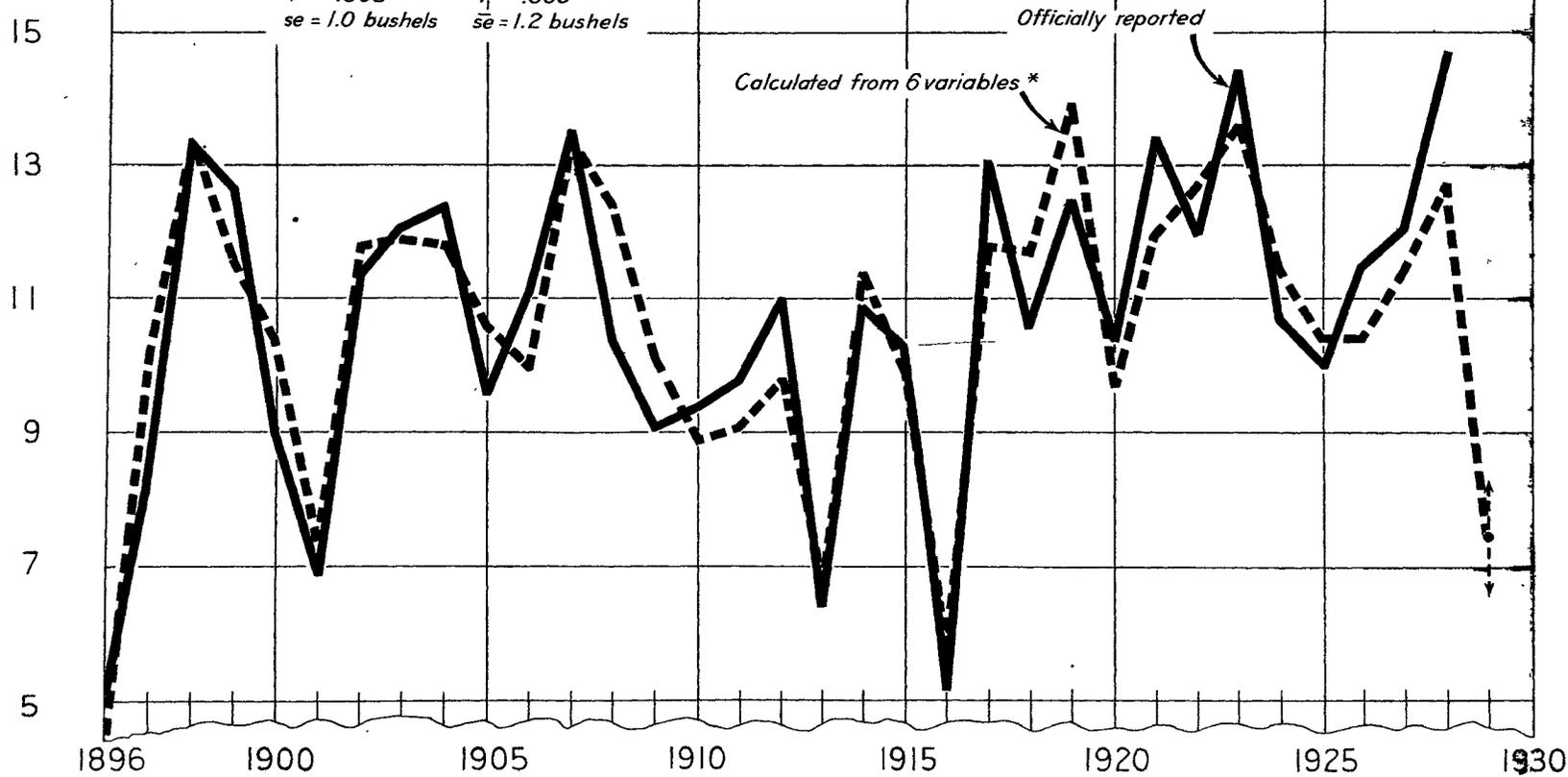
$$S_e = \sqrt{\frac{\sum Z^2}{n-m}} \quad \bar{P} = \sqrt{\frac{S_e^2}{\sigma_m^2}}$$

In using these formulas for the curvilinear correlation of this study it is assumed that the introduction of a curve in a regression has the same effect as the introduction of an additional variable. Hence  $m$  is made equal to the number of variables plus the number of regressions which are curvilinear.

# ARGENTINA: WHEAT YIELD PER ACRE SOWN

BUSHELS

$P = .905$        $\bar{P} = .860$   
 $se = 1.0$  bushels       $se = 1.2$  bushels



- \* { 1. TEMPERATURE, JULY      3. TEMPERATURE, SEPTEMBER      5. RAINFALL, CORDOBA ONLY, FEBRUARY-MAY  
 2. TEMPERATURE, AUGUST      4. TEMPERATURE, OCTOBER      6. RAINFALL, CORDOBA ONLY, JUNE-AUGUST

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