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# W H E A T   S T U D I E S

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### WORLD WHEAT SURVEY AND OUTLOOK

#### MAY 1942

*Joseph S. Davis*

Huge wheat surpluses in all four chief exporting countries and varied but growing bread shortages in Europe (outside the United Kingdom) continue to dominate the world wheat position. War developments since December 7 have influenced it mainly by making shipping scarcer, stopping the flow of basic products from the Southwest Pacific, and spurring the United States to all-out efforts as a leading partner in the United Nations.

In this country, political measures have boosted wheat prices to levels suggestive of shortage instead of embarrassing abundance. The Commodity Credit Corporation, having been hampered in disposing of its owned stocks and having acquired well over half of the 1941 wheat put under loan, will control some 60 per cent of the carryover of 610-650 million bushels. Advance steps are being taken to cope, as best may be, with the storage crisis that harvesting the big crop of winter wheat will bring.

International trade in wheat and flour this season still bids fair to be the smallest in 45 years. Canada's exports, predominantly to Great Britain, will probably exceed those of all other exporters combined. Argentina will rank second, shipping primarily to Latin-America, especially Brazil, and secondarily to Spain and Britain. To ease demands on shipping, despite good present reserves, the British have radically revised their flour standards and are making darker bread compulsory.

Japan now controls the rice-surplus areas of Asia. By contrast, the European Axis and neutral countries are weak in bread-grain supplies, in which the United Nations are exceptionally strong. World wheat carryovers plus new crops are sure to afford a wide margin above aggregate peacetime requirements, but the size of the surplus over what will be used in 1942-43 is at present wholly unpredictable.

STANFORD UNIVERSITY, CALIFORNIA

**WHEAT STUDIES**  
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# WORLD WHEAT SURVEY AND OUTLOOK

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Joseph S. Davis

### THE BACKGROUND: WHEAT AND WAR

Recent developments in the wheat situation can be clearly understood only in the perspective of persisting facts of the wheat position and in the light of the rapid evolution of World War II.

Aggregate wheat supplies are very large. Exclusive of the USSR, China, and other countries that rarely if ever figure heavily in international trade, total supplies are huge beyond precedent. In a war-torn world, however, such sums completely lack their peacetime significance. Great Britain continues to have ample wheat supplies for enlarged, unrationed human consumption, but has taken fresh steps to conserve her stocks of wheat and flour. Nazi

Germany, dominating the European continent, has enough bread grain to maintain fairly liberal rations, even as recently reduced, while holding emergency reserves. But shortage of varying degree prevails all over Continental Europe and many other regions, with scarcity reaching serious proportions in several countries, including conquered Greece and neutral Eire. The war itself, and shipping stringencies due to it, have increasingly constricted the flow of wheat and flour from surplus to deficit areas. Hence each of the four chief exporting countries is oppressed by superabundance of wheat. Governmental controls are well-nigh universal, though of divergent types and with somewhat different objectives. In the United States, where the controls are least unified and least adjusted to wartime necessities, the dominant emphasis has unfortunately been on raising returns to farmers rather than on making optimum use of available wheat resources.

War events have occurred in swift succession since the Japanese swooped without warning on Pearl Harbor and Asiatic points hitherto under American, British, or Dutch control.

Within 100 hours of the attacks on December 7, 1941, the United States was formally at war not only with Japan but with Germany and Italy as well. Prime Minister Churchill soon visited the United States, and British-American co-ordination has proceeded apace. American leaders have played important roles in the high councils of the United Nations, as the momentous joint declaration of January 2 correctly implies. But our preparations for waging war on a modern scale, though much further ad-

vanced than in April 1917, were disastrously unequal to the sudden increase in demands upon us. Despite a few notable achievements, and heavy sinkings of Japanese tonnage, the Pacific war tide has thus far run heavily against the United Nations.

Japanese forces, already dominating French Indo-China, quickly took over the International Settlement at Shanghai, occupied compliant Thailand, captured Guam, and sank the great British warships "Prince of Wales" and "Repulse." They took Wake Island and Hongkong by Christmas, Manila and Cavite on January 2, and Singapore on February 15. By March 10 they had occupied Rangoon and overrun Java. In another month islands north of Australia were taken, in preparation for attack on Australia itself, while intensified campaigns in the Philippines resulted in the fall of Bataan on April 9 and finally of Corregidor on May 7. On April 30, only three

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weeks ahead of the monsoon which might have put a stop to lowland fighting, the Japanese took Lashio, the southern terminus of the Burma Road, China's recent "lifeline." By mid-May Burma was almost completely conquered, and most of the surviving defenders were forced back into China and India. Sir Stafford Cripps's mission to India, seeking wholehearted support of the war with assurance of dominion status after it is over, had ended in failure on April 11.

The Japanese conquests in the Southwest Pacific have been to date in areas where the cereal diet is predominantly rice, wheat ranking very low. They have brought under Japanese domination the rice-exporting countries of Indo-China, Thailand, and Burma, including the port of Rangoon from which the largest surplus is normally exported. They put Japan in control of much of the rice economy of Monsoon Asia, though her grip does not extend over India or Ceylon and is limited in China. For the present they insure Japan abundant supplies of foodstuffs and raw materials.<sup>1</sup> Most of this area has now been shut off from overseas shipments of flour or wheat, which had previously flowed in lim-

ited amounts from Australia and the Pacific Northwest;<sup>2</sup> but Russian vessels have carried some North American wheat to Vladivostok.

These conquests have cut off from the United Nations the flow of crude rubber, tin, quinine, sugar, vegetable oils and oil-bearing materials, and other products from the Southwest Pacific. In addition, the shipping shortage has been made more severe by the necessity for convoying in the Pacific, by increasing requirements of ships for movements of troops, munitions, and other supplies, and by sinkings of merchant vessels. In this country these developments led, early in 1942, to the institution of severe restrictions (mis-called "rationing") on the sale of rubber tires (and later other rubber goods), to the decision to adopt sugar rationing (ultimately effective early in May), and to manifold other adjustments in production for military or civilian uses and in consumer purchase and utilization.

Shipping losses in the Atlantic and adjacent waters, from intensified German submarine attacks, have seriously increased since mid-December 1941 after six months of relatively moderate sinkings, as Prime Minister Churchill acknowledged in a speech in the House of Commons on February 24. Though data are not publicly available, losses in recent months must have more or less exceeded new tonnage completed, despite increasingly rapid launchings under the vast shipbuilding program of the United States. In order to make the most effective use of existing tonnage, a War Shipping Administration was set up in Washington on February 9, under the chairman of the Maritime Commission. It now controls practically the whole merchant shipping fleet of the United States, and is working closely with the British Ministry of War Transport in the utilization of the combined shipping resources of the United Nations, after the manner of the Allied Maritime Transport Council in the latter part of World War I.<sup>3</sup> The volume, timing, and direction of international trade in wheat and flour is now mainly subject to decisions of the Combined Shipping and Adjustment Boards.

On Europe's vital eastern front, great Russian forces continued to press the Germans

<sup>1</sup> On this paragraph, see M. K. Bennett, "Wheat in National Diets," *WHEAT STUDIES*, October 1941, XVIII, 37-76; Burma Dept. Agr., *Rice* (Markets Section Survey No. 9, Rangoon, 1941), p. 45; V. D. Wickizer and M. K. Bennett, *The Rice Economy of Monsoon Asia* (Food Research Institute, Grain Economics Series 3, Stanford University, Calif., 1941); and W. Ladejinsky and F. J. Rossiter, "Food Situation in Far Eastern and Southeastern Asia," *Foreign Agriculture* (U.S. Dept. Agr., Office of Foreign Agr. Relations), April 1942, VI, 147-64.

<sup>2</sup> Pertinent are the following data on exports to eastern Asia from Australia and the United States, in million bushels of wheat:

Year July- June	Australian exports						U.S. exports	
	Japan, Man- chu- kuo <sup>a</sup>	China, Hong Kong	India, Ceylon	British Ma- laya	Java, Ma- dura	Philip- pines	China, Hong Kong	Philip- pines
1935-36	16.87	7.21	1.33	2.65	3.91	1.93	.21	1.68
1936-37	2.96	3.30	.83	3.17	3.57	1.69	.22	1.46
1937-38	3.42	4.80	1.42	3.12	3.96	1.30	1.66	2.21
1938-39	.43	22.05	7.82	3.19	4.60	1.56	13.93	4.60
1939-40 <sup>b</sup>	....	....	....	....	....	....	4.01	4.79

<sup>a</sup> Also includes exports to Kwantung.

<sup>b</sup> Exports by destinations not available for Australia after 1938-39 or for the United States after 1939-40.

<sup>3</sup> On the earlier experience, see J. A. Salter, *Allied Shipping Control: An Experiment in International Administration* (Oxford, 1921).

through the winter and early spring, but without achieving large-scale advances. Hitler's much-heralded spring offensive did not begin until about May 10. In the West the Royal Air Force instituted a program of intensive raids over the Continent, striking heavily at industrial centers and submarine bases. On April 15 Pierre Laval returned to power in Vichy France, pledged to more effective collaboration with the Nazi overlords. British forces occupied Madagascar on May 5. In mid-May the United States was negotiating with Admiral Robert on Martinique, to insure that the French West Indies, and naval vessels and shipping there, would not be used on behalf of the Axis powers.

In the present state of the war, this "Survey" naturally emphasizes significant phases of the wheat situation on which information is available despite continuing shrinkage of published statistics. On certain topics formerly important, little can be said and less needs to be said. On others, more adequate treatment will be feasible subsequently. On some subjects, however, an urgent need for clarifying exposition and analysis can be met.

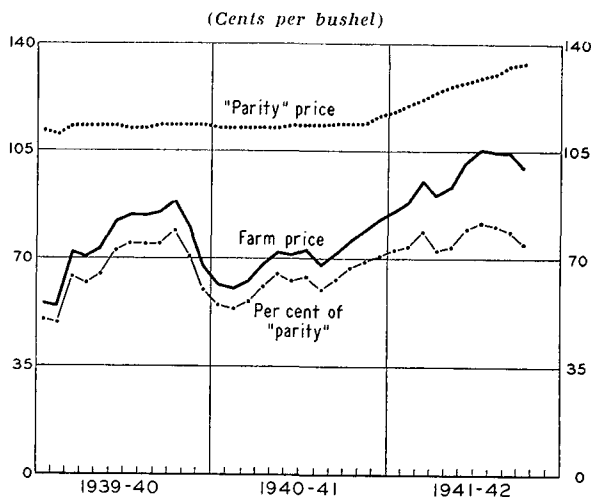
#### UNITED STATES PRICE POLICY

In this country, so-called "production control" measures have been in force for years, but they have facilitated instead of prevented embarrassing accumulation of wheat stocks, until supplies in prospect for 1942-43 equal a two years' supply plus a minimum carry-over. Government agencies (notably the Commodity Credit Corporation) have been increasingly important market factors, but no government monopoly has been set up to buy producers' grain at stated prices as in Canada, Australia, Argentina, and Great Britain. Neither wheat prices, nor price floors or ceilings, have here been fixed,<sup>1</sup> but political measures have raised prices to uneconomic levels. This has contributed much to farmers' present prosperity, but has complicated defense-war efforts and raised difficult problems for later solution.

As Chart 1 shows, the average farm price of wheat has risen notably in the past two seasons of increasing wheat surplus. This has been due primarily to the operation of

price-boosting legislation, adopted and maintained under the influence of the farm bloc. The most important measure has been the program of non-recourse loans on generous

CHART 1.—UNITED STATES AVERAGE FARM PRICES OF WHEAT, COMPARED WITH "PARITY PRICES," MONTHLY FROM JULY 1939\*



\* Data of the Bureau of Agricultural Economics. For roughly corresponding charts covering crop years beginning with 1932-33, see WHEAT STUDIES, XII, 145, XV, 203, and XVI, 166. The last figures plotted are for Apr. 15, 1942.

terms, at rates that have been established at the increasingly high levels reflected in the table on the next page—including rates announced on May 1 for 1942-43.<sup>2</sup> The advance in officially computed "parity prices," especially in the past twelvemonth, is due in part to the operation of the same causes, which affect prices of various products that farmers buy; but more of it is due to a complex of factors that have brought about advances<sup>3</sup> in

<sup>1</sup> WHEAT STUDIES, September 1941 and January 1942, XVIII, 6, 197; and below, pp. 342, 345.

<sup>2</sup> Important in this connection was Congressional action requiring loan rates to be set at 85 per cent of parity prices. Public, No. 74, 77th Cong., approved May 26, 1941.

<sup>3</sup> The following official index figures are illuminating:

Index	Base	Aug. 1939	Nov. 1940	Nov. 1941	Apr. 1942
Prices farmers receive.....	1909-14	88.0	99.0	135.0	150.0
Prices farmers pay <sup>a</sup> .....	1910-14	125.0	127.0	143.0	151.0
Wholesale prices: "all commodities".....	1935-39	93.1	98.8	114.8	122.0 <sup>b</sup>
Retail food prices.....	1935-39	93.5	95.9	113.1	119.6

<sup>a</sup> Including interest and taxes.

<sup>b</sup> Average of weeks ending Apr. 4-May 2, 1942.

the general level of prices, wholesale and retail. In April 1942, farm prices of wheat averaged 83 per cent higher than in August 1939, but the parity price had risen so greatly

REPRESENTATIVE CCC LOAN RATES ON WHEAT,  
CROPS OF 1938-42\*  
(Cents per bushel)

Wheat and market	1938	1939	1940	1941	1942
Average loan rate, farm basis.....	53	64	65½	98	114 <sup>a</sup>
No. 1 Dk. Nor. Spr., Minneapolis.....	81	87	87	115	132
No. 2 Hard Winter:					
Chicago.....	77	80	81	115	132
Kansas City.....	72	77	77	110	127
Galveston.....	77	85	85	117	134
No. 2 Red Winter:					
Chicago.....	75	80	81	115	132
St. Louis.....	73	80	81	115	132
No. 1 Soft White:					
Portland, Seattle.....	67	73	73	105	121
San Francisco, Los Angeles.....	71	77	77	110	127

\* Compiled from official sources.

<sup>a</sup> On volunteer wheat harvested, co-operating farmers may borrow at one-half of the local loan rate.

during the interval that the April 15 average farm price was only 75 per cent of the then parity. To a degree greater than hitherto, the current level of wheat (and cotton) prices must be called political, and the drift is toward further disparity between the actual level and

the level warranted by economic demand-supply conditions.

The Emergency Price Control Act of 1942, approved on January 30, empowered the Price Administrator (Leon Henderson) to fix ceilings on prices of agricultural commodities, subject to the veto of the Secretary of Agriculture, not lower than the highest of four levels specified in certain terms.<sup>1</sup> For wheat, on the basis of the present parity formula, the effective minimum of 110 per cent of parity prices has risen from \$1.42 on January 15 to \$1.47 on April 15, farm basis. For obvious reasons, no such high ceiling was established. Before signing the bill, President Roosevelt arrived at an understanding with Congressional leaders that the act would not be construed to prevent government agencies from making sales in the normal conduct of their operations; and on January 31 he instructed such agencies to release their agricultural holdings for lend-lease, Army, Navy, and relief purposes.<sup>2</sup> In a message of April 27, the President urged Congress to revise the law so as to substitute 100 per cent of parity price for 110, and Secretary Wickard promptly endorsed this recommendation. But even if Congress should enact such an amendment (as now seems doubtful), no occasion for imposing so high a ceiling on wheat prices is in prospect.

The General Maximum Price Regulation, issued by the Office of Price Administration (OPA) on April 28,<sup>3</sup> exempted farm products and also ordinary flour and mixed feeds; but it established ceilings on millfeeds, prepared flours, packaged cereals, and bread, at the highest levels reached during March 1942. Some time will be required to recognize and adjust to the multifarious complications of this OPA order.<sup>4</sup> To the millfeed trade it was relatively acceptable, with modifications that were soon agreed to,<sup>5</sup> for millfeed prices are seasonally highest in March, and bran, shorts, and middlings have seldom before sold above the ceilings effective May 11.<sup>6</sup> Bakers' reactions to the bread ceiling have naturally been more critical, since no ceilings were imposed on flour, eggs, dairy products, or wages, and prices of bread had reached no exceptional peak in March.<sup>7</sup>

<sup>1</sup> Public, No. 421, 77th Cong.; and *Agricultural Situation* (U.S. Dept. Agr., Bur. Agr. Econ.), March 1942, pp. 3, 12, including their "joint statement of policy" issued on Feb. 3.

<sup>2</sup> Cf. *WHEAT STUDIES*, January 1942, XVIII, 201.

<sup>3</sup> *Federal Register* (National Archives of the United States, Washington), Apr. 30, 1942, pp. 3153-59.

<sup>4</sup> See, for example, *Southwestern Miller* (Kansas City), May 12, 1942, pp. 19-22.

<sup>5</sup> *Ibid.*, May 19, 1942, pp. 21-22.

<sup>6</sup> *Ibid.*, Apr. 28, 1942, p. 22. For a time in mid-April, when some dealers refrained from making sales, bran and shorts sold for \$38-\$39 per ton at Kansas City and Minneapolis—equal to and occasionally above prices per ton of the wheat from which they were milled. The boom in millfeeds resulted in part from extremely low mill activity in all but the Pacific Northwest states, where lend-lease activity in flour made feed supplies ample to permit an appreciable eastward movement.

<sup>7</sup> *Ibid.*, May 12, 1942, p. 24. Retail prices of white bread in 51 cities averaged 7.8 cents per pound in October-June 1940-41, and 8.7 cents in January-April 1942; but over this whole period bread prices have risen less than prices of foods at retail in general.

The political price level of wheat has been an important factor limiting the use of wheat for feed, and its flow into export, and has been partially responsible for piling up the unprecedented stocks that clog the channels of trade. Largely at Treasury expense, however, the CCC has sold wheat below going levels for export as wheat or flour (or granted equivalent subsidies called "indemnities"), for feed use, and latterly for industrial-alcohol manufacture, as well as absorbed increasing costs of storage and deterioration. Against the express wishes of the Administration, Congress has been disposed to restrict the power of the CCC to reduce its holdings.<sup>1</sup> The American Farm Bureau Federation has been the leading farm group insisting on this policy, specifically with reference to feed use of wheat. Up to early in May it was willing to go only so far as to favor incorporating in pending legislation a provision permitting, for the period of the emergency, CCC sales of wheat for feed at a price not less than the parity price of corn (97 cents per bushel on April 15), "and limited in volume so that its release or sale does not depress the corn market below parity." Only the impending storage crisis has forced enough shift in Congressional opinion to bring a less restrictive policy to the verge of adoption as this "Survey" goes to press.

In addition to wheat prices, or roughly comparable loan values, wheat growers co-operating in the farm program have received soil-conservation and parity payments, at rates shown in Table VII along with the figures recently announced for 1942-43. For the cur-

rent year they are 8 and 10 cents per bushel respectively. Under the Agricultural Adjustment Act of 1938,<sup>2</sup> both payments are made on the officially ascribed "normal yield" per acre of individual acreage allotments. Farmers receive additional payments for specified soil-building practices. The terms have been gradually liberalized. The full conservation payment is made for planting within the acreage allotment, but a reduced payment depending on the degree of overplanting is granted those who fail to comply. This is true also for parity payments beginning with 1941-42, whereas the two earlier parity payments were made only to those who actually planted within their acreage allotments. None was made for 1938-39. For 1939-40 and 1940-41 it was stipulated that the rate of parity payment should not exceed the amount by which the average farm price was less than 75 per cent of parity. This proviso was significantly omitted for 1941-42. For 1942-43 the following new proviso is included:

If the sum of the prevailing basic-loan rate or the average farm price, whichever is the higher, for the crop year 1941 and the applicable rate of the payments announced under the Soil Conservation and Domestic Allotment Act, for the purposes of the 1942 agricultural conservation program and the parity payments herein appropriated, exceed an amount sufficient to increase the farmers' returns to parity prices, parity payments shall be so adjusted as to provide a return to producers which is equal to but not greater than parity price.<sup>3</sup>

Although accompanying a crop increase of only 16 per cent, the cash income of United States farmers from wheat rose from 428 million dollars in 1940 to 702 million in 1941 (both tentative estimates).<sup>4</sup> The percentage increase was 64 per cent, whereas cash income from all crops rose in 1941 by only 37 per cent. Inclusive of conservation and parity payments, the cash income of growers in respect of wheat in 1941-42 will doubtless exceed 800 million dollars and be the largest since the very profitable year 1927.

In World War I, general scarcity of wheat raised its price here to heights far above those now prevailing, and growers complained that prices well over \$2.00 a bushel were unfairly low. In this war, with surpluses of wheat so

<sup>1</sup> Farm-organization pressure for such action has continued since the President vetoed, on Aug. 25, 1941, a bill to "freeze" CCC stocks of wheat and cotton.

<sup>2</sup> U.S. Dept. Agr., Agr. Adj. Admin., *Compilation of Soil Conservation and Domestic Allotment Act, as Amended, Agricultural Adjustment Act of 1938, as Amended, . . . Related Appropriation Items, and Miscellaneous Laws*, Jan. 2, 1942, pp. 26, 126-27, 131, 134, and 138.

<sup>3</sup> *Ibid.*, p. 138. See also below, p. 360, note 1.

<sup>4</sup> *Wheat Situation* (U.S. Dept. Agr., Bur. Agr. Econ.), February 1942, p. 12. According to another Bureau of Agricultural Economics release dated Feb. 26, 1942, farmers' cash income from marketings, CCC loans, and government payments totaled 11,771 million dollars in 1941—29 per cent above corresponding figures for 1940, 9 per cent above average cash income from marketings in 1924-29, and the largest total since 1920.



enlarged that much will be wasted, much lower prices are nevertheless uneconomically high. Wheat growers are liberally subsidized, heavy storage costs are borne by the government, and more subsidies are required to facilitate even limited exports and disposal for feed and industrial uses.

Economists and many wheat growers have recognized for years that the "parity price" of wheat is excessive, and that if the principle is retained the formula should be altered to result in lower "parities" for certain farm products. The serious consequences of undertaking to maintain returns to wheat growers on the current parity-price basis, or even higher, are now becoming evident to all but those who will not see them. Secretary Wickard publicly recognized these in his Oklahoma address of April 28, when he added, "We just can't keep on getting parity for all the wheat from 55 million acres." Reviving the old McNary-Haugen plan, he suggested that farmers begin thinking of maintaining parity returns only on as many acres—perhaps 40 million—as will be needed to supply our domestic needs for flour, letting any excess go at lower prices for other uses.<sup>1</sup>

#### WHEAT OPERATIONS OF THE CCC

The Commodity Credit Corporation continues by far the most important government agency directly affecting wheat marketing and prices in the United States. What is now termed the Agricultural Marketing Administration (AMA)<sup>2</sup> has continued to make purchases other than from the CCC; but its total operations in wheat and wheat products have been relatively small.<sup>3</sup> The Federal Crop Insurance Corporation this season is accepting farmers' notes for insurance premiums, and carrying negligible amounts of wheat reserves.<sup>4</sup> The Commodity Exchange Administration has taken no steps during the months under review. But the loan policy has brought large quantities of wheat under loan to the CCC, and much into its possession; and it has been struggling, under legal and political limitations, with the difficult tasks of dealing with these accumulations.<sup>5</sup>

Spokesmen for the farm program (the ninth anniversary of which was celebrated

on March 9) have pointed with pride to the huge stocks of wheat, corn, and cotton as tangible results of the "ever-normal-granary" policy that are invaluable in the war emergency. Though their size is partly fortuitous, and nothing in the record bears out the expression "ever-normal,"<sup>6</sup> it is clear that the stocks of basic commodities thus built up represent great potential assets now. They make it possible to employ more of the current agricultural efforts in meeting present or prospective shortages in or enlarged requirements for other foodstuffs, feedstuffs, and industrial fi-

<sup>1</sup> U.S. Dept. Agr., Press Release 2309-42.

<sup>2</sup> The new AMA (Roy F. Hendrickson, Administrator) was set up by an Executive Order of Feb. 23, 1942, making effective the reorganization announced by Secretary Wickard on Dec. 13, 1941. It combines the former Surplus Marketing Administration (established June 30, 1940, absorbing the Federal Surplus Commodities Corporation), and the two agencies next mentioned in the above paragraph. U.S. Dept. Agr., Press Release 2000-42, Mar. 14, 1942; and U.S. Information Service, *United States Government Manual, Spring 1942*, pp. 253-57.

<sup>3</sup> In the first year of the Department of Agriculture's expanded purchase program, ending Mar. 15, 1942, some 810 million dollars' worth of farm commodities were bought, largely for shipment under provisions of the Lend-Lease Act but also for the Red Cross, territorial programs, and domestic distribution to low-income families and for school lunches. See U.S. Dept. Agr., Press Release 2102-42, Mar. 30, 1942. As itemized below, wheat food products represented a little over 1 per cent of the total purchases and 8-9 million bushels of wheat:

Commodity	Million pounds	Thousand dollars
Wheat (CCC).....	59.9	992
White flour .....	268.4	6,608
Graham flour .....	29.4	611
Cracked wheat .....	22.0	447
Biscuits .....	3.7	373
Wheat meal .....	.5	12
Macaroni .....	.1	8
Total .....	384.0	9,051

Comparable details are not given in the President's *Report to Congress on Lend-Lease Operations for Year Ended March 11, 1942*, which contains useful information and documents.

<sup>4</sup> J. C. Clendenin, "Federal Crop Insurance in Operation," *WHEAT STUDIES*, March 1942, XVIII, 234-36, 266, 273.

<sup>5</sup> Cf. J. B. Hutson's address of Apr. 30 in *Modern Miller* (Chicago), May 2, 1942, pp. 20, 22.

<sup>6</sup> When the bill embodying this scheme was under consideration late in 1937, official spokesmen talked of minimum carryovers of 200 million bushels of wheat and 350 million of corn—at least double actual minimums in the previous 15 years. The stocks actually accumulated have run far above these figures.

bers and oils.<sup>1</sup> Wheat stocks in particular are so large as to permit, and even to make highly desirable, current diversion of substantial quantities to nonfood uses that would ordinarily be uneconomical. To such moves, however, political pressures have interposed more or less effective resistance. Secretary Wickard's radio address of May 15, "Let the Ever Normal Granary Help Win the War," was a cogent, courageous counterargument.<sup>2</sup>

As of July 1, 1941 the CCC owned nearly 180 million bushels of wheat, subject to growers' rights to share in any profit on its sale, and had loans outstanding on 6 million more resealed in farm storage. (Earlier data appear in Chart 2.) Some 365 million bushels additional had been put under loan by January 31, 1942, when this privilege expired. In all, 51 million bushels had been redeemed by April 30, and an additional 15.5 million (chiefly low-quality wheat) had been turned over to the CCC. Of its pooled stocks the CCC had sold only 71 million bushels. On May 5 the CCC sold, at loan rates plus accrued charges, 1.5 million bushels of warehoused wheat and took full title (subject to no pooling rights) to the remainder of 197 million. Loans were then outstanding on 100 million bushels of farm-stored 1941 wheat, which may be resealed, or redeemed at feed-wheat prices (not less than 93 cents per bushel), up to June 30.<sup>3</sup> Of the huge total stocks on April 1 (Table II), well

<sup>1</sup> New and enlarged goals of agricultural production were announced on Jan. 16, 1942. *Agricultural Situation* (U.S. Dept. Agr., Bur. Agr. Econ.), February 1942, pp. 2-3. Agricultural agencies are conducting a vigorous campaign under the slogan, "Food for Freedom."

<sup>2</sup> U.S. Dept. Agr., Press Release 2460-42.

<sup>3</sup> *Ibid.*, 2469-42, May 16, 1942 and 2494-42, May 20, 1942.

<sup>4</sup> This is essentially if not literally true; most of the loans are initially made, and carried for some time, by banks with the right of selling the farmers' notes to the CCC.

<sup>5</sup> See below, p. 346. Earlier, nearly 3 million bushels had been sold to the Federal Crop Insurance Corporation, whose premium collections on the 1941 crop (as on earlier crops) failed to cover the loss claims paid. Clendenin, *op. cit.*, p. 230.

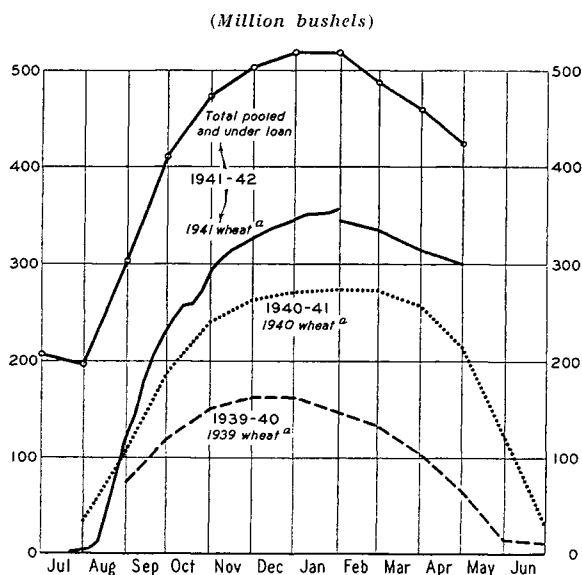
<sup>6</sup> U.S. Dept. Agr., Press Releases 1312-42, Dec. 16, 1941, and 1889-42, Mar. 2, 1942.

<sup>7</sup> Changed from 15 to 16 cents in mid-January, and to 17 cents in mid-February.

<sup>8</sup> U.S. Dept. Agr., Press Release 1545-42, Jan. 19, 1942.

over half was owned or loaned upon by the CCC.<sup>4</sup> By June 30, it is likely to have on hand 375-400 million bushels—some 60 per cent of the total carryover, as compared with 48 per cent of the much smaller carryover last year.

CHART 2.—NEW-CROP WHEAT UNDER CCC LOANS FROM AUGUST 1939, AND WHEAT POOLED AND UNDER LOAN FROM AUGUST 1941\*



\* Loan data from weekly press releases of the U.S. Department of Agriculture (1941-42) and monthly statements of the CCC (1939-40, 1940-41, and "total" for 1941-42). Data given in text reflect revisions as well as additions, but are still termed "preliminary."

<sup>a</sup> Wheat of designated crop under loan. The gap on Jan. 31, 1942 represents the difference between the currently reported gross total of loans and the loans then outstanding.

In recent months the CCC has used several new channels for disposal of its pooled stocks, in addition to very limited sales for export and lend-lease shipments.<sup>5</sup>

(1) Under a program first announced on December 16, 1941 and suspended after March 14,<sup>6</sup> sales were made to the domestic grain trade at prices 15-17 cents above loan rates,<sup>7</sup> to a total of 24.5 million bushels up to April 25. This was mostly 1940 wheat, on which prices realized netted a "profit" over original advances plus accrued charges. While this program was in effect, these offering prices set virtual ceilings on cash prices in the various markets (p. 348).

(2) Under a program announced on January 19,<sup>8</sup> wheat sales have been made to feed-

ers at prices fairly comparable (in feeding equivalent) with local corn values, at substantial discounts under market prices for good milling wheat. These, totaling 25 million bushels to April 25, served to relieve regional feed shortages (mostly in the Northeastern and Pacific Coast states) and to limit the extent of price advances in feed grains.

The need for using surplus wheat stocks continues urgent in connection with the great task of expanding the outturn of animal products, in order to meet consumption demands as workers have more income to spend, to feed our own people better, and to provide concentrated protein foods for shipment to beleaguered Britain and elsewhere. Knowledge of the values of wheat as feed, and techniques of so using it, have been much enlarged in the past decade,<sup>1</sup> thus rendering such diversion practicable on an increasing scale. But the wheat prices maintained by current policy restrict such use, and fears of further restrictive legislation<sup>2</sup> have limited the price concessions which the CCC has felt able to make in sales for feed from its own large stocks. If the country is to reap the benefit of its grain reserves, it must use them instead of hoarding them, and use much of them for feed.

(3) On January 27 it was officially announced that the CCC would sell wheat for production of ethyl alcohol, acetone, and butyl alcohol at prices of 80-91 cents per bushel delivered to processors, depending on conversion costs and subject to adjustment for changes in

the price of ethyl alcohol. This followed an earlier announcement of a similar plan for sale of corn, and the prices named were comparable to the corn prices specified.<sup>3</sup> By early May some 7½ million bushels of corn had been sold for this purpose, and about 1 million bushels of wheat. Processors were less familiar with using wheat, and required price inducements to substitute it for corn. This program, and prospects for its expansion, have contributed to reducing from 1,200,000 Spanish tons (of 2,272 U.S. pounds) to 400,000 tons the estimates of Cuban sugar to be sacrificed in sugar-cane diversion to high-test molasses for industrial alcohol.

Wheat and flour have long been put to a number of minor industrial uses. Largely for reasons of prices and costs, however, these have absorbed a negligible fraction of the supply. Recent shortages of other materials have led to intensified research on still other means of utilizing surplus grain. Conversion of wheat into a rubber substitute is now proposed as a way of relieving the acute shortage of rubber. Secretary of Agriculture Wickard recently urged that serious consideration be promptly given to using some 80 million bushels of surplus corn and wheat to produce, via 95 per cent ethyl alcohol, some 240,000 tons of butadiene for synthetic rubber,<sup>4</sup> and early action is expected.

CCC sales for export, up to April 25, totaled 18.2 million bushels, of which 1 million was for lend-lease shipment to the USSR,<sup>5</sup> 6.7 million for export as flour,<sup>6</sup> and 10.5 million for export as grain. Net exports from the United States in July-September 1941, including flour shipments to possessions, totaled 7 million bushels.<sup>7</sup> Data for subsequent months have not been released. With the closing of most Pacific outlets early in 1942, the tight shipping position in the Atlantic, and Canadian grain better placed and better priced for export to Europe, United States net exports for the year July-June seem unlikely to exceed 20 million bushels.

Foreseeing the coming storage crisis (p. 361), the CCC has repeatedly warned farmers to make definite plans "for increased storage on the farms for all new crops." To facilitate such construction, it announced on

<sup>1</sup> Cf. Ore. Agr. Exp. Sta., *Surplus Wheat Feeding Experiments* (Station Circ. 137, November 1940).

<sup>2</sup> Prohibition of such sales below parity prices was embodied in S. 2255, which passed the Senate on Feb. 25, and in certain provisions of the Agricultural Appropriation Bill, H.R. 6709, which passed the House on Mar. 13.

<sup>3</sup> U.S. Dept. Agr., Press Releases 1526-42, Jan. 15, 1942, and 1623-42, Jan. 27, 1942; *Wheat Situation*, February 1942, p. 5.

<sup>4</sup> U.S. Dept. Agr., Press Release 2414-42, May 8, 1942.

<sup>5</sup> To obtain this amount, as well as wheat for sale as feed, the CCC exercised its option to call some of its loans in the Pacific Northwest. *Southwestern Miller*, Feb. 17, 1942, p. 25.

<sup>6</sup> Of no current practical consequence for wheat or flour is the OPA order, effective Apr. 30, 1942, under which export prices may exceed maximum domestic prices only by certain specified normal export premiums.

<sup>7</sup> WHEAT STUDIES, January 1942, XVIII, 225.

March 2 that storage payments of 7 cents per bushel would be advanced on 1942 wheat put under loan.<sup>1</sup> Studies of Canadian and American storage experience led to the evolution of improved designs for cheap and effective structures, and some results may be expected. But in early May it appeared that army priorities on lumber and transportation, and even shortages of nails, would so limit new construction that millions of bushels of new wheat will have to be piled on the ground. On May 15 it was announced that the CCC would buy bins (chiefly of lumber) to store up to 100 million bushels of wheat, in addition to moving empty corn bins from Iowa to Kansas.<sup>2</sup>

### MARKET PRICES IN THE UNITED STATES

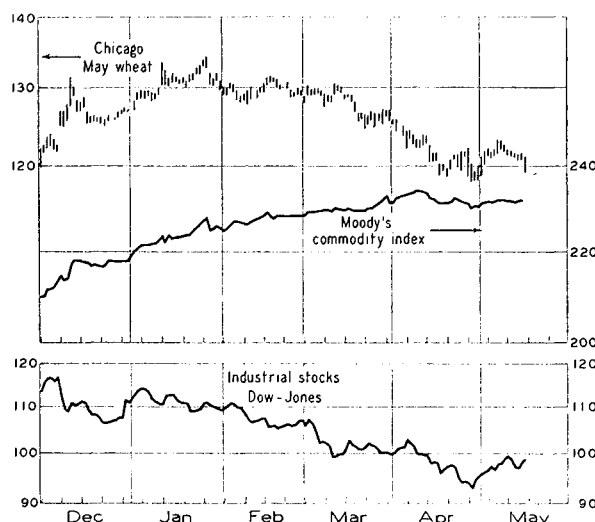
Outside the United States, in general, government controls over wheat marketing and prices have been so tight that the course of market prices calls for no discussion; and the few price facts worthy of note can be incidentally mentioned in other connections.<sup>3</sup> In this country, however, the price policy allowed considerable play of market forces, and price movements and relationships merit brief consideration.

Wheat prices declined from late January to late April—in terms of the May future at Chicago (Chart 3) from a high of \$1.34 on January 27 to a low of \$1.18 near the end of April, when CCC loans matured.<sup>4</sup> This decline more than canceled advances in the seven weeks following the Pearl Harbor attack, carrying the May future 3 per cent below its closing price on December 6. By contrast, wholesale commodity prices displayed persistent strength, and industrial stocks prices persistent weakness. Between December 6 and April 30 the Moody index of sensitive commodity prices showed a net rise of 8 per cent and the Dow-Jones index a net de-

cline of 18 per cent. The announcement of new, higher loan rates on May 1, and the favorable referendum vote on May 2 (p. 360), presumably contributed to a shortlived recovery in wheat prices. But the May future closed out on May 21 at \$1.17 $\frac{3}{4}$ , 4 $\frac{1}{8}$  cents below the closing price of December 6; and prices in the four days ending May 21 were very similar to those of the last four days of April, the low point of the five months here under review.

CHART 3.—CHICAGO MAY WHEAT PRICES, AND INDEX NUMBERS OF PRICES OF SENSITIVE COMMODITIES AND STOCKS, DAILY FROM DECEMBER 1940\*

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



\* High and low prices of the Chicago future; index of closing prices of 15 sensitive commodities, base December 1931 = 100, compiled by Moody's Investors Service; index of closing prices of 30 industrial stocks, compiled by Dow-Jones News Service. The scales represent a change of 10 per cent in stocks prices by the same vertical distance as a change of 5 per cent in either the wheat price or the Moody index. The last figures plotted are for May 16.

Governmental policies, utterances, and actions—actual or anticipated—dominated wheat markets throughout these months, contributing to speculative holding by farmers; but as the season advanced the impending storage crisis became an increasingly important depressing influence. The initial break on January 28 followed Secretary Wickard's statement that recent increases in corn prices were not justified, and that the Department of Agriculture would use every means at its disposal to maintain reasonable prices for feed. Prices of corn and rye

<sup>1</sup> U.S. Dept. Agr., Press Release 1889-42, Mar. 2, 1942.

<sup>2</sup> U.S. Dept. Agr., Press Release 2465-42, May 15, 1942; *Southwestern Miller*, May 19, 1942, p. 24.

<sup>3</sup> See below, pp. 350-51, 360.

<sup>4</sup> The corresponding decline in daily closing prices was 14.6 cents per bushel (Chart 5, p. 350), and in weekly average closing prices 13 cents—from \$1.32 in the week ending Jan. 31 to \$1.19 in the week ending May 2 (Table VI).

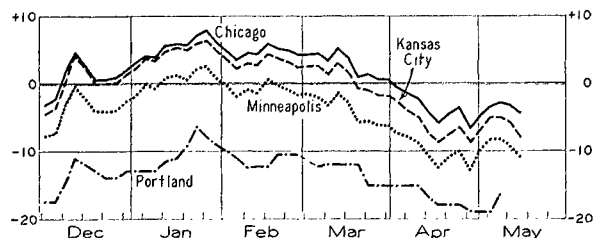
promptly fell by the full 5-cent limit imposed on daily price changes (though both recovered somewhat before the close), and soybeans and wheat sharply also.<sup>1</sup> Subsequently, CCC sales of wheat for feed had some effect on corn prices and on wheat prices in turn. But prices were artificially high, and the persistent weakness was due less to selling pressure than to lack of buying of substantial character.

In order to encourage redemptions of wheat under loan, three principal steps were taken by the CCC, with only indifferent success.

(1) On February 15, the offering price of its wheat for general domestic use (and thus the effective ceiling) was raised by 1 cent per bushel, to 17 cents above the applicable loan rate. This action exerted temporary bullish influence, but market prices remained generally below these levels.

(2) On March 14, domestic sales (except for feed and alcohol) were suspended so that the CCC would not compete with farmers seeking to sell pledged wheat to repay their loans before the deadline of April 30. By this time, however, opportunities for profitable liquidation of such loans had all but disappeared, and further price declines soon made it impossible for borrowers to realize the loan rate plus accrued costs, as shown for four markets in Chart 4. The accompanying

CHART 4.—SPREADS OF MAY FUTURES PRICES FROM  
LOAN RATES PLUS COSTS, IN FOUR MARKETS,  
DECEMBER–MAY 1941–42\*  
(Cents per bushel)



\* Computed from loan rates plus 10 cents per bushel, and Tuesday and Friday closing quotations from *Daily Trade Bulletin* (Chicago) and *Commercial Review* (Portland, Ore.).

table shows in broad summary, for a few selected wheats and markets, the change that took place between March and April. Market prices were farthest below loan rates plus

costs in the Pacific Northwest, where curtailment of export outlets was most severe.

#### PRICE COMPARISONS IN FOUR MARKETS, MARCH–APRIL 1942

(Cents per bushel)

Wheat and market	Loan rate plus costs of 10 cents per bu.	Av. cash prices <sup>a</sup>		Difference	
		March	April	March	April
No. 2 Hard Winter, Chicago..	125	127.0	120.4	+ 2.0	— 4.6
No. 2 Hard Winter, Kans. City	120	121.0	114.6	+ 1.0	— 5.4
No. 1 Dk. Nor. Spr., Mpls.....	125	123.7	119.1	— 1.3	— 5.9
No. 1 Soft White, Portland .....	115	101.0	98.0	—14.0	—17.0

<sup>a</sup> Computations of Bureau of Agricultural Economics.

(3) Finally, on March 2, the CCC gave notice that the pooling privilege would not attach to grains acquired by it on loans that might be defaulted on April 30.<sup>2</sup> Some producers might have exercised this privilege even where prices were high enough to enable them to redeem their wheat without loss, expecting later to receive pool profits on the wheat which the CCC would thus carry for them. Some others redeemed their wheat even at small losses, for various reasons, among them the desire to hold their own wheat for a rise.<sup>3</sup>

Loan redemptions appear small in view of the profitability of such action in most markets prior to mid-March. The potential profit was often several cents per bushel, as suggested by Chart 4, and in some markets even higher. In some sections, indeed, redemption of farm-stored wheat continued profitable through April. Further redemptions, however, may continue through June (p. 345).

Transportation conditions and wartime regulations are having increasing influence on grain movements and spreads between farm and market prices. The Interstate Commerce Commission gave notice on March 2 of rate increases to water and rail carriers. Effective March 18, railway tariffs were raised by 3 per

<sup>1</sup> WHEAT STUDIES, January 1942, XVIII, 198.

<sup>2</sup> U.S. Dept. Agr., Press Release 1889–42.

<sup>3</sup> See *Chicago Journal of Commerce*, Apr. 6, 1942, p. 11.

cent on "basic or raw" materials including wheat, wheat products, other grains, and feeds, and 6 per cent on other commodities.<sup>1</sup> On March 31 the Chicago Board of Trade suspended the privilege of track deliveries, ordinarily permitted in the final three days of a futures-delivery month, to prevent using freight cars for grain storage.<sup>2</sup> Navigation on the Great Lakes and the St. Lawrence opened unprecedentedly early this year; but the director of the Office of Defense Transportation (Joseph B. Eastman) issued orders effective May 15 prohibiting, except under special permit, Great Lakes grain movement in any American vessels capable of carrying iron

ore.<sup>3</sup> A drastic permit system is now being instituted to control railway shipments of new-crop grain.

#### OTHER WHEAT-EXPORTING COUNTRIES

Canada continues by all odds the outstanding exporter of wheat and flour, shipping predominantly to the United Kingdom. Overseas clearances plus exports to the United States<sup>4</sup> have run as follows, in million bushels:

Month	Wheat	Flour	Total	Month	Wheat	Flour	Total
Aug. . . .	13.9	6.5	20.4	Dec. . . .	15.9	4.2	20.1
Sept. . . .	12.7	3.0	15.7	Jan. . . .	14.8	3.4	18.2
Oct. . . .	11.9	2.0	13.9	Feb. . . .	10.8	4.8	15.6
Nov. . . .	14.6	2.6	17.2	Mar. . . .	14.9	4.0	18.9
<hr/>				<hr/>			
Total	53.1	14.1	67.2	Total	56.4	16.4	72.8

<sup>1</sup> *Northwestern Miller* (Minneapolis), Mar. 11, 1942, p. 10.

<sup>2</sup> *Southwestern Miller*, Apr. 7, 1942, p. 23. See also *ibid.*, Apr. 28, 1942, p. 23, May 5, 1942, p. 26B; *The Hook-Up* (Millers' National Federation, Chicago), May 7, 1942.

<sup>3</sup> *Chicago Journal of Commerce*, May 8, p. 1, May 9, pp. 1, 14-15.

<sup>4</sup> Chiefly for milling in bond. Canada was the chief source affected by the United States import-quota system established by the Presidential proclamation of May 28, 1941, under which only 800,000 bushels of wheat and 4 million pounds of flour (fit for human consumption) might be imported into the United States in the ensuing 12 months (*Federal Register*, June 3, 1941, p. 2673). The Canadian wheat quota was filled by late September, and the flour quota subsequently. Another Presidential proclamation on April 13, 1942 suspended the provisions so far as to permit, under appropriate safeguards, three classes of imports: (1) "for use by research or scientific organizations or by milling or baking laboratories for testing, experimental research, or other scientific purposes"; (2) "certified or registered seed wheat for use for seeding and crop-improvement purposes"; and (3) "distress diversions of wheat and wheat flour" (*Federal Register*, Apr. 16, 1942, pp. 2825-26). In the first two categories at least, the volume will be relatively insignificant.

<sup>5</sup> See *Monthly Review of the Wheat Situation* (Canada Dominion Bur. Stat., Ottawa), Apr. 25, 1942, p. 28. Monthly trade data for other countries have become so scarce that the appendix table hitherto carried is omitted from this "Survey."

<sup>6</sup> *London Grain, Seed and Oil Reporter*, Apr. 16, 1942, p. 377. According to the *Modern Miller* (Chicago), May 9, 1942, p. 25, "Russia continues to secure liberal quantities . . ."

<sup>7</sup> Canada Dominion Bur. Stat., *Crop Report No. 29*, Apr. 15, 1942, and *Canadian Coarse Grains, Quarterly Review* (Canada, Dominion Bur. Stat., Ottawa), Feb. 10, 1942, pp. 1-3.

<sup>8</sup> *WHEAT STUDIES*, January 1942, XVIII, 194, 224. Neither chart nor table merits the space required for inclusion in the present "Survey."

The eight months' total was 30.6 million bushels larger, and the flour exports included one-third larger, than in the corresponding period of the season 1940-41.<sup>5</sup> The British are now importing Canadian white flour of about 75 per cent extraction, fortified with thiamine, for security stocks.<sup>6</sup> A record volume of 59 million bushels of wheat is expected to be fed to Canadian livestock and poultry this year—in part because of short crops of oats and barley (as well as wheat) in Ontario in 1941.<sup>7</sup> Current feed use would be still larger if farmers generally realized the advantages of it and changed their feeding practices accordingly.

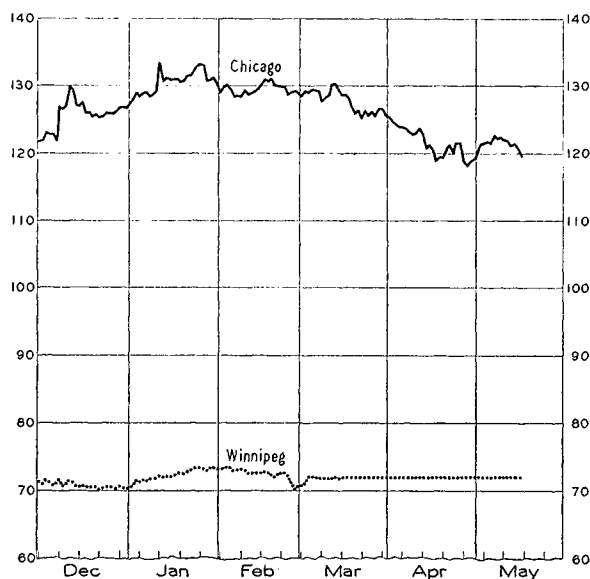
The Canadian visible supply reached an all-time peak of 492 million bushels late in December 1941, slightly above the high point of the preceding January. By May 16, 1942 it had fallen to 404 million, whereas last year the visible supply ranged close to 450 million bushels for five months from early April 1941.<sup>8</sup> Total stocks of Canadian grain in North America on March 31, 1942 were reported as 549 million bushels, a reduction of 103.6 million from the same date in 1941 (Table II). There is good prospect that the corresponding figure for July 31 will be nearly as much below last year's record total of 480 million.

Wheat prices in Canada have continued to move within narrow limits, under the influence of government policy applied through the Canadian Wheat Board (CWB) far below prices in the United States (Chart 5). Since

August 1941, daily closing prices of the May future have ranged between 69 and 75 United States cents per bushel, and other futures and cash prices have fluctuated in close relation to it. When the new modifications in wheat policy, including higher prices for the 1942 crop, were announced (three weeks before their approval on March 27), the CWB took

CHART 5.—MAY WHEAT FUTURES PRICES, CHICAGO AND WINNIPEG, DAILY FROM DECEMBER 1941\*

(U.S. cents per bushel)



\* Closing prices from *Daily Trade Bulletin* (Chicago) and *Grain Trade News* (Winnipeg). Futures trading was prohibited at Buenos Aires Nov. 15, 1941. See Table VI for board buying prices in Argentina.

steps to insure against profitable speculation in futures. The Winnipeg Grain Exchange suspended operations for about an hour on March 6, and the chief commissioner of the CWB notified the grain trade that open wheat futures were to be adjusted to the newly authorized levels or to be cleared on or before July 31. Closing prices on March 5, the day the bills embodying the new program were introduced, were taken as the controlling prices: these were 79¼ Canadian cents for the May future and 80⅞ cents for the July.<sup>1</sup>

An Order-in-Council issued March 9 (P.C. 1803) gave the board necessary powers with respect to cash wheat and futures. Plans are now being made to transfer the cash wheat to the new price level. In general, holders of

hedged cash wheat may either turn the wheat over to the CWB or transfer their hedges to the October future, paying the difference to the board. The CWB stated that it will continue to sell wheat to domestic users "at a price which conforms to the spirit and intention of the maximum prices regulations and is an appropriate price in relation to the domestic selling prices of goods made from wheat . . ."<sup>2</sup>

Under the new legislation,<sup>3</sup> four major changes were made in the wheat program, in response to pressure from western farmers: (1) an increase of 20 Canadian cents per bushel in the minimum price of wheat, to 90 cents for 1942-crop No. 1 Northern at Fort William-Port Arthur or Vancouver—equivalent to about 81.8 United States cents, and implying an average farm price of about 73 Canadian cents or 66-67 United States cents;<sup>4</sup> (2) an increase in the limit on deliveries to the CWB to 280 million bushels from Western Canada,<sup>5</sup> as compared with the unattained quota of 223 million bushels in 1941-42; (3) changes in acreage bonuses, which amounted to some \$30,000,000 (out of total assistance payments of \$60,000,000) in 1941-42;<sup>6</sup> and (4) removal of the 80-cent price limitation in the Prairie Farm Assistance Act which would have made portions of that act inoperative under the new minimum price.

Australian wheat and flour exports have undoubtedly been reduced to small proportions (data are not published) by the extension and intensification of war at sea, the loss of various Pacific markets, and the increased shipping shortage of recent months. Though the 1940 crop was unusually small, and that of 1941 of only moderate size, we anticipate

<sup>1</sup> Canadian Wheat Board, *Circular 99*, Apr. 2, 1942; *Southwestern Miller*, Apr. 7, 1942, p. 25.

<sup>2</sup> *Monthly Review of the Wheat Situation*, Mar. 27, 1942, p. 15.

<sup>3</sup> An Act to amend the Prairie Farm Assistance Act, 1939, An Act to amend the Canadian Wheat Board Act, 1935, and an Act respecting Wheat Acreage Reduction.

<sup>4</sup> *Wheat Situation*, March-April 1942, p. 13.

<sup>5</sup> Eastern marketings will not be limited, since soft wheat is in large demand for milling.

<sup>6</sup> *Winnipeg Free Press*, Mar. 10, 1942, p. 11, and Mar. 11, 1942, p. 15; *Monthly Review of the Wheat Situation*, Mar. 27, 1942, p. 14.

that August 1 stocks may be nearly equal to the last harvest (Table V). The Commonwealth government is subsidizing the diversion of f.a.q. wheat held by the Australian Wheat Board (AWB) to feeders, especially pig and poultry farmers, and in South and Western Australia subgrade and damaged wheat will be made available at reduced prices as well.<sup>1</sup>

As hitherto during the war, all but a limited amount of exempt wheat has to be delivered to the AWB, and delivery was virtually completed some weeks ago. On the 1940 crop, on which there was no guaranteed return, the average payment up to early February 1942 was 3s. 4½d. per bushel on bulk wheat, and 2d. more for bagged, both less freight charges;<sup>2</sup> and a small further payment is expected to be made. On the 1941 crop, the government guaranteed an inclusive price of 3s. 10d. per bushel f.o.b. ports, equivalent to a farm price of about 3s. (about 62 U.S. cents). Up to early February an initial advance of 3s. (bagged) less railage had been paid, netting the grower about 2s. 7d.

Before seeding of the 1941 crop began, wheat growers were notified through the press that they were not permitted to sow an acreage larger than their average in the three preceding seasons. Later, individual licenses were issued, and enforcement of the specified restrictions was entrusted to honorary advisory committees set up in the various districts. For the time being, those found to have planted excess acreage were penalized by withholding payments for their wheat.

<sup>1</sup> *The Land* (Sydney, N.S.W.), Mar. 27, 1942, p. 2.

<sup>2</sup> Information from the Australian Wheat Board. Slightly different figures appear in *Monthly Summary of the Wheat Situation in Australia* (Australia Commonwealth Bur. Census and Stat., Canberra), November 1941, p. 4.

<sup>3</sup> *Primary Producer* (Perth, W.A.), Mar. 26, 1942, p. 1.

<sup>4</sup> Cf. *Times of Argentina* (Buenos Aires), Feb. 16, 1942, p. 21, Mar. 16, 1942, p. 20; *Boletín Informativo* (Comisión Nacional de Granos y Elevadores, Buenos Aires), Jan. 15, 1942, pp. 15, 18, Mar. 15, 1942, p. 108; *Corn Trade News* (Liverpool), Mar. 11, 1942, p. 103; *Commercial Intelligence Journal* (Canada Dept. Trade and Comm., Ottawa), Apr. 11, 1942, pp. 366-72; and *The Situation in Argentina* (First National Bank of Boston), Apr. 27, 1942.

But this year, licenses are to be withheld from some 3,000 of these growers.<sup>3</sup>

The current Argentine crop, according to the third official estimate released May 21, is 224 million bushels. Producers have been permitted to sell only to the Grain Regulating Board (GRB), at the fixed price of 6.75 pesos per quintal (about 55 U.S. cents per bushel) delivered at Buenos Aires, or about 5 pesos at the farm, with no premiums for deferred delivery. From December 9, when deliveries started, up to April 6, 1942, the GRB is understood to have acquired 130-150 million bushels. Storage congestion is acute because of backed-up stocks of pre-1941 wheat and linseed, still larger stocks of 1941 corn, and the recent harvest of another large corn crop only about 10 per cent smaller than the bumper crops of 1940 and 1941. The 1941 wheat is reported of excellent quality, much superior to the larger 1940 crop, and will store well. A decree of November 28, 1941 forbade millers to use new-crop wheat through November 1942, but this was slightly relaxed on March 5, 1942. The GRB has been selling mostly old-crop wheat, for domestic use at 9 pesos per quintal and for export at 6.90 pesos.<sup>4</sup>

As in the two preceding years, Argentine export shipments of wheat failed to show the normal December-February rise, but continued well below 2 million bushels per week (Table IV). Of the 25 million exported in December-March, about 12 million went to Brazil, 4 million to the United Kingdom, and 4 million or more to Spain. Net exports in August-March apparently totaled about 50 million, within 5 million as much as in the corresponding period of 1940-41. August 1 stocks, as in Australia, bid fair to approach or equal the 1941 crop. The Argentine surplus of maize is very much larger. Ordinary domestic use and wartime exports are much smaller for maize than for wheat, and increasing use of maize for fuel has not sufficed to prevent accumulations.

Minor movements of seaborne grain include shipments from French North Africa to France, relief shipments (or transshipments) to Greece from Turkey, Palestine, and Italy and of Swiss-owned grain in Lisbon,



shipments from Germany to Finland and Norway, and probably some from the Danube basin to Belgium. Shipments to expeditionary forces account for a moderate volume. On most of these movements and/or overland shipments within Continental Europe no quantitative information is available.

In view of the shrinkage in published statistics and other information, we have no adequate basis for arriving at fresh estimates of the total volume of international trade in recent and coming months. Our January forecast of world net exports of 400-425 million bushels for the crop year 1941-42, the smallest since 1896-97, still appears a reasonable guesstimate.

#### RECENT NUTRITIONAL DEVELOPMENTS

Moves with important nutritional significance have recently been made with respect to types of flour and bread in the United States, Canada, and the United Kingdom.

In the United States, the movement for enriching white bread and flour with thiamine, niacin, and iron<sup>1</sup> has been making good headway, with strong encouragement from nutrition authorities, a "directive" of February 11 requiring enriched bread flour exclusively to be purchased for the army,<sup>2</sup> and increasingly vigorous co-operation from the milling and baking industries.<sup>3</sup> No highly reliable basis for quantitative estimates exists.<sup>4</sup> Yet there are indications that bakery sales of enriched bread have risen from something like 35 per cent of the total late in 1941, to over 50 per cent by May 1, 1942. Typically such bread is made of ordinary flour, and enrichment is effected at the bakery, most commonly by the use of special high-potency yeasts and addition of iron salts (enriching concentrates are also available).

Enrichment of flours for family use (typically by admixture of synthetic vitamins) became fairly general during 1941 in the higher-grade flours, but was much more limited in privately branded and cheaper flours, which are purchased most extensively by low-income groups whose diets may be more deficient in the enriching elements. In all, possibly a third of all family flour was being enriched by the end of 1941, and four months

later this may have risen to less than one-half. On April 30, however, the Millers' National Federation unanimously passed a resolution recommending that the industry adopt the policy of enriching *all* family flour,<sup>5</sup> and a liberal response is anticipated. In April also, the largest chain-store organization decided to enrich its lowest-priced family flour. Such developments have been facilitated by reductions in the price of thiamine, the most expensive enriching component. In mid-January the price per gram in 100-gram lots was reduced from 65 cents to 53 cents, and in late April to 48 cents.<sup>6</sup>

The South Carolina legislature passed on March 14 a law making compulsory, from August 1, 1942, enrichment of all commercial flour and bread sold in the state, according to the provisional standards accepted in

<sup>1</sup> See A. E. Taylor, "Why Enrichment of Flour?" *WHEAT STUDIES*, November 1941, XVIII, 77-108; and J. S. Davis, *Vitamin Enrichment and Fortification of Foods* (Food Research Institute, Contribution 110, Stanford University, Calif., 1941).

"Niacin" is the approved synonym for nicotinic acid. Continued insufficiency of supplies of riboflavin has forced successive postponements of the date (now scheduled for Apr. 20, 1943) at which its inclusion is to be mandatory. On Mar. 18, 1942 the Millers' National Federation had vainly petitioned for the repeal of the riboflavin provision in official definitions of enriched flour, and offered to present evidence that "the riboflavin content of wheat is lower" than earlier studies indicated, and that "the nutritional importance of riboflavin to flour is far less than was formerly believed by nutritionists . . ." Cf. *Southwestern Miller*, Mar. 24, 1942, p. 23.

<sup>2</sup> *Southwestern Miller*, Feb. 17, 1942, p. 23, and C. S. Robinson, "Army Flour Requirements and Purchase Procedure," *Bulletin—Association of Operative Millers* (Chicago), May 1942, p. 3189.

<sup>3</sup> See important addresses, discussion, and resolution adopted at the recent annual meeting of the Millers' National Federation, reported in the milling journals published in the first week of May; and the subsequent resolution of the Food and Nutrition Board of the National Research Council in *Northwestern Miller*, May 20, 1942, p. 9.

<sup>4</sup> The best available summary is given in a valuable paper by R. R. Williams, "The Road Ahead for Enrichment," *ibid.*, May 6, 1942, pp. 38-39, 51.

<sup>5</sup> *Southwestern Miller*, May 5, 1942, p. 24.

<sup>6</sup> *Ibid.*, Apr. 28, 1942, p. 25. The Millers' National Federation has recommended the use of a differential on enriched over unenriched flour of the same brand, fairly reflecting the cost of enrichment. Early in May the recommended differential was reduced from 30 cents per barrel to 25. *The Hook-Up*, May 4, 1942.

Washington and subject to change as these may be changed. Similar moves are under consideration in other southern states. Federal action of this sort has been discussed in some quarters, but would require either specific legislation or an executive order effective during the war.

With enriched milling products now included among the "protective foods," the increase in energy requirements due to general and intensive wartime activity, the abundance of wheat here now as compared with 1917-18, and restrictions coming into effect on sugar consumption, there are prospects for some enlargement of per capita food consumption of wheat in the United States.<sup>1</sup> However, we have thus far no indication that the figure for the current year will be higher than in several years past.<sup>2</sup>

In Canada, under the influence of the medical profession and the Dominion Department of Health, a very different policy has been adopted. Intensive scientific and technological research has been conducted over a period of years with the object of producing acceptable

types of flour and bread rich in the vitamin B complex. An Order-in-Council issued on January 22, 1942 defined two types each of flour and bread that may legally be labeled "Canada Approved," effective April 1 and 15 respectively.<sup>3</sup> The new Vitamin B White Flour (Canada Approved) must have a natural thiamine content of 400 international units per pound, with a tolerance of 10 per cent, "with the other members of the Vitamin B complex in quantities associated with this amount of Vitamin B<sub>1</sub> in the wheat from which the flour was produced." In practice it is typically milled to about 75 per cent extraction, but additions of concentrates from the "streams" excluded raises the total to 78-79 per cent of the wheat.<sup>4</sup> The new Vitamin B White Bread must be made from this flour and carry a minimum of 4 per cent skim-milk solids. These two products are officially said to be, "to all but the most technically trained observer, indistinguishable in appearance from ordinary white flour and white bread";<sup>5</sup> but American cereal chemists are less laudatory. The new Vitamin B Flour (extraction 96-97 per cent), and Vitamin B Bread made with it, are dark products richer in the vitamin B complex; and they are officially said to stand in much the same relationship to what the Canadian public has known as brown bread. Ordinary white flour and bread may be sold as heretofore, except that the Order-in-Council defines these products in such a way as to prohibit as "adulterants" the use of synthetic vitamins in the manufacture of flour and bread—a procedure which is said to have been employed in less than 1 per cent of Canadian bakery products.

Primarily to economize shipping, white flour and white bread are being eliminated from British diets, as they were in World War I.<sup>6</sup> On March 11, 1942, the Ministry of Food announced that from April 6 no baker may produce white bread, and from April 20 no white cake, biscuits, and similar products.<sup>7</sup> From March 23, the milling of standard white flour has been prohibited, and millers are allowed to produce only National Wheatmeal flour, newly defined by the recent order, or other flour also with a minimum extraction of 85 per cent. The new standard flour has

<sup>1</sup> For an optimistic appraisal of the potentialities, see G. C. Thomas' address before the Millers' National Federation, in *Southwestern Miller*, May 5, 1942, pp. 19, 39.

<sup>2</sup> See Table III, and WHEAT STUDIES, December 1941, XVIII, 187.

<sup>3</sup> P.C. 489, superseding Order-in-Council P.C. 9616 issued Dec. 10, 1941, which was to have become effective Feb. 1, 1942.

<sup>4</sup> See L. H. Newman, "Retention of Vitamins in Flour and Bread," *Journal of the American Society of Agronomy*, February 1942, XXXIV, 109-16. On the milling process, see the article by J. I. Chamberlain of the Maple Leaf Milling Co., in *Food for Canada*, March 1942.

<sup>5</sup> See the letter of Apr. 17 from Hon. Ian Mackenzie, Minister of Pensions and National Health, to the *Montreal Gazette*, reprinted in *Northwestern Miller*, Apr. 29, 1942, p. 36.

<sup>6</sup> The war bread introduced at the end of November 1916 was made of flour of about 76 per cent extraction, a little higher than the standard flour of the past year and more. The extraction rate was gradually raised to a peak of about 92 per cent in March-April 1918, and shortage of supplies also enforced admixture with other materials. See J. C. Drummond and Anne Wilbraham, *The Englishman's Food* (London, 1939), pp. 520, 526; and W. H. Beveridge, *British Food Control* (London, 1928), pp. 95-112, 375.

<sup>7</sup> *London Grain, Seed and Oil Reporter*, Mar. 6, 1942, p. 238, and Mar. 13, 1942, p. 264; *Southwestern Miller*, Apr. 7, 1942, p. 19.

been improved with the aid of much research, and most British scientific authorities regard it as nutritionally superior, for their diet, to the standard white flour fortified with thiamine (the British term is "aneurin"), which since June 1941 had been gradually displacing unfortified white flour. Under the stimulus of government-sponsored publicity campaigns, the consumption of National Wheatmeal rose for a time to about 7 per cent of the total flour milled, but sales subsequently declined to about 4 per cent. For a transitional period, while ordinary stocks of standard white flour last (see p. 349), the standard bread will be National Wheatmeal Bread, newly defined with a flour content of at least 75 per cent of National Wheatmeal; but specialty breads will be permitted with a flour content of at least 75 per cent of flour of not less than 85 per cent extraction.

#### NEUTRAL AND AXIS-DOMINATED EUROPE<sup>1</sup>

In Europe outside the United Kingdom, the current position and policy in respect to wheat, flour, and bread differ greatly from country to country. Varying degrees of shortage and scarcity coexist. In general, the position this spring is worse than it was a year ago, as the ration table on page 355 suggests.

**Neutrals.**—Little Eire is paying a price for her neutrality. Until a decade ago she imported almost all of the 20-odd million bushels of wheat she used. Acreage and production were then so rapidly expanded under official stimuli that home-grown wheat now covers about half of her usual requirements. Under war conditions various measures, including high extraction rates for flour, have been adopted to reduce total and especially import requirements. Even so, these are increasingly hard to fill. The 1941 crop proved disappointing. Yet with a merchant fleet of only 12 vessels owned and under charter, imports of but 40,000 tons (1.48 million bushels) of wheat were reported obtained through December, and additions through May may be scarcely

more. In mid-February, it was officially estimated that supplies from domestic production and imports would fall short of the season's requirements by 100,000 tons. To meet this critical situation, the minimum legal extraction rate for wheat was raised from 95 to 100 per cent; mill deliveries of flour were ordered reduced to 80 per cent of corresponding deliveries in 1940; and it was decided to ration bread. Three million ration books were scheduled for distribution by May 1.<sup>2</sup>

The four Continental European neutrals made no significant changes in their bread-distributing systems during January–April, and all have continued to get some imports of wheat from overseas (chiefly Canada and Argentina), but the extension and intensification of the war have reduced the amount of neutral tonnage effectively available for grain shipments to them.

Portugal continues nearly self-sufficient in grains, and her bread supply and consumption most nearly like the prewar.

The Swiss and Swedish bread positions have deteriorated since January, and in both countries the general food situation has worsened during the past year. In Switzerland, the War Food Office has appealed to the public to cut down on consumption of bread, and specifically not to eat bread at meals at which potatoes, rice, spaghetti, peas, or beans were served. Behind this appeal was the tacit threat to ration bread if consumption should continue at the current high level.

In Sweden, the "normal" ration for soft bread and bakery products was maintained at slightly over half a pound a day, with heavy workers granted somewhat larger quantities. Confronted with evident shortage of bread-grain supplies, the Swedish government chose to increase the required admixture of barley and potato flour in bread flour rather than to reduce the prevailing moderate ration. After March 1, wheat milled for bread in Sweden had to be mixed with at least 10 per cent rye flour and 15 per cent barley flour or 10 per cent rye, 13 per cent barley, and 5 per cent potato flour.

As an aftermath of disastrous civil war, Spain continues to labor under extreme food difficulties. These include serious shortage

<sup>1</sup> This section is the work of Helen C. Farnsworth.

<sup>2</sup> On this paragraph see *Corn Trade News*, Feb. 25, 1942, p. 84; *London Grain, Seed and Oil Reporter*, Jan. 9, 1942, p. 27, and Mar. 24, 1942, p. 299; and *Milling* (Liverpool), Mar. 7, 1942, p. 100.

of bread grains (in which she was formerly self-sufficient), despite the fact that she continues the largest European neutral importer of wheat and the largest Continental importer of *overseas* grain. In January, Spain made arrangements to buy 160,000 tons (5.9 million bushels) of Argentine wheat for shipment during the four months ending May 7; and in mid-March Spain and Argentina signed some kind of barter-trade agreement that may have provided for some additional quantities during this crop year. In any case, Argentine shipments reports indicated that over 4 million bushels of wheat had been sent to Spain from January through mid-March, and we infer that during August-May something like 10-12 million bushels may have gone. Bread rations in Madrid have nevertheless been at or close to the lowest in Continental Europe. The principal recent change was to reduce the rations of the high- and middle-income groups by 20 grams (.9 ounces) per day. No details are available to us on bread rations in other Spanish cities.

**Axis-dominated Europe.**—During the past few months bread rations have been reduced in the two Axis countries and in Hungary, Slovakia, and Bulgaria (Sofia, etc.), and bread rationing has been extended within Hungary and to Rumania and Croatia. Bread-grain shortages have also recently caused much concern in France, Belgium, Poland, and Finland, though bread rations have remained nominally unchanged in all of these countries with the possible exception of Poland.<sup>1</sup>

The reduction in the German bread ration, effective April 6, was from the relatively high range of 80-165 ounces per week to one of 72-156 ounces. This reduction, together with simultaneous lowering of Germany's meat and fats rations, and a new official limitation on potato purchases to a maximum of 5 pounds per week for each "normal" consumer, came

<sup>1</sup> Since official reports and documents of these countries are no longer available to us, we have been forced to glean our rationing information mainly from scattered newspaper accounts (European as well as American), which are not wholly trustworthy. But the minor errors that seem likely to exist in our figures cannot obscure or distort the general implications of our ration tables. Earlier ones have been published in our previous "Surveys," e.g., WHEAT STUDIES, January 1942, XVIII, 212.

# BREAD RATIONS (FLOUR INCLUDED) IN NEUTRAL AND AXIS-DOMINATED EUROPE, AT SPECIFIED PERIODS\*

(Ounces per capita per week for adults)

Country	Apr. 1941	Dec. 1941	Spring 1942 <sup>a</sup>
<i>Neutral</i>			
Eire.....	Free <sup>b</sup>	Free <sup>b</sup>	Free <sup>b</sup>
Portugal.....	Free	Free	Free
Switzerland:			
Bread.....	Free	Free	Free
Flour <sup>c</sup> .....	8	6	7
Sweden.....	65-97	57-75 <sup>d</sup>	57-75 <sup>d</sup>
Spain (Madrid) ..	20-43	25-37	20-37
<i>Axis-dominated</i>			
Denmark.....	80-129 (17) <sup>e</sup>	80-129 (17) <sup>e</sup>	80-129 (17) <sup>e</sup>
Germany.....	80-165	80-165	72-156
Netherlands.....	84-168 <sup>f</sup>	71-135 <sup>f</sup>	71-135 <sup>f</sup>
Hungary.....	Free <sup>g</sup>	83-169 <sup>h</sup>	70-?
France.....	62-83	70-88	70-88
Bulgaria (Sofia, etc.).....	Free	104-203	68-132 <sup>i</sup>
Norway.....	73-122 <sup>j</sup>	64-112 <sup>j</sup>	64-112 <sup>j</sup>
Italy: Bread.....	Free <sup>b</sup>	49-123	37-?
Pastes <sup>o</sup> ...	17-22	17-22	17-22
Belgium.....	56-112	56-103	56-103
Rumania.....	Free	Free <sup>k</sup>	53-106 <sup>i</sup>
Croatia.....	Free	Free	52-102
Finland.....	62-148	49-106	49-111
Slovakia.....	Free	76-111	44-77
Greece (Athens) ..	73	30-40 <sup>m</sup>	30-40 <sup>m</sup>

\* So far as possible, these figures represent *total* rations (in terms of bread) for bread, baked goods, flour, groats and pastes, except as otherwise noted. Ranges indicate the different rations allowed to "normal" consumers (low) and "very heavy workers" (high) except (1) for Madrid, where the lower limit represents the ration allowed the highest-income group, and the upper limit the ration allowed the lowest-income group; and (2) for Greece in spring 1942, where the range is put as it is because of divergent information from different sources.

<sup>a</sup> Latest available ration.

<sup>b</sup> Bread rationed in restaurants. See also p. 354.

<sup>c</sup> Flour, pastes, and maize flour, not converted to bread equivalents; for Italy also includes rice (from Mar. 15, 1942 ration in southern Italy raised 4 oz.).

<sup>d</sup> Including oatmeal, etc., and in spring 1942 also small cakes. Half of the ration may be wheat products.

<sup>e</sup> Figures in parentheses show the ration for wheat bread included in the total.

<sup>f</sup> Wheat-products ration; higher alternative rye-products ration was available.

<sup>g</sup> High-grade flour and pastes rationed in Budapest and other large cities.

<sup>h</sup> Budapest and environs in December; extended to whole country Jan. 15, 1942.

<sup>i</sup> Applies to 6 days; one day is wheatless.

<sup>j</sup> In December 1939, flour rationed at 82 oz. to prevent hoarding; later rations cover also peas, beans, rice, potato flour, etc.; some sources report a reduced ration in late 1941.

<sup>k</sup> Some rationing on local basis.

<sup>l</sup> Applies to 5 days; on two days a week, maize products only may be sold.

<sup>m</sup> In the winter of 1941 the ration was seldom available, but some improvement in the spring is indicated.

as a great blow to the German public, even though the reduced rations were still far above

those applicable to urban areas in 1917-18. German officials had been wont to stress their excellent preparation for maintaining civilian food supplies during the current war; and in practice they had modified but little the basic food rations established in September 1939, e.g., by reducing meat rations in the summer of 1941. The much more serious reductions of April 1942 were officially attributed to (1) the below-average harvests of 1940 and 1941, (2) the increase in the German army, whose members require  $3\frac{1}{2}$  times as much meat and twice as much bread as "normal" consumers, (3) the repatriation of a million Germans from occupied areas, (4) the increase in the proportion of the German population engaged in heavy work for which larger rations are required, (5) the addition of 2.5 million foreign laborers to Germany's working population and the further addition of 1.5 million prisoners of war (not counting those taken in Russia), and (6) the necessary exportation of food to Continental countries aiding Germany's war efforts.<sup>1</sup>

These factors were not suddenly discovered in the spring of 1942. Nor can it be supposed that German officials were suddenly confronted in February-March 1942 with evidence of immediate shortage in the grain, potatoes, meat, and fats supplies that they had counted on distributing during the remainder of the crop year. Rather it seems probable that the combination of adverse crop weather in the winter of 1941-42, disappointing deliveries of grain and other foods in the Axis-dominated areas, and the prospect for protracted large-scale military operations in Russia threatened future exhaustion of Germany's food reserves at current rates of rationing. In any case, Germany's bread-grain position was officially regarded as warranting not only a reduction of half a pound in the weekly bread ration but also an increase in the legal extraction rate for bread flour from 85 to 90 per cent, and finally to 100 per cent. And crop developments through mid-May have not been favorable (pp. 360-61).

<sup>1</sup> *Neue Zürcher Zeitung* (Zurich), Mar. 19, 1942, and *National-Zeitung* (Essen), Mar. 21, 1942; *New York Times*, Apr. 23, 1942, p. 4.

<sup>2</sup> *New York Times*, May 18, 1942, p. 23.

Italy also has reduced her bread ration, to a much lower level in relation either to prewar consumption levels or to current needs. Like Germany, Italy was disappointed in the small quantity of wheat she drew this year from the Danube basin; and owing to serious labor shortage and other adverse factors, she faced the prospect of a mediocre or below-average grain harvest in 1942. To compensate in part for the reduction in bread rations, consumers in southern Italy were allowed increased rations of macaroni.

In France, officials complained that peasants were withholding large quantities of wheat for the "black market" and for illegal feeding to livestock, and that substantial sales of bakery products had been made against counterfeit ration tickets. Various high officials (including Charbin, Darlan, and Pétain) urged peasants to deliver their remaining grain promptly, under threat of increased penalties for grain discovered on their premises after the end of the legal delivery period. In early April, every city consumer was required to register at the bakery of his choice for all subsequent purchases of rationed bakery goods—a measure designed to halt purchases with counterfeit coupons. At about the same time, there was some official talk of a prospective reduction in the bread ration as a result of the evident shortage of delivered wheat supplies. Under extremely critical conditions last year, the Germans had released for use in the unoccupied region some of the wheat they had previously requisitioned in the occupied zone. Whether the same policy has been followed this year is not clear, though in early April the provincial prefect in the Marseilles region was reported to have said that the German occupation authorities had lowered their demand for wheat to feed French prisoners in Germany from 500,000 tons to 400,000 (a reduction of roughly 3.67 million bushels). By mid-May, a 98 per cent extraction rate for flour had been prescribed, and high admixtures of other cereal products were generally required in bread making.<sup>2</sup> In France, contrary to the practice in many countries, admixture specifications for flour appear to vary from locality to locality.

In Belgium and Poland, developments in

the bread situation this year seem to have been much the same as were reported in the spring of 1941.<sup>1</sup> In both countries total food supplies were short; many urban consumers could not get enough to maintain their body weight or general health; and disease and death rates were abnormally high—higher in Belgium than in 1940–41 but still relatively higher in Polish cities than in Belgian. This year, as last, Belgium imported grain and potatoes under German-sponsored trade agreements, in quantities not clear to us. In February there were reports of a loan of three million Swiss francs to Belgium for purchases of food in the Danube countries,<sup>2</sup> and of a Belgian-French trade agreement calling for deliveries of Belgian fertilizers in return for French grain. Later it was reported that the Netherlands had supplied Belgium with 24,680 tons of potatoes and that another 13,500 tons had been shipped to Belgium from Germany.

In Finland, deliveries of bread grain from Germany or through German arrangements, and substantial shipments of other types of food from Denmark and Sweden, made it possible for the population to get through the winter and early spring without the emergence of famine conditions that threatened the country last November. But the food position continues insecure.

Greece has apparently endured the worst food conditions in Europe. People continue to die from starvation and from diseases complicated by undernourishment, but the peak of such deaths was reportedly reached in February.<sup>3</sup> Thereafter, relief shipments of food from various countries (distributed under the auspices of the International Red Cross) did much to alleviate suffering, as reported by the Secretary of the Ministry of Economic Warfare in the British House of Commons on February 10 and April 21. According to those reports, the German occupying authorities continued, throughout the summer and fall

of 1941, to requisition food supplies in Greece, and to ship Greek foodstuffs to Germany and to German forces in Libya. When Greece's plight became desperate, Germany sponsored small shipments of cereals to that country from Yugoslavia and some sugar from Czechoslovakia, but made no serious effort to avert the threatening famine. Italy reportedly shipped three boatloads of food to Greece, but two of these were said to have been seized by the German occupying authorities.

British, British-American, and Swedish-sponsored relief shipments to Greece through early May were reported as follows: (1) small monthly shipments of grain and other foods from Turkey from the very beginning of the crop year; (2) 7,000 tons of wheat shipped from Haifa in March; (3) 4,500 tons of wheat from Swiss stocks in Lisbon during March; (4) 2,200 tons of flour shipped by the Greek War Relief Association in the United States in March; and (5) prospective British-sponsored shipments of about 6,000 tons of wheat in late April or early May. In addition to these shipments, there were news reports of completed arrangements for the exportation of 20,000 tons of Argentine wheat to Greece, and of 3,000 tons of wheat from Rumania. In total, however, the wheat here indicated as probably shipped to Greece from January to early May probably did not exceed 2 million bushels. For the future, plans promoted by the Swedish Red Cross and approved before the end of April by the British and American governments (but not up to then by the Axis powers) provided for regular monthly shipments to Greece of 15,000 tons of Canadian wheat and flour in ships provided by the Swedish government.

Surprising tightness in wheat developed in the Danube exporting countries during January–April. Such tightness might well have been expected in the greater part of Yugoslavia, but not in Hungary, Rumania, and Bulgaria. Yet since last December these countries have all adopted or extended bread rationing, or reduced existing rations. Moreover, Bulgaria raised her minimum extraction rate for wheat flour to 90 per cent and introduced one wheatless day a week; and Rumania apparently raised the required non-

<sup>1</sup> See *WHEAT STUDIES*, May 1941, XVII, 399–401.

<sup>2</sup> *New York Times*, Feb. 6, 1942, p. 7.

<sup>3</sup> *Inter-Allied Review* (Inter-Allied Information Centre, New York), Apr. 15, 1942, p. 81, quoting dispatch from Cairo originally published in the *Baltimore Sun*.

wheat admixtures in Rumanian bread flour to 10-20 per cent and kept her earlier regulation specifying two wheatless maize days a week. It is not yet clear to us how far these stringent measures may have reflected private hoarding, accumulation of governmental war reserves, expanded bread consumption, or possibly large German purchases of grain not reported under exports.

#### WHEAT SUPPLIES FOR 1942-43

In what we call the "world ex-Russia," aggregate wheat supplies in the three crop years ending with 1941-42 have averaged nearly 5,400 million bushels a year (see accompanying table), while disappearance has averaged

WHEAT SUPPLIES (CROPS PLUS CARRYOVERS), WORLD  
EX-RUSSIA, ANNUALLY FROM 1937-38  
(Million bushels)

Crop year	World ex-Russia <sup>a</sup>	Four chief exporters					Europe		Others ex-Russia <sup>b</sup>
		Total	U.S. wheat	Canadian wheat	Australia	Argentina	British Isles	Continent	
1937-38..	4,365	1,657	959	217	228	253	101	1,695	869
1938-39..	5,189	2,126	1,085	385	205	451	116	1,960	953
1939-40..	5,359	2,249	1,004	624	260	361	146	1,998	965
1940-41..	5,328	2,521	1,094	840	213	374	180	1,640	977
1941-42..	5,475	2,747	1,331	779	234	403	210	1,615	902
Average 1934-39..	4,605	1,791	877	385	209	320	110	1,817	864

<sup>a</sup> For areas excluded, see Table I, footnote a. Includes net exports from USSR if any.

<sup>b</sup> Including stocks for only North Africa and afloat.

only about 3,900 million. Owing to the extraordinary world crop of 1938 and a big one also in 1939, and to national policies of building and maintaining emergency reserves, wartime supplies of this basic foodstuff have been unprecedentedly abundant, though very unevenly distributed. This condition is sure to persist in 1942-43. Wheat carryovers near the end of the third year of World War II will add up to so huge a total that, however short of wheat some countries may be, the now unpredictable outturn of 1942 harvests will affect merely the size of the over-all surplus. Aggregate supplies may easily set a new high record. Even if some crops should prove bad, supplies will be much more than ample to meet the coming year's effective requirements for food, seed, ordinary feed use, and carryover. The only doubt concerns the size of the

surplus for exceptional diversion to feed and industrial uses and for 1943 carryovers, and this doubt no one can yet resolve.

**Carryovers.**—Aggregate world stocks of wheat ex-Russia ex-Asia as of about August 1, 1942 will certainly be larger than ever before, at least 50 per cent larger than on the eve of war in 1939, and something like treble the corresponding average of 542 million bushels in the fairly normal peacetime period of 1923-27.<sup>1</sup> These broad facts render unnecessary attempts to set down specific figures.<sup>2</sup> More than half of the stocks will be in North America, where the record total in prospect exceeds an ordinary year's domestic utilization plus normal working stocks. Australia and Argentina also will hold stocks exceptionally large for that midyear date, roughly equal to their respective 1941 crops, and more than double their annual domestic utilization.

Concerning wheat stocks in other parts of the world we know little with certainty. Yet it appears safe to infer that Britain's carryover will be much above peacetime normals, and that stocks of old wheat (or all bread grains) on the Continent and in French North Africa, now largely under German domination, will be below peacetime averages but by no means small. Desperate scarcity in some areas will be statistically outweighed by moderately ample stocks in others favored by Nature or the Nazis, but severe restraints on bread-grain consumption in conquered countries have enabled the Nazi "domineers" to keep sizable stocks for possible worse emergencies.

**Crops of 1942.**—The huge size of carryovers renders of less moment the size of the coming harvests, even those of North America. In peacetime, May forecasts of forthcoming crops often prove more or less in error, as shown by comparisons of our own advance appraisals with eventual estimates, largely official. Our world-total guesstimates for 1938 and 1939 were far too low, while that for 1941 chanced to be good. Weather developments after April are unpredictable, and they affect

<sup>1</sup> Our estimates for the years 1925-41 are in *WHEAT STUDIES*, December 1941, XVIII, 181.

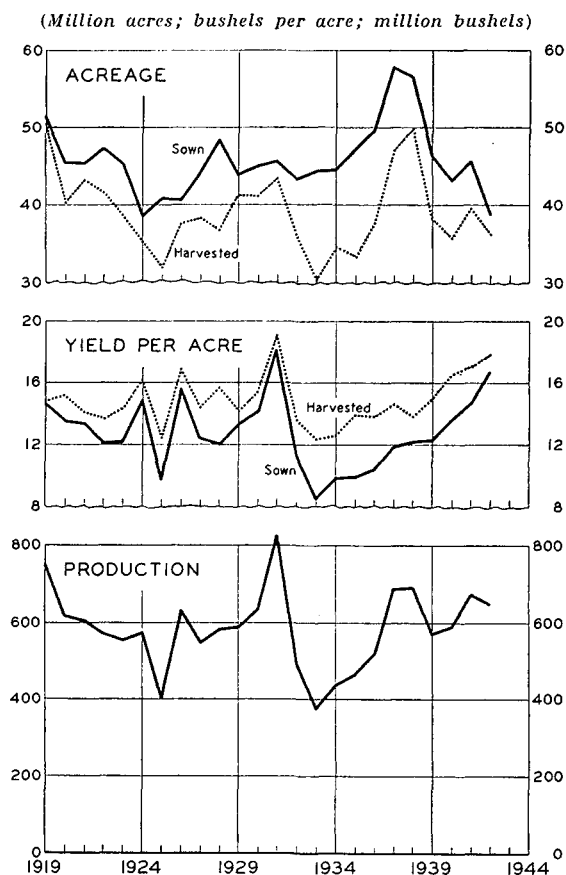
<sup>2</sup> Our January 1942 summary of over-all indications appears in *ibid.*, January 1942, XVIII, 222. Table V, below, contains our revised but not highly dependable forecasts for the four chief exporting countries.

yields per acre in ways and degrees that cannot be forecast. Moreover, May data on acreage sown and harvested are subject to more or less extensive revisions. Under present conditions, acreage data are incomplete and less reliable than usual, and various special factors other than weather will affect yields in many countries. We therefore summarize certain available evidence without attempting any comprehensive appraisal of world crop prospects.

The most important single crop near to harvest is that of United States winter wheat. Official forecasts as of May 1 have been reliable on the average, though a few (most notably that of 1940) have been wide of the mark.<sup>1</sup> This year's May forecast is 647 million bushels, implying the seventh largest winter-wheat crop ever harvested (Chart 6). The allotment for all wheat was 55 million acres, as compared with 62 million in 1940 and 1941, and the marketing quotas in effect this year<sup>2</sup> have tended to keep the acreage sown within allotment limits. Fall-sown acreage is estimated at 38.75 million acres. Winterkilling was unusually light, and abandonment is estimated at only 6.3 per cent compared with a 1930-39 average of 18.6. Some official encouragement is given to harvesting part of the unusually large volunteer stands of wheat.<sup>3</sup> The May forecast implies extremely high average yields of winter wheat—16.7 bushels per acre seeded, or 17.8 bushels per acre expected to be harvested; but the production forecast (unlike that of March) includes an allowance for wheat to be harvested from volunteer acreage.

Spring wheat has only recently been planted in North America. In the United States, the acreage sown was reduced by quota limitations, by relatively heavy seeding of winter wheat under very favorable fall moisture conditions in the Pacific Northwest, and by shifts to other crops of which increased output is urgently sought.<sup>4</sup> March reports showed that

CHART 6.—UNITED STATES WINTER WHEAT ACREAGE, YIELD PER ACRE, AND PRODUCTION, 1919-42\*



\* Official estimates, including May 1 forecast for 1942.

growers planned to seed 15.3 million acres to spring wheat, as compared with average sowings of 21.8 million in 1930-39. Seeding was retarded by unfavorable weather, but since subsoil moisture supplies were generally ample, above-average yields seem in prospect. It now seems likely that the total United States harvest of all wheat will appreciably exceed 800 million bushels.

On May 2 the referendum among eligible wheat farmers resulted in approval of wheat-

<sup>1</sup> See chart in *WHEAT STUDIES*, December 1941, XVIII, 127.

<sup>2</sup> *Ibid.*, May 1941, XVII, 412-13, and September 1941, XVIII, 6, 18-19.

<sup>3</sup> U.S. Dept. Agr., Press Release 2023-42, Mar. 18, 1942. See also *Southwestern Miller*, Jan. 6, 1942, p. 24; and *Wheat Situation*, February 1942, p. 8.

<sup>4</sup> For revised and enlarged goals, see U.S. Dept. Agr., Press Release 1522-42, Jan. 16, 1942. On Feb. 24 the AAA announced (*ibid.*, 1833-42) that "farmers who underseed spring wheat acreage in 1942 in order to grow increased acreages of war crops [flaxseed, soybeans, peanuts, castor beans, sugar beets, dry field peas, dry beans, canning peas, canning tomatoes, fiber flax, and hemp] will not thereby alter the basis upon which their wheat acreage allotments will be established in the future."



marketing quotas for 1942-43, by a majority provisionally reported as slightly exceeding the 81 per cent majority in the corresponding referendum held on May 31, 1941.<sup>1</sup> The basic provisions of the marketing-quota program remain virtually unchanged,<sup>2</sup> but the penalty on sale of excess wheat will be higher. The amending act of May 26, 1941 raised this penalty from 15 cents per bushel to 50 per cent of the basic loan rate, which came to 49 cents per bushel for 1941-42<sup>3</sup> and comes to 57 cents for 1942-43. With CCC loans contingent on the outcome, at much higher rates announced the day before the referendum (p. 342), and vigorous urging by officials, farm leaders, and the AAA network from the Secretary of Agriculture down to local committeemen, failure to secure the requisite two-thirds majority would have been very surprising.

The Canadian wheat area of 21.9 million acres in 1941 represented a cut of 22-24 per cent below the 1940 acreage, when the government had requested a cut of 35 per cent. This year the Dominion government offered various inducements to farmers to expand their acreage in barley, oats, and flaxseed, in part at the expense of wheat,<sup>4</sup> and expressed the hope that wheat seedings would be held to 20-21 million acres. The May 8 report of farmers' intentions to plant as of April 30, 1942 points to a total wheat acreage of 21.3 million acres, including 746,000 acres of fall-sown wheat for harvest in Ontario and 20.4

million sown to spring wheat in the Prairie Provinces. The intended acreages in summer fallow and "principal crops" are shown below, with comparisons, in thousand acres:

Year	Summer fallow	Wheat	Oats	Barley	Rye	Flaxseed	Mixed grains	Potatoes
1939.....	14,726	20,756	12,790	4,347	1,102	208	1,218	518
1940.....	15,580	28,726	12,208	4,342	1,035	382	1,220	545
1941 <sup>a</sup> .....	19,738	21,868	12,311	5,304	949	905	1,484	487
1942.....	17,349	21,313	13,501	7,209	1,010	1,532	1,520	503
Change	-2,389	-555	+1,190	+1,905	+61	+537	+36	+16

<sup>a</sup> Preliminary census data, which differ considerably from 1941 estimates published in January 1942.

Substantial increases in acreages of barley, oats, and flaxseed, and lesser increases in rye, mixed grains, and potatoes, are to be made by reducing the summer fallow substantially from the peak of 1941, increasing the total area in the principal crops and fallow by 800,000 acres, and reducing the wheat area by 555,000 acres. Subsoil moisture is reported exceptionally good in Manitoba, low in Saskatchewan and Alberta, but surface moisture generally ample for germination.

Great Britain has effectively stimulated mechanization and expansion of arable acreage. She is said now to have more tractors per acre than any country in Europe, and more plowed land than in 1939 by about 6 million acres or almost 50 per cent.<sup>5</sup> Output of wheat has increased only moderately compared with that of potatoes, other vegetables, oats, and feedstuffs in general. The area seeded to winter wheat last fall was 150,000 acres more than for all wheat for 1941. Bad weather prior to mid-March greatly delayed spring cultivation on many farms, but spring-wheat sowings (normally very small) "are said to be progressing under favourable conditions."<sup>6</sup> The 1942 crop may yet be the largest since 1918. Fixed prices to growers for the coming harvest will start at 16s. per cwt. (raised from 14s. 6d.), equivalent to \$1.73 per bushel; and increments for later delivery will again be paid.

In much of Continental Europe, official plans for larger bread-grain harvests are threatened with defeat by a combination of adverse influences: inadequacies of equipment, fuel, and fertilizers; military operations and bad conditions for seeding last fall; an

<sup>1</sup> Speaking at Enid, Okla., on Apr. 28, Secretary Wickard pointed out that the co-operating farmers "will average well over \$1.25 a bushel" as compared with assured farm prices of about 65 cents in Canada, 52 cents in Australia, and 44 cents in Argentina. U.S. Dept. Agr., Press Release 2309-42.

<sup>2</sup> *Federal Register*, May 5, 1942, pp. 3279-89.

<sup>3</sup> On Mar. 14, 1942, a special three-judge federal court at Dayton, Ohio, held this increase of penalty invalid, under the due-process clause of the Constitution, on the ground that it was made after the crop was sown. Early in May the U.S. Supreme Court heard arguments on the case on appeal. *New York Times*, Mar. 15, 1942, sec. 1, pp. 1, 38; *Northwestern Miller*, Mar. 18, 1942, p. 11, and May 6, 1942, p. 12.

<sup>4</sup> *Monthly Review of the Wheat Situation*, March 1942, pp. 14-15.

<sup>5</sup> Great Britain, *Parliamentary Debates*, Commons, Mar. 18, 1942, Vol. 378, No. 46, pp. 1538-40.

<sup>6</sup> *Monthly Review of the Wheat Situation*, Apr. 25, 1942, p. 2.

exceptionally severe winter and a backward spring; and serious labor shortages only partially relieved by conscription even of children. German authorities especially have made strenuous efforts, by all sorts of methods, to increase food production not only in the Reich but also in most countries under the Nazi heel. While no reliable forecasts of outturns can yet be made, reports up to mid-May indicated an unfavorable crop outlook in Germany<sup>1</sup> and below-average harvest prospects in Scandinavia, Italy, and southeastern Europe. It is unlikely that the Nazis will succeed in getting significant grain supplies from conquered portions of the USSR. Nevertheless, it continues safe to assume, contrary to much wishful thinking, that "hunger won't beat the Axis."

Soviet Russia's losses of areas productive of grain in general and of bread grain in particular are, as the battle front stands at the middle of May, about in proportion to her losses of population in the German-occupied area. Consequently, with normal yields per acre, the supply of grain from the area under Soviet control would cover the present Union's requirements (in contrast with acute shortage of sugar). Extraordinary measures are being taken to mobilize agricultural labor and equipment in order to advance and to increase spring sowing in the eastern areas, particularly in western Siberia and central Asia.<sup>2</sup> Unpredictable shifts of the battle front may, of course, change this situation fundamentally. In particular, a successful German drive into the North Caucasus before the wheat harvest might seriously imperil the grain supply of Soviet Russia.

India's 1942 wheat crop, now estimated at

<sup>1</sup> *New York Times*, May 21, 1942, p. 4.

<sup>2</sup> See reports from Kuibyshev in *ibid.*, Apr. 10 and 18, 1942.

<sup>3</sup> *London Grain, Seed and Oil Reporter*, Mar. 6, 1942, p. 240.

<sup>4</sup> *Commercial Intelligence Journal*, Apr. 11, 1942, pp. 359-63.

<sup>5</sup> *Northwestern Miller*, May 6, 1942, p. 16. The first official estimate can be expected in mid-September.

<sup>6</sup> See recent issues of two agricultural weeklies, *The Land and Primary Producer*. Because of war developments affecting Nauru and Ocean Islands, the chief sources of phosphate rock, the available superphosphate supply is restricted to much less than usual.

<sup>7</sup> Ray Moulden, in issue of May 16, 1942, p. 1.

371 million bushels, is ample for her needs. Some exports may be shipped to the Middle East where Britain, besides feeding her troops, has been attempting to counter Axis propaganda with food.<sup>3</sup> With Burma in Japanese hands, India must presumably get along without the 2-5 billion pounds of rice (3-5 per cent of domestic consumption) she has imported from there in recent years, and will presumably also have to supply Ceylon, which normally imports most of its rice from Burma. Fortunately, India has recently harvested her largest rice crop since 1937-38.<sup>4</sup>

For Southern Hemisphere producers, new-crop prospects are necessarily obscure. Argentine wheat growers have been officially urged to reduce their acreage by as much as 15 per cent, but no reduction has been required. Since conditions for seeding have been generally satisfactory, and attractive alternatives are exceptional, the decrease in area sown may fall considerably short of that.<sup>5</sup>

Under the Wheat Stabilization Act of November 29, 1940, Australian growers are guaranteed stated returns per bushel (p. 351) on a *marketed* crop of 140 million bushels—corresponding to a harvest of some 160 million. Shortages of manpower and fertilizer, however, are expected to restrict the acreage sown and to operate against big yields. In Western Australia, exceptional congestion of storage space and special difficulties of transport led the Commonwealth government to decide (March 9) to resort to compulsory restriction, designed to cut the acreage one-third below the average of the past four years. Complying growers will be compensated on a formula not yet available to us, but expected to provide 1s. (about 16 U.S. cents) a bushel "in respect of the compulsory reduction."<sup>6</sup>

#### OTHER ELEMENTS IN THE OUTLOOK

In the wheat outlook of the United States, the storage crisis overshadows all other elements. To quote a Washington dispatch of May 15 to the *Chicago Journal of Commerce*: "The Federal government moved on widespread fronts today in actions designed to relieve the most serious wheat storage situation in history, but with little indication that the sum of the correctives will prove a cure."<sup>7</sup>

The rated storage capacity of the nation is unprecedentedly great. A comprehensive official survey as of February 16, 1942 put it at 1,602 million bushels, exclusive of farm storage and the steel bins built in recent years to hold corn owned by the CCC. This huge total represented an increase of 67 million bushels since March 1, 1941, and construction of 35 million more was under way or planned. Yet unused capacity, including working space, had decreased by 111 million bushels during the year.<sup>1</sup> A more limited official survey of commercial elevators at 47 markets reporting weekly grain stocks, as of about May 1, showed a total capacity of 463 million bushels, little more than last year, and this was 75 per cent filled.<sup>2</sup>

It is primarily the exceptional stocks of wheat that have brought about the storage crisis. Most of the large corn supplies still on hand are stored on farms, and much of the rest in CCC steel bins (some of which will be moved and used for wheat), and feeding operations are rapidly reducing corn stocks in important areas. With a big new wheat crop in sight, and increased output of more valuable soybeans and flaxseed as well, extraordinary measures are being taken or formulated for early application, partly by governmental agencies and partly through voluntary committees representing the various interests. The result will depend in part on the effectiveness of this co-operation, but in part also on the ultimate yield of coming harvests. The best that now seems possible is not good.

Wartime co-operation in North America is taking shape in respect to agriculture and trade. On April 10 it was announced that Prime Minister King and President Roosevelt had approved Resolutions 8 and 9 of the Canada-United States joint economic commit-

tees, which had been signed February 27 by the respective chairmen, W. A. Mackintosh and Alvin H. Hansen.<sup>3</sup> The resolutions recommended that the United States increase its acreage of oil-bearing crops and Canada its acreage of flaxseed, oats, and barley, and that the inter-country movement of these products and vegetable oils be facilitated and subjected to no "additional restrictions"; and also that the inter-country movement of farm labor and agricultural machinery be permitted with a minimum of restrictions. Both countries have taken steps to increase their production of feed and oilseed crops, in part at the expense of wheat acreage, by announcing goals and guaranteeing minimum prices.<sup>4</sup> Close integration of the wheat policies of the two countries is not yet in sight.

Conferences and negotiations looking toward a new international wheat agreement have been in progress for more than ten months. For some time announcement of its terms has been expected. If it should be consummated and published, we propose to analyze the agreement, and the problems with which it deals, in a later issue of *WHEAT STUDIES*. Meanwhile, it suffices to say that it seems likely to have little influence on the wheat developments of the near future.

Of especially far-reaching significance for the future is the Mutual-Aid Agreement signed on behalf of the United States and the United Kingdom on February 23,<sup>5</sup> of which the vital Article VII runs thus:

In the final determination of the benefits to be provided to the United States of America by the Government of the United Kingdom in return for aid furnished under the Act of Congress of March 11, 1941, the terms and conditions thereof shall be such as not to burden commerce between the two countries, but to promote mutually advantageous economic relations between them and the betterment of worldwide economic relations. To that end, they shall include provision for agreed action by the United States of America and the United Kingdom, open to participation by all other countries of like mind, directed to the expansion, by appropriate international and domestic measures, of production, employment, and the exchange and consumption of goods, which are the material foundations of the liberty and welfare of all peoples; to the elimination of all forms of discriminatory treatment in international commerce, and to the reduction of

<sup>1</sup> U.S. Dept. Agr., Bur. Agr. Econ., "Grain Storage Capacity and Stocks, February 16, 1942," *U.S. Grain Storage Capacity* . . . (Apr. 3, 1942, mimeographed).

<sup>2</sup> *Wheat Market Review* (U.S. Dept. Agr., Federal-State Market News Service, San Francisco, mimeographed), May 9, 1942.

<sup>3</sup> *Department of State Bulletin* (U.S. Dept. State), Apr. 11, 1942, pp. 313-15; and *Winnipeg Free Press*, Apr. 11, 1942, p. 5, with text of resolutions.

<sup>4</sup> *Winnipeg Free Press*, Apr. 11, 1942, p. 1; and above, pp. 344-45, 360.

<sup>5</sup> *Department of State Bulletin*, Feb. 28, 1942, p. 192.

tariffs and other trade barriers; and, in general, to the attainment of all the economic objectives set forth in the Joint Declaration made on August 12, 1941, by the President of the United States of America and the Prime Minister of the United Kingdom.

At an early convenient date, conversations shall be begun between the two Governments with a view to determining, in the light of governing economic conditions, the best means of attaining the above-stated objectives by their own agreed action and of seeking the agreed action of other like-minded Governments.

In other respects also, progress is being made in what may be overambitiously called "planning" for the postwar transitional or reconstruction period. Important steps are already being taken, on the assumption of victory by the United Nations, to be prepared for prompt execution of well-devised plans for food relief when victory has been achieved.<sup>1</sup>

<sup>1</sup> See J. S. Davis, "International Commodity Agreements in the Postwar World," *American Economic Review, Supplement*, March 1942, XXXII, 391-403.

<sup>2</sup> *Agricultural Gazette of New South Wales* (New South Wales Dept. Agr., Sydney), Aug. 1, 1941, LII, 399, citing *Queensland Agricultural Journal*.

Such plans should be perfected, and they may well be accompanied by successive appraisals of food needs and food stocks, on changing bases of estimation, while the war goes on. But until the end is definitely in sight, no one can foresee with any approach to precision the nature, extent, and location of the food shortages in deficit countries, the volume and location of surplus food supplies that will be in store, or the shipping facilities that will be available to move them.

Some such conviction as the following is frequently expressed in all the chief wheat-exporting countries and in others, and is already exerting influence on policy decisions: "Nothing is more certain [than] that the biggest and most urgent need of the world after the war will be food."<sup>2</sup> This contains an important element of truth, but there is danger that illusions on this score will be built up and cherished, only to be followed by costly disillusionment. So far as wheat is concerned, the present tendency is to exaggerate the prospective absorption of surpluses in the first year or two after hostilities cease.

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## APPENDIX TABLES

**TABLE I.—WHEAT PRODUCTION IN PRINCIPAL PRODUCING AREAS EX-RUSSIA, 1937-41\***  
(*Million bushels*)

Year	World ex-Russia <sup>a</sup>	Four chief exporters					British Isles	Continental Europe ex-Russia				French North Africa <sup>d</sup>	India	Others ex-Russia <sup>e</sup>
		Total	United States	Canada	Australia	Argentina		Total	Four neutrals <sup>b</sup>	Others ex-Danube	Lower Danube <sup>c</sup>			
1937.....	3,810	1,451	876	180	187	208	63	1,473	156	955	362	72	364	387
1938.....	4,562	1,826	932	360	155	379	81	1,765	149	1,150	466	72	402	416
1939.....	4,208	1,613	751	521	210	131	72	1,624	162	1,011	451	100	372	427
1940.....	3,920	1,734	812	540	83	299	82	1,218	111	812	295	62	402	422
1941 <sup>e</sup> .....	3,925	1,635	946	299	162 <sup>f</sup>	228 <sup>g</sup>	85	1,360	143	877	340	87	374	384

\* Largely official data, for boundaries as in 1939; figures in italics represent or include in substantial part unofficial approximations.

<sup>a</sup> Excludes USSR, China, Iran, Iraq, Transjordan, and various small producers, but includes Brazil and Peru.

<sup>b</sup> Spain, Portugal, Switzerland, Sweden.

<sup>c</sup> Hungary, Yugoslavia, Rumania, Bulgaria.

<sup>d</sup> French Morocco, Algeria, Tunis.

<sup>e</sup> As of mid-May 1942. For details see previous "Survey." British Isles has been lowered 5 million bushels.

<sup>f</sup> Possibly 2-8 million bushels too low.

<sup>g</sup> Revised to 224 million bushels on May 21.

**TABLE II.—REPORTED WHEAT STOCKS IN NORTH AMERICA AND ARGENTINA, APRIL 1, 1937-42\***  
(*Million bushels*)

Year	Total	U.S. grain <sup>a</sup> (Apr. 1)	Canadian grain (Mar. 31)	Argentine commercial (Apr. 1)	United States grain stocks				Canadian grain stocks				
					Farm	Country mill and elevator	Commercial	City mills <sup>b</sup>	Farm	Country mill and elevator <sup>c</sup>	Terminal elevator	Other in Canada <sup>d</sup>	In U.S.
1937...	394.0	210.4	129.3	54.3	71.5	38.2	34.7	66.0	44.2	29.7	34.4	6.9	14.1
1938...	487.0	331.7	84.7	70.6	124.6	71.8	54.4	79.9	39.0	18.5	23.4	2.7	1.1
1939...	885.5	443.7	202.8	239.0 <sup>e</sup>	188.4	90.0	82.7	82.5	61.2	47.6	83.9	8.3	1.8
1940...	981.4	436.0	419.1	126.3	153.8	81.0	105.4	95.0	106.2	127.9	153.6	9.1	22.3
1941...	1,380.0	542.2	652.4	185.4	193.2	130.2	141.9	76.7	170.6	252.3	167.0	18.5	44.0
1942...	1,600.8 <sup>e</sup>	802.0	548.8	250.0 <sup>e</sup>	270.1	171.4	237.8	122.5	82.2	206.6	222.3	22.7	15.0

\* Official data of the U.S. Department of Agriculture, Dominion Bureau of Statistics, and National Grain and Elevator Commission.

<sup>a</sup> Includes U.S. grain in Canada, not over one million bushels in any year shown.

<sup>b</sup> Estimates of U.S. Department of Agriculture, based on stocks in city mills reported to the Census Bureau, raised to allow for stocks in nonreporting mills.

<sup>c</sup> Includes private terminal elevators and flour mills in Western Division.

<sup>d</sup> In transit, and in flour mills in Eastern Division.

<sup>e</sup> Approximate.

**TABLE III.—UNITED STATES FLOUR PRODUCTION, EXPORTS, AND RETENTION, 1941-42, WITH COMPARISONS\***  
(*Thousand barrels*)

Period	Production: reporting mills			Estimated production <sup>a</sup>			Net exports <sup>b</sup>			Estimated net retention		
	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42	1939-40	1940-41	1941-42
July-June...	104,448	105,330	....	110,761	111,697	....	7,163	7,036	....	103,598	104,661	105,000 <sup>e</sup>
July-Sept....	29,145	26,673	27,006	30,907	28,286	28,638	2,386	1,390	1,625	28,521	26,896	27,013
Oct.-Dec....	25,845	26,863	27,192	27,407	28,486	28,836	1,737	1,956	1,650 <sup>e</sup>	25,670	26,530	27,186
Jan.-Mar....	24,994	25,645	26,389	26,504	27,195	27,984	1,768	1,460	1,650 <sup>e</sup>	24,736	25,735	26,334
Jan. ....	8,649	8,818	9,532	9,171	9,351	10,108	471	440	....	8,700	8,911	....
Feb. ....	8,025	8,063	8,479	8,510	8,550	8,992	557	575	....	7,953	7,975	....
Mar. ....	8,320	8,764	8,378	8,823	9,294	8,884	740	445	....	8,083	8,849	....

\* Reported production and trade data from U.S. Department of Commerce. Dots (...) indicate that data are not available.

<sup>a</sup> Estimates (or forecast) of Holbrook Working.

<sup>b</sup> From July 1940 derived by subtracting imports for consumption instead of general imports minus re-exports.

<sup>e</sup> Data unavailable. Rough guesstimate.

TABLE IV.—INTERNATIONAL SHIPMENTS OF WHEAT AND FLOUR, WEEKLY FROM JANUARY 1942\*

(Million bushels)

Week ending	Total	From North America	From Argentina <sup>a</sup>	To Europe	To ex-Europe	Week ending	Total	From North America	From Argentina <sup>a</sup>	To Europe	To ex-Europe
Jan. 3.....	5.17	4.16	1.01	3.78	1.39	Mar. 14.....	5.75	4.82	.93	4.29	1.46
10.....	4.31	2.81	1.50	3.27	1.04	21.....	6.25	5.07	1.18	4.38	1.87
17.....	5.89	4.27	1.62	3.59	2.30	28.....	6.33	4.16	2.17	3.97	2.36
24.....	6.95	4.81	2.14	5.62	1.33	Apr. 4 <sup>b</sup> .....	5.44	4.51	.93	....	....
31.....	5.35	4.39	.96	3.69	1.66	11 <sup>b</sup> .....	7.37	5.96	1.41	....	....
Feb. 7.....	4.61	3.49	1.12	2.60	2.01	18 <sup>b</sup> .....	9.13	6.08	3.05	....	....
14.....	4.58	3.22	1.36	2.80	1.78	25 <sup>b</sup> .....	8.73	6.98	1.75	....	....
21.....	3.78	2.87	.91	2.65	1.13	May 2 <sup>b</sup> .....	6.95	5.49	1.46	....	....
28.....	4.23	2.51	1.72	2.91	1.32	9 <sup>b</sup> .....	6.81	5.08	1.73	....	....
Mar. 7.....	6.08	3.96	2.12	4.56	1.52	16 <sup>b</sup> .....	7.50	5.71	1.79	....	....

\* Converted from data in Broomhall's *Corn Trade News*, covering only shipments from North America and Argentina. Dots (...) indicate that data are not available.

<sup>a</sup> Including Uruguay.<sup>b</sup> Preliminary.

TABLE V.—WHEAT DISPOSITION ESTIMATES, ANNUALLY FROM 1937-38\*

(Million bushels)

Year	Domestic supplies			Domestic utilization				Surplus over domestic use <sup>d</sup>	Net exports			Year-end stocks <sup>e</sup>
	Initial stocks <sup>a</sup>	New crop	Total	Milled (net)	Seed use	Balancing item <sup>b</sup>	Total <sup>c</sup>		Total	To Mar. 31	From Apr. 1	
A. UNITED STATES (JULY-JUNE)												
1937-38..	83	876	959	468	94	+137	699	260	107	75	32	153
1938-39..	153	932	1,085	475	75	+174	724	361	109	80	29	252
1939-40..	252	751	1,003	472	73	+129	674	329	47	41	6	282
1940-41..	282	812	1,094	476	75	+125	676	418	33	25	8	385
1941-42 <sup>e</sup> .	385	946	1,331	480	65	+136	681	650	20	18	2	630
B. CANADA (AUGUST-JULY)												
1937-38..	33	180	213	43	33	+26	102	111	87	66	21	24
1938-39..	24	360	384	47	35	+42	124	260	165	114	51	95
1939-40..	95	521	616	49	36	+51	136	480	207	144	63	273
1940-41..	273	540	813	42	30	+69	141	672	224	105	119	448
1941-42 <sup>e</sup> .	448	299	747	43	29	+70	142	605	235 <sup>f</sup>	135	100 <sup>f</sup>	370 <sup>f</sup>
C. AUSTRALIA (AUGUST-JULY)												
1937-38..	41	187	228	30	15	+ 7	52	176	126	70	56	50
1938-39..	50	155	205	31	14	+14	59	146	96	61	35	50
1939-40..	50	210	260	33	13	- 2	44	216	86 <sup>f</sup>	44	42 <sup>f</sup>	130
1940-41..	130	83	213	32	14	+ 7	53	160	90 <sup>f</sup>	..	..	70
1941-42 <sup>e</sup> .	70	162 <sup>g</sup>	232 <sup>g</sup>	32	13	+12	57	175 <sup>g</sup>	20 <sup>f</sup>	..	..	155 <sup>g</sup>
D. ARGENTINA (AUGUST-JULY)												
1937-38..	45	208	253	71	26	+12	109	144	72	46	26	72
1938-39..	72	379	451	74	21	+ 4	99	352	122	53	69	230
1939-40..	230	131	361	73	21	+13	107	254	179	115	64	75
1940-41..	75	299	374	74	22	+ 7	103	271	96	55	41	175
1941-42 <sup>e</sup> .	175	228 <sup>h</sup>	403	74	21	+ 8	103	300	75	50	25	225

\* Based on official data so far as possible; see WHEAT STUDIES, December 1941, XVIII, 188.

<sup>a</sup> Within the country, i.e., U.S. grain in U.S., Canadian grain in Canada.

<sup>b</sup> Total domestic utilization minus quantities milled for food and used for seed.

<sup>c</sup> Total domestic supplies less surplus over domestic use.

<sup>d</sup> Summation of net exports and year-end stocks.

<sup>e</sup> Estimates as of mid-May 1942.

<sup>f</sup> Our rough guesstimate.

<sup>g</sup> Possibly 2-8 million bushels too low.

<sup>h</sup> Revised to 224 million bushels May 21.

TABLE VI.—SELECTED WHEAT PRICES, WEEKLY FROM JANUARY 1942\*

(U.S. cents per bushel)

Week ending	United States							Canada (Winnipeg) <sup>a</sup>				Argentina, 78-kilo (fixed) <sup>ab</sup>	Australia, f.o.b. ports <sup>ac</sup>
	Futures (Chicago)		Cash					Futures		Cash			
	May	July	Basic cash (Chi.)	No. 2 H.W. (K. O.)	No. 2 R.W. (St. L.)	No. 1 Dk.N.S. (Mnpls.)	Soft White (Port.)	May	July	Wtd. average	No. 3 Man.		
Dec. 6.....	122	123	118	117	122	119	94	71	72	65	63	55	69
Jan. 3.....	127	128	126	123	132	125	96	71	72	65	63	55	69
10.....	129	130	127	124	133	127	98	72	73	65	64	55	69
17.....	131	133	129	126	134	129	102	72	73	67	65	55	69
24.....	132	133	129	126	134	129	103	73	74	68	66	55	69
31.....	132	133	129	126	135	128	104	73	74	66	67	55	69
Feb. 7.....	129	131	126	123	131	125	102	73	74	70	67	55	69
14.....	129	131	126	122	130	124	101	73	74	69	67	55	69
21.....	130	132	128	124	133	127	103	73	74	69	67	55	69
28.....	129	131	127	124	130	126	104	72	73	69	66	55	69
Mar. 7.....	129	131	127	122	130	126	102	72	73	67	66	55	69
14.....	129	131	127	122	131	124	102	72	73	69	66	55	69
21.....	127	129	125	121	130	122	100	72	73	69	66	55	69
28.....	126	128	124	119	126	121	100	72	73	70	66	55	69
Apr. 4.....	125	127	123	118	126	121	100	72	73	70	67	55	69
11.....	123	125	122	116	122	120	99	72	73	70	67	55	69
18.....	121	123	120	114	120	118	98	72	73	70	67	55	69
25.....	121	123	120	113	118	119	98	72	73	70	67	55	69
May 2.....	119	122	119	115	120	119	97	72	73	70	67	55	69
9.....	122	125	122	117	120	124	99	72	73	70	67	55	69
16.....	121	123	122	116	124	121	98	72	73	70	67	55	69

\* For sources and methods of computation, see WHEAT STUDIES, December 1941, XVIII, 189.

<sup>a</sup> Converted at constant official exchange rate, in U.S. cents per unit of foreign currency: Canada, 90.9090; Argentina, 29.773; Australia, 322.8.<sup>b</sup> Grain Regulating Board buying price, basis Buenos Aires. See above, p. 351.<sup>c</sup> Australian Wheat Board offering price to United Kingdom, bulk basis. For board buying price, see above, p. 351.

TABLE VII.—CONSERVATION AND PARITY PAYMENTS ON UNITED STATES CROPS FROM 1938-39\*

(U.S. cents per indicated unit)

Crop year	Wheat (per bushel)		Corn (per bushel)		Rice (per 100 pounds)		Cotton (per pound)		Tobacco (per pound)		Potatoes (per bushel)	Peanuts (per ton)
	Conservation	Parity	Conservation	Parity	Conservation	Parity	Conservation	Parity	Conservation	Parity	Conservation	Conservation
1938-39..	12.0	.... <sup>a</sup>	10.0	.... <sup>a</sup>	12.50	.... <sup>a</sup>	2.40	.... <sup>a</sup>	.50-1.80	.... <sup>a</sup>	3.6-5.4	400
1939-40..	17.0	11.0	9.0	6.0	9.00	12.0	1.80	1.60	.80-1.50	.... <sup>b</sup>	3.0	300
1940-41..	8.1	10.0	9.0	5.0	5.85	9.3	1.44	1.55	.54-1.08	.... <sup>b</sup>	2.7	225
1941-42..	8.0	10.0	9.0	5.0	5.50	20.0	1.37	1.38	.50-1.50	.2-.7 <sup>c</sup>	2.3	225
1942-43..	9.9	13.5	5.5	11.1	2.40	.... <sup>b</sup>	1.20	.... <sup>b</sup>	.40-1.30	.7 <sup>d</sup>	1.8	125

\* Data from annual reports of the Agricultural Adjustment Administration and the *Federal Register*. Payments are per indicated unit on the officially ascribed "normal yield" per acre of the acreage allotment for each crop. See also above, p. 343.

Both payments are entered as of the year of compliance, i.e., the payment indicated for 1942-43 is the rate announced in April 1942 and dependent on the area sown for harvest in 1942. Reference to AAA *Statements of Expenditures* shows that the major part of the payment is sent to the farmer in the year thus indicated. It might be argued, however, that since the rates are based on conditions in the preceding year, during which they are announced, they should be considered as belonging to that earlier year. This might perhaps be more readily accepted for parity payments than for conservation payments. The rate indicated for 1942-43 is based on the 1941 loan rate (or 1941-42 estimated average farm price) and the estimated parity price in 1941-42 as well as on the announced conservation payment. Moreover, appropriation for these parity payments was made in the Agricultural Appropriation Bill for the year 1941-42. Appropriations for conservation payments on the 1942 area are included in the Agricultural Appropriation Bill for 1942-43.

<sup>a</sup> Congress failed to make an appropriation for parity payments.<sup>b</sup> Returns to growers above the level permitting parity payments; true also for 1942-43 payments on most types of tobacco.<sup>c</sup> Flue cured, .2; fire cured, .6; cigar filler and binder types, .7.<sup>d</sup> Cigar filler and binder types.

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