

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

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

Help ensure our sustainability.

Give to AgEcon Search

AgEcon Search
<a href="http://ageconsearch.umn.edu">http://ageconsearch.umn.edu</a>
<a href="mailto:aesearch@umn.edu">aesearch@umn.edu</a>

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

# WHEAT STUDIES

# of the FOOD RESEARCH INSTITUTE

VOL. XIX, NO. 3

(Price \$1.00)

**DECEMBER 1942** 

# WHEAT IN THE THIRD WAR YEAR: MAJOR DEVELOPMENTS, 1941-42

M. K. Bennett, Helen C. Farnsworth, and Rosamond H. Peirce

In wartime, interest in wheat centers upon the supply position in the countries wherein the availability of this important food bears most directly on the war effort. Statistical information shrinks as the war lengthens and spreads, so that the pertinent facts become increasingly difficult to perceive. Some conclusions about wheat supplies and utilization in 1941–42 may nevertheless be drawn.

In the four chief exporting countries, supplies were more abundant than ever before, and the major problems of government were to maintain returns to producers, reduce output, and expand non-food uses. Domestic utilization was of normal volume, while exports were extremely small. These went chiefly to Britain, where strong governmental efforts kept supplies—including war reserves—at a very high level, and bread continued cheap and abundant though darkened in color. Supplies of wheat were also abundant in India, and not unusually low in China where, however, the more important rice crop was short.

Soviet Russia, in her unoccupied territory, also avoided critical general shortage of bread grain; but severe curtailment of consumption must have existed in the occupied regions. Shortage of wheat also characterized Continental Europe, where the crop was poor and overseas imports were mostly shut off by blockade. The shortage was less notable in the Axis powers and the Danube countries than in most of the conquered and some of the neutral areas. The remaining major area of the world where wheat shortage was striking in 1941–42 was the Middle East, in which the crop of 1941 was notably small. Various other areas remote from sources of supply suffered shortage as the shipping situation tightened and some of the normal routes were closed after Japan attacked Hawaii on December 7, 1941.

STANFORD UNIVERSITY, CALIFORNIA

## WHEAT STUDIES

### OF THE

### FOOD RESEARCH INSTITUTE

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

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

Copyright 1942, by the Board of Trustees of the Leland Stanford Junior University

# WHEAT IN THE THIRD WAR YEAR: MAJOR DEVELOPMENTS, 1941-42

M. K. Bennett, Helen C. Farnsworth, and Rosamond H. Peirce

An adequate review of developments in the world wheat situation during August-July 1941-42, the third year of World War II, cannot be written under prevailing circumstances. Too little is known, too much is uncertain. The following pages represent no more than an attempt to review briefly the major and more obvious developments, and

to present as comprehensive a set of statistical reference tables as wartime circumstances permit.

As the war persists and engulfs more and more nations, official secrecy increasingly veils the history of developments in the food situation in many parts of the world. Wheat is a major food, and food has become an instrument

of war and of international political policy. Wheat statistics are therefore increasingly withheld from publication. Publications dealing with wheat shrink in number and volume and pass less and less freely over international frontiers.

Given the ever widening gaps in information, it becomes easy even with the best of intentions and sharpest of scrutiny to lean upon assumptions perhaps unwarranted and to draw inferences possibly false. Consequently we abandon for 1941–42 the effort to present a comprehensive and trustworthy analytical review of world wheat developments comparable with the crop-year reviews that have been published annually in Wheat Studies since 1924.

When the war is over, however, factual material now locked up in official files will be released, and attempts will be made to write the history of wheat in World War II. Historians will be concerned to scan not only the facts as revealed in official records, but also such interpretations as were current

among unofficial observers during wartime. The following pages serve to place on record as of December 1942 at least one set of interpretations of statistics and events of 1941-42 in the world of wheat.

The progressive shrinkage of wheat statistics warrants particularized comment. Statistics of international trade naturally began

to disappear earliest and most generally. So far as we can ascertain, only 10 of the countries listed in Table I published trade data (even belated) for the last months of the calendar year 1941, and this small group was further reduced by the withdrawal of Canada and Rumania before July 1942. Any summary of international

trade in wheat in the third war year must therefore involve much guesswork.

The picture of world wheat production in 1941–42, though not equally obscure, is by no means clear. As of December 1942 we lack official crop statistics for 1941 for most of Europe ex-Russia, the USSR, French North Africa, and parts of the Orient. Output in the four leading overseas exporting countries remains measurable by official statistics, but this has ceased to be true of any other major wheat-producing portion of the world.

Most of the gaps in basic official statistics can be filled, however, with tentative approximations. News, no doubt often biased either intentionally or unintentionally, still seeps out of enemy-controlled territory. It can be interpreted quantitatively, with presumably a reasonable degree of approximation to the truth, by experienced students familiar with the background into which fragments of information may be so fitted as to achieve meaning. This we have sought to do in the Appendix Tables on pages 106–20.

Direct numerical expression of the gap-filling estimates is avoided. It is undesirable to give the false impression of precision to which numbers inevitably lend themselves. Instead, we employ a system of symbols (A, L, LL, S, and SS) which in effect indicate numerical ranges of probability. The precise meaning of these symbols is stated on page 106.

### WORLD PERSPECTIVE

The world as a whole has lost economic unity with the advent of war. Great segments in Continental Europe, and in the Far East since December 7, 1941, are substantially cut off from one another and from the rest of the world. Trade in wheat as in other commodities no longer flows between the several segments even in the restricted degree permitted by trade barriers prior to September 1939. There is no price of wheat that can be regarded as a competitive world price, reflecting changing circumstances of supply and demand throughout the world.

Accordingly, global statistics summarizing world wheat stocks, crops, supplies, trade, and utilization, so far as it was ever possible to summarize them, are no longer of major significance. What matters more is developments in various parts of the world. The principal points with regard to the statistical position of wheat in the world (actually, only the world excluding Soviet Russia and China) may therefore be stated briefly.

Stocks of old-crop wheat in this restricted "world" at the beginning of 1941–42 were undoubtedly the largest in history, exceeding 1,500 million bushels. Their volume was equal to fully a third of a big crop and to nearly half of a small crop. The "world" crop itself in 1941 was a good one, the third largest in a decade. The huge inward carryover and the large new crop brought total supplies up to a level higher than ever before, 15–20 per cent above the average for the five years immediately preceding the war.

More than enough wheat thus existed in the world in 1941-42 to meet normal requirements for utilization. But the circumstances of war precluded free movement from areas of surplus to areas of deficiency. The total volume of international trade, as measured by the net exports of all net-exporting countries, seems barely to have exceeded 400 million bushels of wheat and flour as wheat, in contrast with a prewar average of about 575 million. Net exports of some 365 million bushels from the four major overseas exporters—Canada, Argentina, Australia, and the United States—constituted an abnormally large fraction of the world total, but fell about 80 million bushels below their prewar average. For the first time on record, Canada exported more wheat than all other countries combined.

With most of Continental Europe and the importing countries of the Far East unable to receive imports, the British Isles and Brazil were the only large markets open to the overseas exporters. It is quite probable that more wheat was sunk en route to destination than was actually received by any single importing country other than these two. Under conditions of shipping stringency, the proportion of world shipments exported in the form of flour was naturally larger than usual.

Total disappearance of wheat as food, seed, and feed, and for all other purposes except stockbuilding but including losses, inevitably fell below normal levels with so many importing countries shut off from the usual sources of supply. The total of wheat disappearance during 1941-42 in the world excluding Russia and China was probably somewhat the smallest in a decade, nearly 10 per cent below the peak of 1938-39. In the four major exporters, domestic utilization was up to the prewar average, and in the British Isles perhaps a little above. The heaviest decline of utilization occurred in Continental Europe. where for the whole area the level of 1941-42 may have fallen 10-15 per cent below the prewar average—more than this in some countries, less in others. Utilization of wheat flour in Continental Europe doubtless fell less than utilization of wheat, since considerably more flour has been extracted from each ton of wheat during the war than before.

The crop year ended with carryovers of old-crop wheat at a new high level in the world excluding Russia and the Orient. The outward carryover may have approximated 1,800 million bushels. It increased about 15 per cent in the course of the year. The four major

exporters were the principal holders: their fraction of the "world" total has risen successively from an average of 51 per cent in the five prewar years to 56 per cent at the end of 1939-40, 72 per cent at the end of 1940-41, and 79 per cent at the end of 1941-42. Roughly corresponding reductions occurred in the fraction held in Europe and afloat. The year-end stocks in Continental Europe were below the prewar average, though probably not in Germany; in the British Isles, on the other hand, they were relatively high. The United States held more than a third of the world's year-end stocks, an amount not far below an average United States crop. The politically determined and uneconomic prices of wheat in the United States hampered utilization of this abundant resource for feed.

Practically everywhere in the world, wheat, flour, and bread in 1941–42 lay under governmental controls, which extended from farm marketings through prices and transport to flour milling, and less generally to bread baking and rationing of consumption. The controls were naturally most complete in importing countries whose populations stood in jeopardy of short supply. But exporting countries with huge surpluses were impelled to maintain or strengthen governmental measures aimed at supporting the incomes of wheat producers.

The third war year thus presented the extraordinary picture of general abundance of wheat in relation to normal world requirements, immediate superabundance in the major overseas exporting countries, shortage in many importing areas. Even in World War I such a situation as this had not been witnessed. By the end of 1916-17, the third year of that war, shortage of wheat had begun to appear almost everywhere except in the exporting areas most remote from Europe. Such intensified world shortage as emerged in the fourth year of World War I is already precluded for 1942-43, its counterpart in World War II, by the enormous stocks of oldcrop wheat carried out of 1941-42.

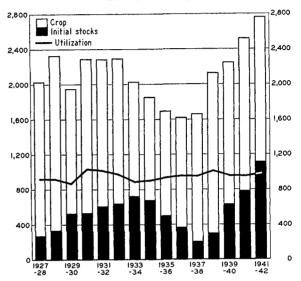
### MAJOR EXPORTERS

Supplies and disappearance.—The four chief wheat-exporting countries of the world

—the United States, Canada, Argentina, and Australia—held enormous wheat surpluses even during the first year of the war. Each succeeding war year has witnessed larger and larger accumulation of wheat supplies, as appears in Chart 1. Supplies from inward carry-

CHART 1.—WHEAT SUPPLIES AND UTILIZATION IN THE FOUR CHIEF EXPORTING COUNTRIES, FROM 1927–28\*

(Million bushels)



\* Data as shown in Table XXIII for 1936-37 and following.

over and new crops rose from about 2,250 million bushels in 1939-40 to 2,520 million in 1940-41 and 2,765 million in 1941-42.

The huge supplies of 1941–42 were large enough to provide amply for domestic utilization for fully two years and five months and still leave stocks at a normal year-end level. Alternatively, they were large enough to provide in 1941–42 for a normal year's domestic utilization and year-end stocks, and additionally to supply the importing countries of the world with three times as much wheat as they had absorbed from the major exporters in any of the five crop years preceding the war. No parallel exists in history for the tremendous accumulation of wheat supplies in the four chief exporters in 1941–42.

In larger degree than ever before, these supplies consisted of old-crop wheat. The initial stocks of 1941–42 totaled about 1,100 million bushels, the largest on record. In the

course of four years the inward carryover had increased five-fold from an abnormally low level; in the course of the first two war years it had nearly doubled.

Wartime curtailment of exports contributed to this increase. So also did the weather, for yields per acre were exceptionally high in 1939 and 1940. But governmental policies contributed as well. These were aimed broadly, especially in the United States, at holding wheat prices to producers at levels higher than the supply position justified. Therefore wheat could not be devoted in large measure to feed and industrial uses, so that increase of domestic utilization in the exporting countries was hampered. Policies also had failed to move vigorously in the direction of holding down wheat acreage.

The initial stocks of 1941-42, though of record size in the aggregate, were not so in all four exporting countries. The United States held slightly larger initial stocks in 1932-33, and Argentina considerably larger ones in 1939-40. Australian stocks had been heavier not only in 1940-41 but also in each of the years from 1916-17 to 1919-20 during and after World War I. Only the Canadian stocks of 480 million bushels were the highest in history, but the margin was very wide. The heaviest initial stocks previously on record, in 1940-41, were 180 million bushels smaller.

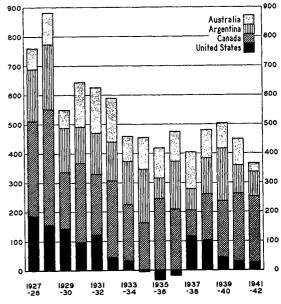
The total crop of 1941 in the four exporting countries, unlike the inward carryover and the total supplies, was not of record volume. At about 1,650 bushels, it had been exceeded in 1940, 1938, and six earlier years of the present century, including 1915. Nevertheless the 1941 crop was a good one, far above the low levels of the North American drought years, 1933-36. Yield per acre rather than acreage sown was responsible for the large outturn. At 114 million acres, the area sown was the smallest since 1925 and nearly 20 per cent below the peaks of 1937 and 1938, while vield per acre was one of the three highest in the same period, exceeded only in 1928. The 1941 crop was strikingly large only in the United States, where production had been exceeded only in 1915 and 1919. The yield per acre in the United States had not been exceeded since 1915, though the area sown, 62.3 million acres, was much below the peak of 81 million in 1937 and close to the official goal of 62 million.

Aggregate domestic utilization of wheat in the four exporting countries failed to expand much in 1941–42 despite the superabundance of wheat. Use of wheat for human food, as would be expected, showed only the trifling increase that usually occurs from year to year. Seed use declined with further curtailment of acreage sown for the 1942 crops. Feed and miscellaneous uses were distinctly larger than usual in Canada and Australia but below the average of recent years in the United States.

The net exports of 1941-42, so far as we can appraise them from incomplete official statistics, are shown with comparisons in Chart 2. The cutting off on December 7, 1941

CHART 2.—NET EXPORTS OF WHEAT AND FLOUR AS WHEAT FROM FOUR CHIEF EXPORTING COUNTRIES, FROM 1927–28\*

(Million bushels)



\* Data as shown in Table XV for 1934-35 and following.

of import markets previously open, together with intensified shortage of shipping after the United States entered the war, resulted in the smallest export flow of wheat and flour from these four countries since 1911–12. United States exports were relatively the smallest in relation to exportable surpluses, a result less of shipping shortage than of relatively high

politically determined prices and of British decisions to draw wheat mainly from Canada. Australian exports were next shortest in relation to exportable surpluses, in reflection chiefly of the impracticability of employing ships to carry wheat from so distant a source when plenty to fill British requirements was available in Canada. Canadian exports were liberal in view of the generally restricted export outlets, and constituted an extraordinarily large fraction of the total for the four countries. Argentine exports, like the Australian, were abnormally low in relation to available export surpluses, and for similar reasons. It was British policy to draw from relatively distant sources of supply only the agricultural products not available in desired quantities in the nearer sources. Thus exports of Australasian butter and wool and Argentine meat were well maintained in 1941-42, while grain shipments from Australia and Argentina were not.

The destinations of wheat exports in 1941-42 cannot be subjected to precise tabulation, but the general distribution is reasonably clear. As to components, flour undoubtedly made up an unusually large fraction of the wheat-and-flour total; it saves shipping space. The small shipments from the United States, moved mostly under subsidy, went mainly to Central and South America and the West Indies, though a little was shipped to the Orient in July-November 1941 and some went on lend-lease at least to the USSR, Britain, and Turkey. The small Australian shipments probably went more largely to the Orient (up to December), New Zealand, and the Middle East than to the United Kingdom. Almost half of the Argentine exports went to Brazil; most of the remainder (almost 40 per cent of the total) went to Spain and Britain; and very small amounts were shipped to other European neutrals and other neighbors in South America. Canada shipped the great bulk of her exports to the United Kingdom, but supplied Eire, Portugal, Switzerland, the Middle East, and the customary markets in the Western Hemisphere as well, and sent small relief shipments to Greece. Some Canadian wheat went to the USSR.

Quantitatively, the most important ulti-

mate destination of wheat exports in 1941–42 after the United Kingdom and Brazil was probably the bottom of the sea. Although statistics of shipping losses are no longer published, there is a basis for inferring that sinkings (non-Axis) in 1941–42 exceeded the 4,650,000 gross tons sunk in 1940–41. It is therefore reasonable to infer that a larger percentage of the wheat shipped to European destinations was lost in 1941–42 than in 1940–41, when the total quantity sunk was perhaps 20–25 million bushels. The sinkings of 1941–42 may be guessed as 20–30 million. Even the lower figure exceeded the net imports of any country except the United Kingdom and Brazil.

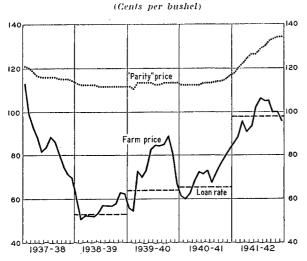
With the total supplies in the four chief exporters so large, domestic use of wheat about of normal volume, and exports small, stocks of wheat were again increased during 1941-42. The outward carryover exceeded the already huge inward carryover by about 300 million bushels, reaching the enormous total of 1,420 million-more wheat than had been produced on the average in the four drought years 1933-36. The bulk of the increase in carryover came in the United States, which held on July 1, 1942 the altogether unprecedented stock of 625 million bushels. Australian year-end stocks rose to a level of 150 million, comparable only with the August 1 stocks of 1918. Argentine stocks rose to 220 million bushels, the biggest on record except for 1939. Canadian stocks on the other hand declined, but only to about 425 million bushels, the equivalent of a good crop.

Conservation of wheat for human use, and rationing of flour or bread to consumers, were of course utterly unnecessary in the major exporting countries during 1941–42, and no steps were taken in those directions.

Prices and policies.—The principal objective of governmental wheat policy in each of the four major exporting countries in 1941-42 was, as in earlier years, to support returns to wheat growers, chiefly the prices received, in the face of pressure toward low prices generated by larger and larger supplies. The strongest efforts to improve the financial status of farmers have been made in the United States and Australia; the weakest probably in Argentina.

Some indications of the effects of policies on price are provided by the following facts. Between the last prewar year, 1938-39, and the third war year, 1941-42, average annual farm prices of wheat in the United States rose from 56 to 97 cents per bushel (Chart 3), or

CHART 3.—UNITED STATES AVERAGE FARM PRICES, PARITY PRICES, AND LOAN RATES FOR WHEAT, MONTHLY FROM JULY 1937\*



\* Data of the Bureau of Agricultural Economics.

over 70 per cent. The general level of wholesale prices rose only 24 per cent. Wheat therefore gained heavily in purchasing power. Somewhat similar were developments in Australia, where the guaranteed governmental price to producers on the great bulk of the 1941 crop was 3s.10d. per bushel (bagged basis at ports) as against about 2s. 10d. paid, but not guaranteed, on the small portion of the 1938 crop taken over by the government. This increase of nearly 30 per cent compares with an increase of about 16 per cent in wholesale prices generally. In Canada, on the other hand, the farm price for the 1941 crop at 55 cents was 4 cents below the price for 1938, while wholesale prices generally rose 30 per cent; here wheat lost purchasing power. Although farm prices for Argentina are not available, market prices of wheat at Buenos Aires indicate a small decline, while wholesale prices in general rose 70 per cent and loss in the purchasing power of wheat was heavy. The gain in purchasing power of wheat in the United States came mainly between 1940–41 and 1941–42, as a result of legislation that forced the loan rate offered by the Commodity Credit Corporation very much higher. The bulk of the gain in Australia had come between 1938–39 and 1939–40. Prices received by farmers for wheat in 1941–42 were far higher in the United States than in each of the other major exporting countries, especially Argentina. Only the import-quota system prevented heavy wheat imports into the United States over the 42-cent tariff wall.

Wheat-futures markets continued to operate at Chicago (and other United States markets) and Winnipeg, while the market in Buenos Aires ceased to function after November 15, 1941. At Winnipeg the course of prices was determined mainly by governmental policy, particularly as reflected in the established minimum levels for wheat futures; and market prices remained at or close to those levels throughout the year. Fluctuations were much wider at Chicago, where traders were influenced by changing prospects for future governmental action bearing on wheat supplies, wheat-loan rates, and prices; but the volume of futures trading was strikingly low.

Wheat control in Argentina continued to be exercised by the Argentine Grain Regulating Board (GRB). The scope of control was widened in 1941-42 when, apparently after November 1941, the GRB became the monopoly buyer of wheat from producers and sole seller to domestic millers and for export. The fixed purchasing price for the 1941 crop was held the same as that for the 1940 crop, 6.75 pesos per quintal at Buenos Aires—about 55 cents (U.S.) per bushel. Selling prices after the harvest of the 1941 crop in December were held higher for new-crop than for old-crop wheat. Domestic millers continued to pay prices higher than were charged for export sales; typical levels of price for old-crop wheat were 9.00 pesos per quintal to millers, 6.90 pesos for export. No specific measures to discourage sowing of wheat for the 1942 crop were taken, though the price policy itself was not encouraging and officials urged farmers to divert acreage to crops other than wheat, linseed, and maize, or even to let it lie idle. No price guarantee for the 1942 wheat crop

was given until the new crop was close to harvest. Argentine official policy made no move in the direction of expanding the domestic use of wheat.

In Australia, the Australian Wheat Board (AWB) has continued since the war began to hold full authority over receiving, handling, storing, and marketing all marketable wheat. A Wheat Industry Stabilisation Board (WISB), formed during 1940-41, apparently deals with the problems of production control. The AWB, after receiving wheat from producers, is obligated eventually to pay the guaranteed price of 3s. 10d. per bushel on 140 million bushels of "marketed crop" of 1941, advancing less than this at the time of receipt. On "illegitimate" wheat in excess of this amount the payment decided on late in the crop year was only 2s. per bushel, while payment on the "legitimate" excess was in dispute as the crop year closed. The level of guaranteed price on the "marketed crop" of 1941 was slightly less than the payments (not guaranteed) made on the crop of 1940. The AWB sold wheat at a relatively high price level to millers for domestic use (5s.2d.), at a lower level for export (4s.), and, late in the year, at a level 6d. lower, for domestic livestock and poultry feed. This subsidization of feed wheat represented a first step toward absorption of wheat surpluses through expansion of domestic utilization, and plans to use wheat for fuel and manufacture of alcohol were discussed but had not matured by the end of the crop year. A form of acreage control through the WISB was first in effect for the 1941 crop, by issuance of licenses to individual producers. A lower level of acreage was licensed for the crop of 1942, with reduction heaviest in Western Australia. The great bulk of the wheat stocks existing in Australia, as in Argentina as well, was governmentowned at the end of 1941-42.

The most prominent features of Canadian wheat policy in 1941–42 were guaranteed prices to producers, controlled marketings, and subsidized reduction of wheat acreage. The guaranteed price paid by the Canadian Wheat Board (CWB) was 70 cents (Can.) per bushel, basis No. 1 Northern in store at Fort William–Port Arthur, the same as in 1940–41

and 1939-40. The flow of wheat from farms was scheduled so as to minimize congestion at elevators, and limited in total to 230 million bushels. The excess harvested had to be used or stored on farms; but the problem in 1941-42 was minor because the crop was not much above the marketing quota. The scheduling of marketing, but not the limitation, had been in effect during 1940-41. Subsidization of acreage diverted from wheat was an innovation first operative on the 1941 crop. Growers were paid \$4.00 per acre for diverting wheat to summer fallow, \$2.00 for diversion to rye, coarse grains, or grass. The area sown was reduced about 20 per cent between 1940 and 1941. A processing tax of 15 cents per bushel on wheat ground for domestic consumption in 1940-41 was discontinued in 1941-42 with the intention of avoiding advance in bread prices. Transactions between the CWB and the British Cereals Imports Branch, the chief buyer of export wheat, took the form of sale and purchase of huge blocks of wheat futures. Short crops of feed grains, an expanding livestock industry, and rising prices of feed grains in relation to wheat stimulated use of wheat for feed. Toward the end of the crop year the government, in the interests of improving human nutrition, sponsored a voluntary program of flour improvement and production of a type of whole-wheat flour. The most important change in the Canadian official program made toward the end of 1941-42 in anticipation of the new crop year was elevation of the guaranteed price from its earlier level of 70 cents to 90 cents for the 1942 crop.

The dominant objective of wheat policy in the United States in 1941–42, in fact if not in official phrasing, continued to be enhancement of the income of farmers. "Parity price" continued the specific goal—a price at the farm such that the purchasing power of a bushel of wheat over commodities bought by farmers would be as high currently as it was in 1909–14. Subordinate objectives were reduction of wheat acreage and diversion of surpluses to non-food uses and export. The major operating agency continued to be the Commodity Credit Corporation (CCC), which as usual made loans on wheat to farmers at rates designed to exceed prices that would

prevail under a freely competitive system, and came into ownership of more and more of the collateral when farmers chose not to redeem their loans. It sold wheat below going prices for export and feed use, and—late in the year—for industrial-alcohol manufacture, the Treasury absorbing losses. The Agricultural Adjustment Agency continued to pay conservation and parity payments to farmers co-operating in its acreage-control program.

The major developments of 1941-42 can be summarized briefly. Farm prices of wheat, as shown in Chart 3 (p. 90), were brought to much the highest level in four years, in spite of the existence of enlarged wheat supplies and surpluses. This was accomplished by elevation of the CCC's loan rate from 65 1/2 cents a bushel in 1940-41 to 98 cents in 1941-"Parity price" itself advanced during 1941-42 and was not attained by farm prices, but, at 76 per cent of parity, these were relatively nearer the goal than they had been in the three preceding years. The CCC, which held under pooling arrangements or under loan slightly over half of the carryover of 386 million bushels on July 1, 1941, raised its holdings to about two-thirds of the carryover of 627 million bushels on July 1, 1942. Sales by the CCC aggregated 87 million bushels, of which 36 million were sold at loss for feed, 21 million for subsidized export, and less than 4 million for manufacture of alcohol. These cut-price sales swelled the total of wheat diverted to non-food uses beyond what it would otherwise have been, but the general highprice policy imposed by legislation was not enough vitiated thereby to swell total nonfood uses significantly. Conservation and parity payments aggregating 18 cents a bushel on normal production of co-operating farmers were held to practically the same level as in 1940-41. The acreage goal for the 1941 crop, 62 million acres as announced in May 1940, was the same as that for 1940 and the area actually sown closely approximated the goal. A lower goal of 55 million acres—the minimum under existing legislation but more than the supply position justified-was set in May 1941 for the crop of 1942.

It was abundantly evident in 1941-42 that national wheat policy moved strongly toward

enhancement of farm price and income, but reluctantly and irresolutely toward acreage reduction and expansion of low-price uses for wheat. It was not until July 22, 1942, after months of effort by the farm bloc to hamper CCC sales below parity prices, that the Congress passed legislation permitting unrestricted sales of CCC wheat for alcohol production and sales of 125 million bushels for feed at a price not less than 85 per cent of the parity price of corn.

For the first time, in May 1941, producers had to be called upon to vote on the adoption of marketing quotas for wheat. The vote was favorable, as was not surprising since an adverse outcome would have jettisoned the loan programs. The effects of the marketing-quota system operative in 1941–42 upon supplies, utilization, and prices were not striking.

In the course of the year, and especially after the country was at war, prevention of general price inflation became a prominent problem and a governmental objective. The Emergency Price Control Act, approved January 30, 1942, empowered the Price Administrator to fix ceilings on prices of agricultural commodities, subject to veto by the Secretary of Agriculture. For wheat, the lowest level that could be fixed as a ceiling was 110 per cent of "parity price." Since prices were far below this level, no ceiling was announced. But on April 28, 1942, ceilings on millfeeds, prepared flours, packaged cereals, and bread were established at the highest levels of price reached in March. The implications of legislation that on the one hand forbids imposition of price ceilings on agricultural commodities before a high level of price has been reached and makes no provision for holding down labor costs, and on the other hand permits ceilings to be placed on articles fabricated from agricultural products, were only beginning to be widely recognized as the crop year closed.

Several factors may have tended to increase per capita flour consumption in the United States in 1941–42, but available evidence suggests only a very small change. The flour and bread consumed was, however, of enhanced nutritive value. Millers and bakers produced enriched flour and bread increasingly as the BRITISH ISLES 93

year passed, in a degree not measurable; but it seems reasonably probable that half or more of the flour and bread consumed by the end of the year was enriched.

### BRITISH ISLES

The wartime wheat and flour policy of the British Isles-both the United Kingdom and Eire—has been directed toward the major objectives of assuring the population of a continuously ample supply of nutritious bread at low prices, and of economizing in the use of ships to transport wheat from overseas sources. In furtherance of these major objectives in the United Kingdom (which annually utilizes about twelve times more wheat than Eire), domestic wheat output has been stimulated by governmental subsidies for plowing up permanent pasture and by guaranteed returns per bushel to producers; heavy governmental reserves of wheat and flour have been accumulated; imports have been monopolized by the government; and the national treasury has incurred heavy costs in keeping bread prices at fixed low maxima in the face of rising c.i.f. prices of imported wheat. The use of wheat for feed and in industry has been discouraged. Wheat furnished about a third of the nation's food calories in peacetime and has become more important during the war.

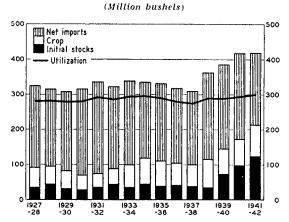
Prior to March 1942, consumers were provided with as much as they demanded of wheaten products made from white flour milled at approximately the normal peacetime extraction rates. From June 1941, the flour was fortified in increasing degree with vitamin B, (thiamin) in the interests of improved nutrition—a program adopted in principle many months before. As of March 23, 1942, however, the system of fortification was apparently abandoned. After that date, millers were no longer permitted to manufacture flour of less than 85 per cent extraction. Until July 13, bread and pastry had to contain at least 75 per cent of the new National Wheatmeal Flour and no more than 25 per cent of white flour either imported or milled earlier domestically; and after July 13 the minimum proportion of National Wheatmeal Flour was raised to 87½ per cent.

The major purpose of this shift to a darker bread was to economize on shipping space by saving 10 pounds in every 100 of wheat that had still to be imported for eventual conversion to edible wheat products. The resulting loss of bran and middlings for livestock feed was not expected to involve curtailment of livestock rations before August 1942, since ample stocks of maize were available in March.

Flour and bread remained unrationed in the British Isles throughout 1941-42, except in Eire for about a month toward the end of the crop year. The four-pound loaf of bread in Britain was priced during the year at only 8d., even below the level of  $8\frac{1}{2}d$ . in each of the two preceding years, and still further below prewar prices. This stands in contrast with an increase of about 22 per cent in the general cost of living between September 1939 and July 1942.

Official British statistics of wheat and flour stocks, crops, and imports have not been published for the past three crop years. Nevertheless an approximate picture of supply and utilization in the British Isles, as in Chart 4,

CHART 4.—WHEAT SUPPLIES AND UTILIZATION IN THE BRITISH ISLES, FROM 1927–28\*



\* Data as shown in Table XXII for 1934-35 and following.

may be ventured on the basis of official statements and reasonable inference. The initial stocks of 1941–42 were presumably the largest on record, perhaps around 125 million bushels in comparison with a normal level of 30–40 million. These stocks may well have equaled five months of wheat utilization.

The combined wheat crop of the United Kingdom and Eire in 1941 may have approximated 90 million bushels, some 10 per cent above the largest prewar crop (1938) which was itself much above the usual level prevailing between 1921 and 1938. An acreage lifted some 30 per cent above the prewar average by governmental stimulus was dominantly responsible for the high level of production; yield per acre was probably a little below average.

In contrast with the heavy initial stocks and large new crops, and in part because of them, the net imports of 1941–42 were relatively small—perhaps not significantly over 200 million bushels. During the decade preceding the war, annual net imports usually ranged from 5 to 30 per cent larger. Despite these relatively small imports, the British Isles loomed proportionally larger than ever before in the wheat-import market of the world, with so many other importing nations cut off from international trade.

How much wheat and flour was sunk en route to Britain is not of public record. We infer that such losses during 1941-42 were proportionally larger than in either of the two preceding war years, and may well have exceeded 10 per cent of the shipments. As a matter of policy and in reflection of the shortage of shipping, the great bulk of the imports originated in Canada and was shipped from the eastern ports. Argentina apparently made a poor second in shipping British imports, only a few million bushels came from distant Australia, little or none from India, and perhaps only a million or two bushels from the United States under lend-lease arrangements. American food shipments to Britain were predominantly of animal products, and Argentine shipments were more largely of meat than of wheat and maize. British food-import policy, given the shortage of shipping, appears to be to draw upon Canada for as much animal produce as possible and most of the necessary cereal imports, upon Argentina for animal produce and a moderate amount of cereals, and upon the United States for animal produce almost exclusively. Animal products rather than cereals seem to move from Australasia.

With initial stocks of wheat and new crops so large in the British Isles and imports substantial though reduced, total available supplies in 1941-42 were probably somewhat the largest on record. The level of utilization may also have been extraordinarily high. Seed use was presumably heavy because of expansion in area sown. Feed use was probably light in view both of restrictions on use of wheat grain for feed and of lower mill-feed supplies resulting partly from the change in extraction rates toward the end of the year and partly from emphasis upon wheat-flour imports. It seems probable that the volume of wheat flour consumed for human food in 1941-42 was appreciably above the prewar average.

The crop year perhaps ended with stocks of wheat and flour almost as high as at the beginning of the year—around a five-month supply. Bread had been kept cheap and abundant for the third war year in succession, despite heavy losses of imports en route. The single sign of increasing stringency in the wheat position of the British Isles evident during 1941–42 was the shift to a darker type of bread.

## CONTINENTAL EUROPE EX-RUSSIA AND NORTH AFRICA

Although the statistical blackout for this area is almost complete, certain important facts regarding bread-grain production and consumption stand out clearly. These furnish the basis for further inferences, which warrant presentation in the absence of more reliable information. The following discussion is limited to an analysis of the bread-grain position, and often, more narrowly, to wheat alone. Although this fails to give a complete picture of the food situation as a whole, the bread position may properly be regarded as the best single index. In peacetime the bread grains are considerably more important sources of food calories on the Continent than in the British Isles, especially in the south, east, and southeast.

Crops and inward carryovers.—Among the few definitely established facts in the Continental food situation one may count the knowledge that the 1941 wheat and total bread-grain crops were considerably below

average, but less sharply below than those of 1940. Current quantitative expressions of this fact, however, differ substantially. For the Continental wheat crop the better known guesses range from about 1,330 to 1,380 million bushels. We continue to use our own earlier approximation of 1,360 million bushels which lies not far from the middle of the indicated range.

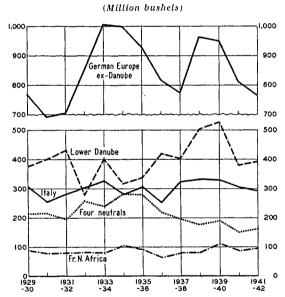
The poor Continental wheat crop of 1941 reflected below-average harvests in every major area—a result of both adverse weather and wartime shortages of labor, equipment, and fertilizers. In southern Europe, Spain, recovering slowly from civil war, harvested a crop reported to be 24 per cent below her 1934-38 average, while in northern Europe, Sweden secured less than half a normal outturn. But most of the crop reductions reported and implied were less spectacular. Italy's official estimate indicated only a slight decline from average; the Danubian crops as a group were presumably reduced by less than 10 per cent; and the aggregate wheat crop of German Europe ex-Danube was probably 10-15 per cent below average (Tables II and III). In contrast to these various substantial reductions, the wheat harvest in French North Africa may have been of good size, reflecting average to high yields per acre.

The general wheat-supply position within Continental Europe and French North Africa is pictured broadly in Chart 5. Total domestic supplies for 1941-42 were strikingly lower than in most other recent years in German Europe ex-Danube and also in the group of neutral countries. On the other hand, the supply of wheat in the Danube basin and the quantity reportedly available to Italy were not far below normal, while the estimated supply in French North Africa was relatively large. As compared with 1940-41, small increases were indicated for all of the areas here considered except Italy and German Europe ex-Danube, where reductions in inward carryovers more than offset the moderate increases registered in wheat production.

Other crops.—Supplies of other grains and potatoes influenced the Continental wheat position more than usual in 1941–42. Rye, like wheat, was in short supply, though much less

sharply reduced from average (Table VI). The Continental potato harvest was apparently only slightly above average, in spite of a sizable increase in planted acreage; and in central Europe low temperatures in the autumn and winter of 1941 resulted in heavy post-harvest losses. The remaining supplies of potatoes were more than adequate to cover normal food needs; but wartime requirements were so far above normal and the supplies so unevenly distributed that many areas were unable to meet the expanded demand for potatoes for food. In addition, there was a general serious shortage of potatoes for feeding purposes.

CHART 5.—WHEAT CROPS PLUS INITIAL STOCKS IN CONTINENTAL EUROPE AND FRENCH NORTH AFRICA, 1929-41\*



\* Data as shown in Tables II, III, and XIV for 1934-35 and following. German Europe is the Continent exclusive of Italy and the four neutrals.

The Continental feedstuffs position was critical—much worse than it had been in 1940-41. Corn, barley, and oats all made small crops in 1941 (Table VI), and the current shortage of bread grain led to diversion of increased quantities of corn and barley to human food. In the Danube basin, where corn is used for food in substantial quantities even in peacetime, the 1941 corn harvest was only fair. In that area, and also in Italy

and Spain, corn supplies were considerably smaller than in 1940-41, whereas the demand for corn for food remained heavy or appreciably increased.

Trade.—Grain imports into Continental Europe from areas outside were confined to fairsized shipments of wheat and corn under navicert from Argentina to Spain, small authorized shipments of overseas grain (mainly wheat) to each of the other three neutral countries and to Greece, and shipments of moderate amounts of French North African grain across the Mediterranean Sea to French ports. In total, the net imports of wheat from these various sources seem unlikely to have exceeded 40-45 million bushels. Of these, something like 15 million bushels represented Spanish imports from Argentina (p. 89) and probably another 15 million represented French and (indirectly) German imports from French North Africa.

Portuguese net imports of wheat, officially reported at 5.2 million bushels in August–July, were the largest in more than a decade. These imports were drawn predominantly from Canada, whereas the smaller imports of Switzerland came partly from Canada and partly from Argentina, and the still smaller Swedish imports (probably not significantly over a million bushels of wheat) came almost wholly from Argentina.

The only Axis-occupied nation to benefit from overseas shipments of grain and flour was Greece. In Athens-Piraeus famine conditions became so serious that the British government allowed small quantities of food to be shipped to Greece through the British naval blockade. In the summer and autumn of 1941 authorized imports were limited to scheduled shipments of food from Turkey, in co-operation with the Turkish Red Cross. These apparently included very little wheat and flour; but in the following winter arrangements were made for distribution by the International Red Cross of more signficant quantities of grain and flour from North America. Up to mid-June, however, Allied and neutral countries combined were reported (by the Parliamentary Secretary to the British Ministry of Economic Warfare) to have shipped to Greece through the blockade only about three-quarters of a million bushels. Before the end of the crop year provisions had been made for the shipment of around 550,000 bushels each month under the auspices of the Greek War Relief Association and the Swedish and International Red Cross, but the first shipments under this plan were not received until August 29, 1942.

The Axis countries also claim to have made relief shipments of bread grain to Greece during 1941–42; but such shipments (publicized at over 2 million bushels) presumably did not compensate for the Greek wheat, to say nothing of the large quantities of other Greek foods, that the Axis forces had requisitioned or "bought" with occupation marks for their own use in the summer of 1941.

The bulk of the Axis wheat that went to Greece was reported to be from Italy. Yet that country was almost certainly a net importer, not a net exporter, during the crop year. By treaty Italy was supposed to receive 40-50 per cent of Hungary's wheat exports in 1941-42; and although the magnitude of these exports is not known, they were perhaps in the neighborhood of 15 million bushels. Moreover, near the end of the crop year Italy was rumored to have "borrowed" from Germany nearly 4 million bushels of wheat-grain that probably originated in the Danube basin, French North Africa, or France. Whether this loan was actually made, or, if so, whether it was partly or wholly repaid out of Italy's early harvest before August 1, 1942, is not clear.

Germany was presumably the largest net wheat importer in Continental Europe during 1941-42. She had arranged by treaty to receive half of Hungary's exports; she secured substantial shipments of wheat from France (indicated by one French source to approximate 4.5 million bushels during July-April); she apparently obtained for her fighting troops small shipments from Rumania and Bulgaria, despite existing export embargoes; and she presumably drew from the German-dominated areas of old Poland, Czechoslovakia, and Yugoslavia significant, if not substantial, amounts of wheat and rye that were needed to supply the native populations of those countries. As a partial offset to these imports, Germany exported small quantities of bread grain (partly rye) to Norway, Finland, Belgium, and perhaps Greece. In total, German net imports of wheat, though sizable, were probably well below the five-year prewar average and disappointingly small to German agricultural planners who had counted on large grain imports from the Danube basin and the USSR to bolster the German war economy. From the USSR little or no bread grain appears to have been sent to the German Reich in 1941–42 in spite of Axis occupation of the Ukraine during most of the year.

France probably ranked second only to Germany as a Continental net importer of wheat, but her net imports may have been only about half as large. Much depends on the size of the wheat exports from French North Africa—here tentatively assumed to have approximated 15 million bushels—and on the final distribution of these exports between France and Germany. But if the total shipments of wheat from France to Germany actually came to only 4.5 million bushels in July-April 1941-42 (see above), it seems probable that France herself was a net importer of 5-10 million bushels during the crop year.

Finland, Belgium, and Norway were all small net importers of bread grain that was drawn from other Continental sources. Germany agreed to deliver to Finland in 1941–42 a quantity of bread grain reported by various Continental news dispatches to total 4.5 or 5.5 million bushels. We believe the official Finnish statement that these deliveries were fulfilled; but what proportion was wheat and what proportion rye seems never to have been revealed. Belgium probably obtained very little wheat in 1941–42—mainly from France in exchange for deliveries of artificial fertilizer and through legal allowances to Belgian workers in France and Holland.

In total, the net imports of wheat into Continental Europe exclusive of Russia and the Danube basin may have reached 55-60 million bushels, with half or more from the Danube area and French North Africa and about half from overseas. Such imports would have been somewhat smaller than those of the preceding year (Table XV) and the smallest in more than half a century.

Utilization and carryovers.—The inferences here drawn as to the size of wheat crops, imports, and carryovers in Continental Europe ex-Russia during the past two years imply that wheat utilization in that area in 1941–42 was 10–15 per cent below normal and about the same as in 1940–41 (Chart 6). This re-

CHART 6.—WHEAT SUPPLIES AND UTILIZATION IN CONTINENTAL EUROPE, FROM 1927–28\*

(Million bushels)

2,400
Crop Initial stocks
2,000
Utilization
1,600
1,200
800
400
1927
1929
1931
1933
1935
1937
1939
1941

\* Data as shown in Table XXII for 1934-35 and following.

duction proved serious not because of its absolute magnitude, but because it was unevenly distributed over the population of the Continent and because many other basic foods were in shorter supply than bread.

Of the total utilization, seeding must have accounted for about as much wheat as usual, since reduced original sowings were probably later offset by abnormally heavy resowings. Moreover, there was probably no reduction from normal in the quantity of wheat lost and wasted. In spite of substantial decline in the Continental wheat crop of 1941, the amount of unmillable grain was probably of average size or larger as a result of persistent rains at harvest time. In addition, a significant amount of wheat must have been lost through British activity against enemy shipping in the Mediterranean and through air bombardment of Axis-controlled cities, ports, and railroad centers.

One can only speculate as to the amount of wheat fed to livestock in Continental Europe

ex-Russia in 1941-42. On the one hand, feeding of millable bread grain was forbidden by law in practically every country. On the other hand, regulation of the activities of millions of peasants is extremely difficult to enforce, and disregard for legal provisions was fostered by the existing shortage of other feedstuffs, by the reduction in price spreads between wheat and feed grains, by the high premiums offered for livestock and livestock products in both legal and black markets, and by the antagonism that farmers in the German-occupied countries felt against the governing authorities. We venture the guess that, despite strengthened government controls, the total amount of wheat fed on the Continent ex-Russia in 1941-42 was considerably larger than in the preceding year and perhaps not far below the average for prewar years. Feeding of millable wheat was probably not extensively practiced in Germany, or in the Scandinavian countries where such feeding had been relatively heavy before the war. But in France, the Low Countries, Italy, and parts of the Danube basin, substantial quantities of millable wheat probably went for feed in 1941-42. In general, the countries with relatively large farm populations and flourishing black markets were the most likely to be characterized by widespread illegal feeding of bread grains. Furthermore, legal feeding of unmillable wheat was probably unusually heavy in central and western Europe in 1941-42 as a result of the damage caused by persistent harvest rains.

With little or no reduction from average in the aggregate disappearance of wheat for seed, feed, and loss, the amount remaining for food necessarily showed a larger percentage decline than the total supply available for all purposes. Prior claims on this reduced food supply were exercised by the growers themselves and by the officials responsible for securing food for the armed forces of the different countries. The millions of Axis soldiers in Continental Europe and Africa undoubtedly consumed more bread per capita than most of them had consumed as civilians in prewar years, and it is perhaps reasonable to infer that the amount of wheat used for their bread was significantly, though much less sharply, increased. Farmers, as a group, probably consumed somewhat less wheat as food in 1941–42 than they had before the war; but judgment on this point is obscured by lack of adequate information on the efficiency of government controls over farm deliveries of grain, the prevalence of bartering and black-market operations, and the price relationships existing among different farm products usable as food. In any case, however, it seems clear that farm consumption of wheat was reduced little, and proportionally much less than the total amount of wheat available for food.

The major burden of the decline in the wheat supply of 1941-42 thus had to be borne by city consumers of bread. Even more important, this burden was not shared equally by the different classes of consumers within individual cities or by the city populations of different countries. Legal differentiation among consumers of the same city was in most instances based only and properly on different estimated physiological needs; but in Poland, and to a lesser extent in Germany and some other German-occupied areas, higher rations were legally available to Germans than to other nationals, and the lowest rations were given to Jews. More widespread were the differences in the amounts of bread, flour, and pastes obtainable by different classes of consumers through illegal purchases or bartering. In countries like France, the Low Countries, Spain, and Italy, where black markets flourished, the well-to-do classes could readily supplement their rations through the purchase of "bootleg" supplies at high prices and through legal or illegal dining in restaurants. Indeed, such supplementary portions were available also to many who were not wealthy. Flour and bread were often given or sold cheaply without ration cards to lower-income consumers on the basis of friendship, or in exchange for some other rationed products, or in return for a professional favor. Whatever the reason or the method employed, such operations tended to reduce the legal bread-flour rations and discriminated against persons unable to obtain a share of the food illegally supplied.

In most urban centers, the legal distribution of bread, flour, and pastes through rationing seems to have been better organized in 1941–42 than the year before: bread queues were apparently less common and, except in Greece, fewer consumers found themselves unable to obtain bread against their ration cards. On the other hand, these facts do not imply a reduction in the volume of illegal trade. Indeed, it is entirely possible that the various black markets also benefited from experience and that the volume of bread grain exchanged illegally was larger in 1941–42

than in 1940-41. The improvement noticeable in the legal distributing system was made possible only through widespread reductions in the bread rations that had been in force in 1940-41 and through further imposed deterioration in bread quality.

The following table of combined bread and flour rations in the leading cities may not be correct in all details, but comparison of the indicated rations for December 1940 and December 1941 (to say nothing of subsequent

Bread Rations (Flour Included) in Continental Europe, at Specified Periods\*

(Ounces per	capila per	· week for adu	(18)		
Country	Dec. 1939	Dec. 1940	Dec. 1941	Apr. 1942	July 1942
			Neutral		
Switzerland: Bread	Free Free	Free 14	Free	Free	Free
Portugal.	Free	Free	Free	Free	Free
Sweden	Free	65-97	57-78°	57-78°	57-78°
Spain (Madrid)	Free	37	25-37	20–37	20-37
			DANUBE EXPORT	TERS	
Hungary	Free	Free	84-170 <sup>a</sup>	71-156	45-153
Bulgaria	Free	$\mathbf{Free}$	104-203	68-132°	$68-132^{\circ}$
Rumania: Wheat	Free	${f Free}$	Free	53-106′	35-70′
Maize	Free	Free	Free	122-245′	99-1981
Croatia	Free	Free	Free	52-102	40-77
		Axis a	ND OTHER OCCU	pied Areas	
Germany	86-170	80-165	80 -165	72-156	72-156
Italy: Bread	Free	Free	49-123	37-111	37-111
Pastes <sup>a</sup>	Free	17	17-22	17-22	17-22
Denmark	Free	$71-97(18)^{9}$	80-129(17)	80-129(17)	80-129(17)
Netherlands	Free	84-168*	71-1354	71-135	71-135°
France	Free	87–111	70-88	70–88	70-88
Norway	Free	73-122)	64-112	64-112'	64-112
Belgium	Free	56-103	56-103	56-103 49-111	56-103
Finland	Free	62-148	49-106 76-111	49-111 44-77	49-111 44-77
Slovakia	Free Free	$\mathbf{Free^{k}}$	25. 40 <sup>t</sup>	17. 34 <sup>1</sup>	$\frac{44-77}{40^{1}}$
	1100	1100	10, 10	11,04	•

<sup>\*</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 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.

bread on other days, mixed maize bread rationed at 17-35 ounces per day in April and 14-28 ounces in July. Straight maize flour apparently unrationed.

- " Figures in parentheses show wheat-products ration.
- <sup>h</sup> Wheat-products ration; higher ration for rye products.
- 1 Includes rice and other cereal products.

<sup>&</sup>lt;sup>a</sup> Flour, pastes, and maize flour, without conversion to bread equivalents; for Italy also includes rice (from Mar. 15, 1942 ration in southern Italy raised 4 ounces).

b Flour and maize free, but pastes limited to 12 ounces.

<sup>&</sup>lt;sup>e</sup> Including oatmeal, etc., and in spring 1942 also small cakes. Prior to May 29, 1942 half of the ration could be wheat products, thereafter only 37 per cent.

d Budapest and environs.

<sup>&</sup>quot;Applies to 6 days with 1 day wheatless.

f Daily ration of 10-21 ounces wheat bread available only 5 days per week in April, and 9-18 ounces 4 days per week in July. On wheatless days and as an alternative to wheat

<sup>&</sup>lt;sup>1</sup> In December 1939, flour rationed at 82 ounces to prevent hoarding; later rations include legumes, rice, potato flour, etc.

k Pastes rationed at 2.5 ounces per week.

<sup>&</sup>lt;sup>1</sup> Legal rations frequently changed and often unobtainable. Figures indicate rations most commonly reported.

changes) accurately shows the general drift toward reduction of urban bread rations for 1941-42. With regard to bread quality, it suffices to say that by the third war year no country in Continental Europe permitted the production of white wheat bread and only a few allowed unadulterated wheat bread of any sort. Legal extraction rates for wheat flour ranged mainly between 85 and 90 per cent, and stood higher than in 1940-41 at least in Italy (88 per cent), Germany (94 per cent or higher from April 1942), Switzerland (90 per cent), Rumania (90 per cent), Bulgaria (90 per cent or over), and parts of Yugoslavia (90 per cent in Serbia and the Banat). Requirements for mixing other cereals with wheat for bread flour were well developed by the late spring of 1941; these were maintained or made more stringent during 1941-42. In the spring of 1942 so-called "wheat" bread was made from flour containing less than 75 per cent of wheat in Italy, Holland, Norway, Bohemia-Moravia, Hungary, Bulgaria, and Yugoslavia, and only "mixed" bread containing whatever cereals were available was sold in Belgium, Finland, Spain, and Greece.

The extent to which the urban inhabitants of the different countries have suffered through forced curtailment of their prewar bread consumption is not entirely clear from the ration table shown here, since even in peacetime there had been large differences in per capita bread utilization in the various nations. Broadly, the following conclusions appear justified on the basis of available evidence. (1) In Portugal and Switzerland consumers have been affected mainly by deterioration in the quality of their bread, though some have found the legal allowances of flour and pastes slightly restrictive. (2) In Greater Germany, Sweden, and Denmark city dwellers have not been able to secure as much bread as many would have liked to buy, but their rations have been generally adequate. (3) The sharply restrictive "wheat"-bread rations introduced in the chief cities of all the Danubian countries during the winter and spring of 1941-42 seem to have been associated with real distress only in Yugoslavia, since elsewhere substitute foods (including corn-meal products, rye bread, other cereals,

and/or potatoes) were apparently in ample supply. (4) In Spain, France, Belgium, Norway, Finland, and parts of Yugoslavia, city consumers who could not obtain bread and flour regularly through illegal channels had much less than they needed in view of the prevailing shortage of other foods. (5) The inhabitants of Athens-Piraeus and other Greek cities and the Jews in the large cities of Poland have suffered to the point of starvation as a result of inadequate rations of bread and other foods.

The crop year 1941-42 witnessed the extension through most of Continental Europe of evidences of undernourishment - loss of body weight, increase in the incidence of various diseases and particularly tuberculosis, and rising death rates. These adverse developments seem to have been least prominent in the neutral countries exclusive of Spain, and in Germany, Denmark, and the Danube exporting countries exclusive of Yugoslavia. Only in Spain did there appear to be some improvement in food and general health conditions as compared with the preceding year, and there the situation remained unsatisfactory. The greatest deterioration in health occurred in Greece, where the low legal food rations were often unobtainable and deaths from starvation rose to a high peak in February. Partial relief came to Greece in the spring of 1942 with the organization of massfeeding centers in Athens-Piraeus by the International Red Cross; but the food supplies available, even as increased by relief shipments from abroad, remained critically inadequate.

The maintenance of wheat utilization in Continental Europe in 1941–42 even at the reduced level shown in Chart 6 (p. 97) was made possible only by substantial drafts on the wheat reserves of various countries. Swiss and Swedish officials publicly admitted concern over their declining stocks of bread grain and there is good reason to suppose, despite official silence on the subject, that Germany's large reserves were considerably reduced. Elsewhere on the Continent changes in wheat carryovers between August 1941 and August 1942 seem likely to have been small except in the Danube basin, where an increase in Ru-

mania probably offset the aggregate decrease in the other three countries. At the end of 1941–42 wheat stocks in Continental Europe were probably far above minimum levels only in Germany, while smaller, though still appreciable, reserves apparently existed also in the Danube basin, France, and perhaps Italy. In all of these countries the available year-end surpluses were in government hands (held partly for German account) and/or hoarded by peasants.

### SOVIET RUSSIA

Very little information about Soviet Russian stocks, crops, and trade in wheat has seeped through the tight censorship since 1939. A few inferences about the supply position of the bread grains in 1941-42 may be ventured, however, since even a tentative appraisal is important. Bread is by far the dominant food in Soviet Russia, contributing around three-fourths of all food calories consumed by the population in peacetime. Abundance or scarcity of bread grain in the USSR is important to the cause of the United Nations. The position as of January 1943, though not considered here, rests in part upon developments during the crop year 1941-42, and these warrant brief if tentative review.

When the Nazi invasion of Soviet Russia began on June 22, 1941, the territory of the USSR included areas annexed less than two vears before-Estonia, Latvia, Lithuania, eastern Poland, small portions of Finland, and the provinces of Bucovina and Bessarabia in Rumania. Within five months the Nazis had wrested all of these regions from the USSR, and in addition a still vaster stretch of Soviet territory proper all along the western border from Leningrad on the Baltic almost to Rostov at the eastern extension of the Sea of Azov. When the Soviet winter offensive began late in November 1941, enemy forces were within a few miles of Leningrad, and only 60-100 miles from Moscow both frontally and to the northwest and south. Southward from Moscow the Germans held the key cities of Tula, Orel, Kursk, Kharkov, and Taganrog. West of this line lay practically all of the Ukrainian SSR, all of the White Russian SSR, and all of Smolensk and the western halves of Kalinin and Leningrad provinces of the RSFSR. Practically all of the agricultural area of Crimea was occupied. In the ensuing Soviet winter offensive, rather extensive regions lying between the major urban strongholds of the Nazi line were regained. But the Germans were not dislodged from the most strategic points by the spring of 1942, when (in the latter part of May) the Nazis began their second summer offensive, the results of which need not be reviewed here.

Of the situation in the territory won by the Nazis, little can be said with assurance. The bulk of this area, all except the northern part adjacent to Leningrad and Moscow, was normally more than self-sufficient in bread grains, though by a narrow margin. Its loss was not a crippling blow to the bread-grain position of the population in the Soviet area that remained free from invasion, though loss of the sugar and pork output of the Ukraine, and of fiber flax from further north, was important. Stocks of old-crop wheat and rye were probably substantial when the Nazi attack came. Prospects for the 1941 crop were good. The crops were mostly at or near the harvesting stage while military operations were in progress, and there was a race to harvest and ship east as much of the crop as possible. Soviet policy was to destroy both stocks and standing crops not shipped. No quantitative appraisals either of crops harvested, supplies destroyed, shipments eastward, supplies remaining, or eastward migration of population are publicly available.

We infer from subsequent statements in the Nazi press that the conquered area could not be made to provide supplies of bread grain for shipment to Germany, and this alone points clearly to shortage of grain available to the remaining population. Of widespread starvation we have no clear indication; but it is hardly possible to avoid the inference that stringency and hunger prevailed especially in the cities. Bread supplies for the remaining local populations during 1941–42 may well have been more ample in the western part of the conquered territory, from which Russian withdrawal was rapid, than in the eastern part.

Within the uninvaded Soviet territory east

of the battlefront, stocks of bread grain carried over from the big crop of 1940 were presumably substantial, and the new crop of 1941 was probably a good one, little smaller than that of the previous year. Inshipments from the western regions just before they were occupied may have added somewhat to the relatively abundant available supplies, but it is not easy to suppose that this inflow could have provided a year's rations for the populationpossibly 5 or 10 million—that also moved eastward ahead of the Nazi armies. Nevertheless the additional number of mouths to be fed seems in retrospect not to have resulted in a generally critical bread-supply situation. It was alleged in the American press that the besieged population of Leningrad suffered intensely from food shortage. We have not been able to verify the allegation, though it seems reasonable on the ground of blockage of transport rather than lack of food supplies elsewhere in the uninvaded zone. During the autumn and early winter months, many observers were inclined to appraise the general position of the USSR less favorably than we appraise it now, and to expect heavy shipments of grain from the United States or Canada. But such shipments were very small in relation to the huge quantities of bread grain normally consumed. Whether because grain was not needed or because the scanty supply of ships and limited inland transport facilities could better be devoted to other uses, lendlease shipments from the United States to Soviet Russia consisted much more of animal products and sugar than of grain or flour, and were small in total. Britain and the United States together shipped to Soviet Russia in the 12 months preceding November 1942 less than a million tons of "miscellaneous war materials" including not only food, but also shells, ammunition, small arms, machine tools, and nonferrous metals.

Extraordinary measures were taken in the spring of 1942 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. The wisdom of this policy was emphasized when, in the early summer of 1942, the Nazis overran the North Caucasus and adjacent re-

gions, depriving the USSR of a grain-surplus area considerably more important than the regions that had been lost the summer before.

#### OTHER REGIONS

Middle East.—In Egypt and the vast portion of Asia lying between the Mediterranean Sea and the western frontier of India, wheat is undoubtedly important both as a crop and as a component of the food supply of the 72 million persons living there. Statistical information, however, has always been decidedly sketchy and of doubtful reliability for the Asiatic part of this area.

Official and unofficial crop estimates suggest that the combined 1941 outturn of wheat in Egypt, Turkey, Syria and Lebanon, Palestine, Cyprus, Iraq, and Iran was considerably the smallest in at least five years. Presumably the same inference is applicable to the Middle East as a whole, since Afghanistan, Transjordania, and the Arabian states must produce little wheat in relation to the countries named. In most recent prewar years the Middle East was probably a net exporter of wheat, though on a small scale.

The small crop of 1941 apparently contributed to an exceptional degree of scarcity, intensified locally at least in Syria, Iraq, and Iran by short-lived military operations of the British and by domestic political ferment. British governmental agencies undertook to facilitate wheat imports on a scale unaccustomed in the area, though small-almost certainly less than 20 million bushels—in absolute amount. Turkey and Iran, each with imports unofficially reported at 4-6 million bushels, were probably the largest takers of foreign wheat, while Syria, Egypt, and Iraq perhaps each took a fourth to a half as much. The imports appear to have originated mainly in Australia and Canada, though partly in India. They could hardly have been large enough to compensate for the reduction of crops below average levels; but in this region crop deficiencies are never so compensated.

The apparent urgent need for food relief in southwestern Asia may well have rested quite as heavily upon hoarding and disturbance of markets and transport as upon absolute physical shortage of domestically produced grain. Black markets for grain and other foods reportedly flourished throughout this area, and the smuggling of grain across national boundaries to countries with higher market prices was not uncommon.

To help solve the pressing problem of bread shortage, the Turkish government raised the legal extraction rate for wheat to 96 per cent. prescribed that bread flour should contain 20 per cent and later 50 per cent of other cerealflour admixtures (barley, rye, and corn), and after January 1, 1942 permitted bread to be sold in the larger cities only against ration cards. The Turkish bread ration at first amounted to over a pound of bread per day for ordinary consumers and twice that much for heavy workers, but subsequent reductions cut the early rations almost in half by May. More or less similar developments seem likely to have occurred in a number of the other countries of the Middle East, but of such developments we have little detailed information.

India.—The 1941 wheat crop of India, harvested in February-May, was officially estimated as 383 million bushels, some 5 per cent above the prewar average. Appreciable stocks may have been carried over from the still larger crop of 1940, though of this we have no direct evidence. More wheat was exported in 1941-42 than in 1940-41, but the net exports perhaps totaled only about 5 million bushels. The destinations were mainly in the Middle East. Since Indian crops minus net exports have averaged about 385 million bushels annually during the three years of war as against an annual average of 366 million bushels in the five prewar years, the domestic wheat-supply situation of India appears to have been relatively easy since the war began. There is no evidence that exceptionally large stocks have accumulated, as seems to have occurred during the second year of World War I (1915-16). The new crop harvested in February-May 1942 was also a good one, almost as large as that of 1941.

Wheat in India as a whole is utilized at a rate of only about a bushel per capita per year and is a less important food grain than either rice or the millets and sorghums. It is the most important cereal food only in certain

provinces of northwestern India. In these areas variations in wheat crops may affect consumption favorably or adversely. From such evidence as there is, 1941–42 seems to have been a year of abundance in the regions where wheat is important.

After Rangoon in Burma fell to the Japanese in March 1942, the rice-consuming provinces of eastern and southern India, and Ceylon as well, were no longer able to obtain their customary imports of rice. A strikingly adverse effect upon the Indian rice-supply position was apparently avoided, however, by the garnering of an exceptionally big domestic rice crop in the closing months of 1941 and the early part of 1942. Yet localities may have suffered as a result of disturbances of normal flow of supplies from surplus to deficiency areas.

Far East.—By July 1942, practically all Asiatic territory lying south of Soviet Russia and east of India, including the outlying islands, lay under the control of either China or Japan. Within this area, populated by over 700 million people, wheat is an important foodstuff only in China in and north of the Yangtze valley. Farther south, either in China or elsewhere, very little wheat is produced. The Far East as a whole was normally a net importer of wheat (largely as flour) from Australia and North America. In the three years preceding the war, imports averaged roughly 40 million bushels of wheat-grain equivalent annually. Annual variations were large; the range during these three years may have been from 20 to 60 million bushels. Even the highest import figure probably ran to less than 10 per cent of the regional crop.

Wheat imports must have ceased shortly after the Japanese attack on Pearl Harbor on December 7, 1941. How large they had been during the preceding months of August-November is not clear, but the presumption is that the level was lower than in the corresponding months of 1939 and 1940 and above the 1934–38 average. The cessation of wheat imports seems unlikely in itself to have jeopardized the food supply of large populations anywhere in the Far East. At most it may have helped to create food shortages in coastal cities in China, the Philippines, British Malaya,

and the Netherlands Indies. Their difficulties may well have been intensified, perhaps seriously, by interruption of rice imports. Japan Proper gained an important rice-surplus area in French Indo-China, Thailand, and Burma; the rice exports of these countries to areas outside the Far East were normally around twice as large as the wheat imports of the Far East as a whole. We have no reliable information, however, concerning the distribution of these surpluses, and can only hazard the guess that so far as they could be moved their principal destination may have been Japan Proper. It is a reasonable inference that the regions conquered by Japan in 1942, except the rice-surplus area, suffered from curtailment of imports both of wheat and of rice. The severity of the impact would have depended largely upon the size of local rice crops, but of this we have little evidence. British Malaya was normally more dependent upon food imports than other countries conquered by Japan in 1942, and unless the Japanese facilitated the usual flow of rice imports, food shortage may have become acute there.

Japan Proper is officially stated to have harvested a 1941 wheat crop 10–15 per cent above the prewar average. The much more important rice crop was apparently well below average, while the inward carryover was so large that total rice supplies were easily sufficient to provide for normal consumption. In view of the availability of rice imports from Chosen, Taiwan, and the Indo-Chinese Peninsula, and economies due to rationing, there is little reason to suppose that the Japanese faced abnormal shortage of the principal cereal foods during 1941–42.

Within unoccupied China, the wheat crop of 1941 was probably a fairly good one if trust can be placed in unofficial estimates indicating a total Chinese crop somewhat the largest since 1936 and only about 3 per cent below the 1934—38 average. Rice rather than wheat, however, is the major cereal food; and the 1941 rice crop of unoccupied China was considerably below average. Food supplies—which mean grain supplies—must have been distressingly short in numerous localities. Local shortages are chronic even in times of peace, but tend to be intensified in time of war.

Particulars concerning the areas of most acute food deficiency are not available to us.

The food situation in occupied China, though even more obscure, was perhaps more favorable than in the unoccupied zone during 1941–42, for the wheat crop appears to have been fairly good and wheat ranks much above rice in importance as a foodstuff.

Other countries.—The portions of the world not thus far touched upon include New Zealand and the Pacific islands remaining outside of Japanese control; all of Africa except the Mediterranean fringe; South America except Argentina; Central America and the West Indies: and Alaska, Newfoundland and Labrador, Greenland, and Iceland. Most of the countries and dependencies in the long list of this group are normally net importers of wheat or flour; the exceptions are Uruguay, and in some years Chile, South Africa, and Kenya. Net imports in an average year probably slightly exceed those of the Far East, and normally originate not only in the four major exporting countries but also in European mother countries. Brazil is by far the largest importer of the group, accounting for more than half of the total. The West Indies, Peru, New Zealand, Bolivia, and in some years Mexico and South Africa are the other major importers of the group. There are only a few countries where wheat imports usually exceed about a bushel per capita per year, and may therefore be called a fairly important part of the food supply. These are Alaska, Newfoundland and Labrador, the West Indies, Brazil, Peru, the Guianas in South America, Mauritius, Hawaii, New Zealand, and the Pacific islands.

The complicated record of the wheat trade of this group, never currently clear or up to date, is necessarily more than usually obscure under wartime circumstances. It is probable that Uruguay continued to export during 1941–42, but on a small scale. Chile, on the other hand, was a net importer. Mexico, with a crop smaller in 1941 than in the two preceding years, imported much more heavily than usual. South Africa also may have imported more than usual. The net imports of Brazil fell somewhat below average, those of New Zealand considerably below. Cuban net imports seem to have run above average, despite

the tightness in shipping that was accentuated after the United States went to war.

In none of the countries for which we have data on imports is there evidence that curtailment, if it occurred, is likely to have contributed appreciably to general food shortage during 1941–42. Discomfort more or less acute may nevertheless have been felt in countries concerning which no trade statistics are available. Especially after December 1941, at least for some months, it must have been difficult to provide various islands of the West Indies with their usual supplies of flour—

Cuba being perhaps exceptional. Somewhat the same difficulties, with resulting local shortages of flour, may well have transpired with reference to some other South American countries usually supplied by the United States or Canada, and the Pacific islands. In Hawaii, where the facts are known, flour receipts for civilian use lagged for several months following the Japanese attack; but stocks sufficed fully to satisfy the demand and obviate rationing on Oahu, the most heavily populated island; and toward the end of the crop year inshipments were abnormally large.

### APPENDIX TABLES

In the following tables, symbols (letters) are frequently used to indicate, for recent years, our reasoned approximations to numerical data no longer made public in official sources. The symbols express probable percentage relationships to the average for the last five prewar years (1934–38 for crops, 1934–35 through 1938–39 for trade, etc.). SS indicates a numerical value more than 15 per cent below the prewar average; S, 5–15 per cent below; A, within 5 per cent of the average; L, 5–15 per cent above; and LL more than 15 per cent above.

Dots (...) indicate that data are not available, and not satisfactorily represented by percentage indications. Data in italics are unofficial estimates or approximations.

Table I.—Most Recent Year or Month Apparently Covered by Official Estimates of Wheat Production, Acreage, and Trade for Chief Consuming Countries\*

Country	Production	Acreage	Trade	Country	Production	Acreage	Trade
United Kingdom	1939	1939	Aug. 1939	United States	Current	Current	Sept. 1941
Eire	Current	Current	Aug. 1939	Canada	Current	Current	May 1942
France	1939	1939	July 1939	Australia	Current	Current	June 1940
Italy	Current	Current <sup>a</sup>	July 1939	Argentina	Current	Current	Current
Germany-Austria	1939	1939	July 1939	India	Current	Current	Current
Czechoslovakia	1938	1938	Aug. 1939	USSR	1937′	1939	Dec. 1938
Poland	1939	1939	July 1939	Morocco	1940	1939	June 1939
Switzerland	Currenta	Current	Dec. 1939	Algeria	1940	1939	June 1939
Belgium	1939	Current	Mar. 1940	Tunis	1940	1939	Sept.1939
Netherlands	1939	Current <sup>a</sup>		Turkey	1938"	1940	May 1941
Denmark	Current	Currenta		Syria-Lebanon	Current	Current <sup>a</sup>	Aug. 1939
Norway	1940	1940	Feb. 1940	Palestine	Current	Current	Feb. 1940 <sup>b</sup>
Sweden	Current	Current	Current	Cyprus	1939	1939	1939
Lithuania	1939	1940	Aug. 1939	Egypt	Current	Current	Dec. 1940
Latvia	1939	1939	Aug. 1939	China	1937"	1937	Sept. 1941
Estonia	1940	1940	Aug. 1939	Japan	1941	1941	Sept. 1940 <sup>h</sup>
Finland	Current <sup>a</sup>	Currenta	Aug. 1939	Chosen	1941	1940	1939
Portugal	Currenta	Current <sup>a</sup>	Current	Manchukuo	1941 <sup>4</sup>	1940⁴	Oct. 1939
Spain	Current	Current	July 1936 <sup>a</sup>	Mexico	Current	Current	Current
Greece	Current <sup>e</sup>	Current <sup>e</sup>	Sept.1940	Brazil	1939	1938	Current
Hungary	1940	1940	Dec. 1940	Uruguay	Current	Current	June 1941
Yugoslavia	1940	1940		Chile	Current	Current	Current
Rumania	Current <sup>o</sup>	Current <sup>o</sup>	Jan. 1942	South Africa	Current	Current	May 1940 <sup>b</sup>
Bulgaria	1940	1941	Jan. 1940	New Zealand	Current	Current	Current
	J			<u> </u>	·		l

<sup>\*</sup> Countries for which data appear still to be published, even though belatedly, are designated in the table by the term current.

<sup>&</sup>lt;sup>a</sup> Most recent estimate in our files is for 1941.

<sup>&</sup>lt;sup>b</sup> Calendar year 1940 also available.

<sup>&</sup>lt;sup>c</sup> Flour trade and wheat exports last published for September 1939 for Sweden and January 1940 for India.

d Calendar years 1940 and 1941 available.

e New boundaries only.

f International Institute of Agriculture gives estimates for 1936 and 1938, said to be unofficial.

 $<sup>^{</sup>g}$  Estimates of U.S. Department of Agriculture currently available.

h Grain imports last published for March 1940.

Unofficial.

Table II.—Wheat Production, Acreage, and Yield per Acre in Principal Producing Areas, 1934-41 with Comparisons\*

	Wo	rld ex-Ru	ssiaa	Four	chief exp	orters		C	ontinen	t ex-Russ	ia				
Year	Total	North- ern Hemi- sphere	South- ern Heml- sphere	United States, Canada	Argen- tina, Aus- tralia	Total	British Isles	Total	Four neu- trals <sup>b</sup>	Others ex- Danube	Lower Dan- ube <sup>c</sup>	French North Africad	India	Others ex- Rus- siaª	USSR
						A. Pro	DUCTION	(Millio	n bush	els)					
1934	3,489	3,045	444	802	374	1,176	74	1,472	245	978	249	97	350	320	1,117
1935	3,557	3,184	373	908	286	1,194	72	1,503	209	992	302	70	363	355	1,133
1936	3,509	3,038	471	846	401	1,247	63	1,417	156	877	384	50	352	380	1,128
1937	3,810	3,343	467	1,056	395	1,451	63	1,473	156	955	362	72	364	387	1,722
1938	4,574	3,956	618	1,292	534	1,826	81	1,778	149	1,163	466	72	402	415	1,502
1939	4,205	3,788	417	1,272	341	1,613	72	1,621	162	1,008	451	100	372	427	
1940	3,917	3,465	452	1,353	382	1,735	75	1,225	111	819	2951	162	401	419	
1941	3,940	3,471	469	1,255	394	1,649	90	1,360	138	882	340	87	383	371	
Average	3,788	3,313	475	981	398	1,379	71	1,529	183	993	353	72	366	371	1,320
1934-38 1914-18	3,046	2,727	319	1,061	277	1,338	73	975		990	ì	57	353	250	682
1914–18 1909–13	3,122	2,839	283	879	237	1,116	60	1,286	150	806	330	58	352	250	760
190910	3,124	2,000	200	019	201	1,110	00	1,200	150	000	330	,56		200"	700
						в.	ACREAGE	(Millio	n acre	s)					
1934	264.5	227.2	37.3	87.5	31.4	118.9	1.96	75.6	13.6	42.5	19.5	9.0	36.1	22.9	87.1
$1935\ldots$	267.2	234.7	32.5	93.3	26.2	119.5	2.04	76.8	13.4	42.7	20.7	9.7	34.5	24.7	91.6
1936	276.0	238.6	37.4	99.3	31.6	130.9	2.06	76.1	12.8	42.4	20.9	8.7	33.6	24.6	96.3
1937	285.4	245.0	40.4	106.6	34.5	141.1	2.06	74.7	12.0	41.8	20.9	9.7	33.2	24.6	102.3
1938	288.1	246.1	42.0	105.5	35.6	141.1	2.16	74.4	10.7	41.5	22.2	8.8	35.6	26.0	102.6
1939	270.3	232.8	37.5	90.3	31.1	121.4	2.02	75.0	10.9	40.9	23.2	9.4	35.4	27.1	101.1
1940	262.3	226.2	36.1	90.2	30.0	120.2	2.30	70.0	10.9	37.8	21.3	8.3	34.0	27.5	
$1940 \dots 1941 \dots$	259.8	223.4	36.4	84.2	30.1	114.3	2.75	72.5	11.6	39.6	21.3	8.7	34.8	26.7	• • • • •
Average	200.0	260.4	90.4	04.2	50.1	114.0	2.10	12.0	11.0	55.0	21.0	0.7	04.0	20.1	• • • • •
1934-38	276.2	238.3	37.9	98.4	31.9	130.3	2.06	75.5	12.5	42.2	20.8	9.2	34.6	24.5	96.0
1914-18	224.6	193.9	30.7	75.0	26.8	101.8	2.24	63.1			1	6.3	31.9	19.39	71.6
1909-13	214.1		28.0	61.9	23.7	85.6	1.89	70.9	11.1	40.2	19.6	6.5	29.2	20.00	74.2
		:	!			:	1	<u> </u>		1	<u> </u>			i .	
		1	1	1	1	C. '	YIELD PE	R ACRE	Bushe	ls)		<u> </u>		1	
1934	13.2	13.4	11.9	9.2	11.9	9.9	37.8	19.5	18.0	23.0	12.8	10.8	9.7	14.0	$12.8^{\circ}$
1935	13.3	13.6	11.5	9.7	10.9	10.0	35.3	19.6	15.6	23.2	14.6	7.2	10.5	14.4	12.4
1936	12.7	12.7	12.6	8.5	12.7	9.5	30.6	18.6	12.2	20.7	18.4	5.7	10.5	15.4	11.7
1937	13.3	13.6	11.6	9.9	11.4	10.3	30.6	19.7	13.0	22.8	17.3	7.4	11.0	15.7	16.87
1938	15.9	16.1	14.7	12.2	15.0	12.9	37.5	23.9	13.9	28.0	21.0	8.2	11.3	16.0	14.6
1939	15.6	16.3	11.1	14.1	11.0	13.3	35.6	21.6	14.9	24.6	19.4	10.6	10.5	15.8	
1940	14.9	15.3	12.5	15.0	12.7	14.4	32.6	17.5	10.2	21.7	13.8	7.5		15.2	
1941	15.2	15.5	12.9	14.9	13.1	14.4	32.7	18.8	11.9	22.3	16.0	10.0	i	13.9	
Average 1934-38	13.7	12.0	12.5	10.0	12.5	10.6	34.5	20.3	14 0	23.5	17.0	7.8	10 6	15.1	13.8
	i	13.9	1	1			i		14.6	_	17.0	1	i .		
1929-38	14.0	14.3	12.2	11.1	12.1	11.4	33.7	20.1	14.7	23.4	16.7	8.1	10.7		12.1
1914-18	13.6	14.1	10.4	$14.1 \\ 14.2$	10.3	13.1	32.6	15.5	12 5	20.0	16 8	$\begin{vmatrix} 9.0 \\ 8.9 \end{vmatrix}$	11.1		$\begin{array}{c} 9.5 \\ 10.2 \end{array}$
1909-13	14.6	15.3	10.1	14.2	10.0	13.0	31.7	18.1	13.5	20.0	16.8	0.9	12.1	12.5	10.2

<sup>\*</sup>Data summarized mainly from Tables III, IV, and VII (except for India and USSR), with yields computed throughout from production and acreage (sown acreage for United States and Argentina). Averages for 1909-13 and 1914-18 are for areas roughly comparable with recent years. Decline from 1909-13 to 1914-18 in Europe may be exaggerated by one or two per cent. 1940 and 1941 figures are for 1939 boundaries.

 $1938\ {\bf reported}$  by the International Institute of Agriculture as unofficial.

 $<sup>^</sup>a$  Excludes USSR, China, Iran, Iraq, Transjordania, and various areas producing under 1 million bushels a year.

<sup>&</sup>lt;sup>b</sup> Spain, Portugal, Switzerland, Sweden.

<sup>&#</sup>x27; Hungary, Yugoslavia, Rumania, Bulgaria.

d French Morocco, Algeria, Tunis.

e Not comparable with 1934 and 1935; data for 1936 and

<sup>/</sup> Estimates of U.S. Department of Agriculture.

Including 130 million bushels or 11 million acres for areas for which no data are available, in order to secure levels roughly comparable with totals shown for recent years.
Not comparable with recent years.

Table III.—Wheat Production in Principal Producing Countries, 1934-41 with Comparisons\* (Million bushels)

Year	U.S. total	U.S. winter	U.8 spring	Can- ada	Aus- tralia	Argen- tina	Uru- guay	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis
1934 1935 1936 1937			88.4 161.0 106.9 189.9 243.6	275.8 281.9 219.2 180.2 360.0	133.4 144.2 151.4 187.3 155.4	240.7 141.5 249.9 207.6 379.1	10.7 15.1 9.2 16.6 15.5	30.1 31.8 28.6 30.3 35.5	64.8 84.2 87.8 72.2 98.8	68.3 73.1 107.4 86.2 111.3	76.6 96.4 128.7 138.2 177.2	39.6 47.9 60.4 64.9 79.0	39.6 20.0 12.2 20.9 23.2	43.5 33.5 29.8 33.2 34.9	13.8 16.9 8.1 17.6 14.0
1939 1940 1941	751.4 812.4	569.7 588.8 670.7		520.6 540.2 311.8	210.5 82.7 170.0	130.7 299.5 224.1	9.9 7.1 13.7	31.6 28.8 28.8	76.0° A	111.3 105.7 69.3 SS	163.6 89.3 A	69.0 61.8 A	38.8 23.9 40.0	42.6 27.6 32.0	18.6 10.7 15.1
Average 1934-38 1929-33 1909-13	792.0	559.4 582.7 436.1	$158.0 \\ 209.3 \\ 245.6$	263.4 354.3 197.1	154.3 184.5 90.5	243.8 228.3 147.1	13.4 10.4 6.8	$   \begin{array}{r}     31.3 \\     28.0 \\     20.1   \end{array} $	81.6 78.6 71.5	89.3 84.8 62.0	123.4 108.1 158.7	58.4 51.6 37.8	23.2 28.0 17.0	$35.0 \\ 30.5 \\ 35.2$	14.1 12.7 6.2

Year	United King- dom	Eire	France	Italy	Ger- many	Aus- tria	Czecho- slo- vakia	Switzer- land	Bel- gium	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Por- tugal
1934 1935 1936 1937 1938 1939 1940 1941 Average 1934–38		3.80 6.69 7.84 6.99 7.40 10.38 11.68 16.26 6.54	338.5 285.0 254.6 257.8 372.9 273.5 SS SS 301.8 311.1	233.1 282.8 224.6 296.3 300.7 293.3 261.0 262.8 267.5 255.0	166.5 171.9 162.7 <sup>d</sup> 164.1 <sup>d</sup> 205.0 <sup>d</sup> 202 SA 174.0 161.5	.8°	50.0 62.1 55.6 51.3 65.7 40.0' 32.0' 35.0' 56.9 54.3	5.52 5.97 4.47 6.18 7.34 5.89 6.05 7.78 5.90 4.25	17.3 17.1 17.2 16.8 22.0 13.8 SS S	18.0 16.7 15.6 12.7 15.9 15.3 SS S	12.8 14.7 11.3 13.5 16.9 15.4 6.8 7.0 13.8 10.9	1.20 1.87 2.09 2.50 2.64 2.86 2.53 LL 2.06 .71	27.8 23.6 21.6 25.3 29.5 31.6 15.5 12.2 25.6 21.4	186.8 158.0 121.5 110.0 96.0 105.4 79.4 102.9 134.5 151.5	24.7 22.1 8.7 14.7 15.8 19.0 10.5 15.4 17.2 15.3
1909-13		1.31	325.6	184.4	131.3	12.8	37.9	3.31	15.8	5.0	6.3	.31	8.1	130.4	8.7

Year	Poland	Lithu- ania	Latyla	Esto- nia	Fin- land	Greece	Tur- key	Other Near East	Egypt	Japan	Chosen	Man- chukuo	Mexico	South Africa	New Zea- land
1934	76.4	10.5	8.05	3.11	3.28	25.7	99.7	21.5	37.3	47.7	9.3	23.9	11.0	16.4	5.93
1935	73.9	10.1	6.52	2.27	4.23	27.2	92.6	24.8	43.2	48.7	9.7	37.3	10.7	23.7	8.86
1936	78.4	8.0	5.27	2.43	5.26	19.5	141.6	20.3	45.7	45.2	8.2	35.2	13.6	16.0	7.17
1937	70.8	8.1	6.30	2.79	7.66	30.0	133.0	24.1	45.4	50.4	10.3	41.4	10.6	10.7	6.04
1938	79.8	9.2	7.05	3.14	9.40	36.0	156.7	27.3	45.9	45.3	10.4	34.3	11.9	17.4	5.56
1939	83.4	9.6	7.77	3.13	8.50	38.2	154.5	28.1	49.0	61.1	12.6	31.2	14.8	15.3	8.01
1940	ss		Ă		6.57	34.2	149.5	32.1	50.0	66.1	10.2	27.6	13.3	15.6	8.31
1941	SS		S		6.22	23.9	128.6	22.8	41.3	53.8	10.1	29.0	11.7	13.7	8.80
Average 1934-38	75.9	9.2	6.64	2.75	5.97	27.7	124.7	23.6	43.5	47.5	9.6	34.4	11.6	16.8	6.71
1929-33	1	8.6	4.36	1.83	1.34	15.6	94.8	19.0	44.7	33.7	8.9	49.6	12.1	11.1	8.30
1909-13		3.3	1.48	.36	.14	16.3	••••		33.7	25.1	6.9		$11.5^{b}$	6.7	6.92

<sup>\*</sup> Data of U.S. Department of Agriculture and International Institute of Agriculture. See also Table VII. 1909-13 averages are U.S. Department of Agriculture estimates for pre-1939 boundaries.

a Including gains from Czechoslovakia.

b Four-year average.

Including Luxemburg.

<sup>&</sup>lt;sup>d</sup> Including the Saar (average production .5 million bushels).

<sup>&</sup>quot; Including the Saar and the Sudeten area (average production 9 million bushels).

<sup>/</sup> Bohemia-Moravia, Slovakia.

Syria and Lebanon, Palestine, Cyprus.
 One year only.

TABLE IV.—WHEAT ACREAGE IN PRINCIPAL PRODUCING COUNTRIES, 1934-41 WITH COMPARISONS\* (Million acres)

Year	U.S. total	U.S. winter	U.S. spring	Can- ada	Aus- tralia	Argen- tina	Uru- guay	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Мо- госсо	Al- gerla	Tunis
1934 1935 1936	63.56 69.21 73.72 81.07	44.58 47.07 49.76 57.66	22.14 $23.96$	23.98 24.12 25.60 25.57	12.54 11.96 12.32 13.74	18.81 14.21 19.26 20.72	1.10 1.27 .99 1.38	2.12 1.92 1.92 1.89	3.80 4.14 4.03 3.66	5.00 5.31 5.46 5.26	7.61 8.50 8.48 8.78	3.11 2.73 2.96 3.23	3.02 3.62 3.19 3.03	4.07 4.10 4.29 4.31	1.95 2.03 1.22 2.40
1938 1939 1940	79.57 63.52 61.46 62.32	56.54	23.03 17.05 18.25	25.93 26.76 28.73 21.88	14.35 13.28 12.45 12.06	21.30 17.83 17.51 18.04	1.26 1.16 .92 1.12	2.04 2.05 1.93 1.80	4.00 4.63° 4.31° A	5.26 5.44 5.18 S	9.44 10.08 8.28 A	3.45 3.04 3.51 3.50	3.00 3.19 A L	4.10 4.08 S A	1.67 2.10 1.36 1.33
Average 1934-38 1929-33 1909-13	66.88	44.49	22.38	25.04 25.94 9.94	12.98 15.71 7.60	18.86 19.70 16.05	1.20 1.06 .76	1.98 1.68 1.00	3.93 3.92 3.71	5.26 5.14 3.98	8.56 7.53 9.52°	3.10 2.99 2.41	3.17 2.89 1.70	4.17 3.84 3.52	1.85 1.95 1.31

Year	United King- dom	Eire	France	Italy	Ger- many	Aus- tria	Czecho- slo- vakia	Switzer- land	Bel- gium <sup>d</sup>	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Por- tugal
1934	1.87	.094	13.35	12.27	5.43	.573	2.30	.165	.411	.366	.280	.046	.718	11.39	1.34
1935	1.88	.163	13.25	12.37	5.22	.601	2.38	.168	.468	.380	.312	.059	.674	11.25	1.38
1936	1.80	.255	12.86	12.69	$5.15^{\circ}$	.624	2.29	.171	.469	.374	.296	.075	.694	10.77	1.16
1937	1.84	.220	12.59	12.78	4.88°	.619	2.10	.193	.471	.318	.319	.079	.739	9.88	1.22
1938	1.93	.230	12.19	12.43	$5.04^{\circ}$	.619	2.22	.183	.487	.311	.325	.086	.763	8.65	1.13
1939	1.76	.255	11.60	12.92	6.0	90'	1.200	.188	.347	.306	.330	.102	.834	8.64	1.25
1940	L	.305	SS	12.57	A	1	1.050	.191	.401	.332	.199	.100	.763	8.74	1.24
1941	LL	.463	SS	12.20	I	J <sup>f</sup>	1.100	.215	$\mathbf{A}$	.339	.203	LL	.707	9.44	1.26
Average					l i		l								
1934-38		.192	12.85	12.51	5.14	.607	2.26	.176	. 461	.350	.306	.069	.718	10.39	1.25
1929-33		.030	13.28	12.05	5.02	.523	2.07	.138	.408	.216	.255	.029	.668	11.08	1.27
1909-13	1.85	.035	16.50	11.79	4.03	.635	1.72	.105	.431	.138	.154	.012	.255	9.55	1.18

Year	Poland	Lithu- ania	Latvia	Esto- nia	Fin- land	Greece	Tur- key	Other Near East <sup>h</sup>	Egypt	Japan	Chosen	Man- chukuo	Mexico	South Africa	New Zea- land
1934	4.38	.514	.351	.161	.125	1.96	7.80	2.01	1.44	1.59	.798	2.04	1.22	1.86	.225
1935 1936	4.33	.536	.347	$.155 \\ .162$	.174	$2.09 \\ 2.06$	8.47 8.72	$2.04 \\ 2.08$	$1.46 \\ 1.46$	$1.63 \\ 1.69$	.801 .817	$\frac{2.67}{2.74}$	$1.14 \\ 1.26$	$\frac{2.30}{2.04}$	$.249 \\ .222$
1937 1938	4.18 4.34	.521 $.501$	.338	.168 .172	.279 .323	$2.12 \\ 2.13$	8.27 9.51	$2.11 \\ 2.11$	$1.42 \\ 1.47$	1.78 1.78	.836 .845	$\frac{3.00}{2.68}$	$\frac{1.20}{1.24}$	$\frac{1.75}{2.08}$	.186 .189
1939	4.36	.512	.378	.185	.336	2.36	9.82	2.08	1.50	1.83	.860	3.19	1.41	2.13	.258
1940	S	.498	A	.175	.349	2.60	10.81	2.17	1.56	2.06	.859	2.52	1.45	2.31	.243
1941	S		<b>A</b> .	ا حد ا	.331	2.30	L	2.36	1.56	2.03	.773	A	1.37	2.36	.258
1934-38 1929-33	4.31	0.512 $0.461$	.341 .221	.164 .111	.222	$2.07 \\ 1.47$	8.55 6.83	2.07 1.80	$1.45 \\ 1.59$	$1.69 \\ 1.28$	.819 .824	$\frac{2.63}{3.40}$	$1.21 \\ 1.26$	$\frac{2.01}{1.36}$	.214 $.269$
1909–13	3.34	.211	.085	.023	.008	1.13			1.31	1.18	.574	••••	2.17	.74	.241

<sup>\*</sup> For general notes see Table III. Sown acreages for United States and Argentina (harvested acreage given in Table VIII) Canada (spring wheat), and Australia; otherwise mainly harvested acreage.

<sup>&</sup>lt;sup>a</sup> Including gains from Czechoslovakia.

b Harvested acreage.

<sup>&</sup>lt;sup>c</sup> Four-year average.

<sup>&</sup>lt;sup>d</sup> Including Luxemburg.

f Including the Saar (approximate area .02 million acres).

f Including the Saar and the Sudeten area (approximate area .275 million acres).

<sup>&</sup>lt;sup>9</sup> Bohemia-Moravia, Slovakia.

Bohemia-Moravia, Slovabia.
 Syria and Lebanon, Palestine, Cyprus.
 One venr only.
 Two-year average.

TABLE V.—WHEAT YIELD PER ACRE IN PRINCIPAL PRODUCING COUNTRIES, 1934-41 WITH COMPARISONS\* (Bushels of 60 pounds)

Year	U.S. total	U.S. winter	U.S. spring	Can- ada	Aus- tralia	Argen- tina	Uru- guay	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis
1934	8.3	9.8	4.7	11.5	10.6	12.8	9.7	14.2	17.1	13.7	10.1	12.7	13.1	10.7	7.1
1935	9.0	9.9	7.3	11.7	12.1	10.0	11.9	16.6	20.3	13.8	11.3	17.5	5.5	8.2	8.3
1936	8.5	10.4	4.5	8.6	12.3	13.0	9.3	14.9	21.8	19.7	15.2	20.4	3.8	6.9	6.6
1937	10.8	11.9	8.1	7.0	13.6	10.0	12.0	16.0	19.7	16.4	15.7	20.1	6.9	7.7	7.3
1938	11.7	12.2	10.6	13.9	10.8	17.8	12.3	17.4	24.7	21.2	18.8	22.9	7.7	8.5	8.4
1939	11.8	12.3	10.7	19.5	15.9	7.3	8.5	15.4	24.44	19.4	16.2	22.7	12.2	10.4	8.9
1940	13.2	13.6	12.5	18.8	6.6	17.1	7.7	14.9	$17.6^{a}$	13.4	10.8	17.6	A	$\mathbf{s}$	7.9
1941	15.1	14.7	16.4	14.3	14.1	12.4	12.2	16.0	A	S	A	S	LL	A	11.4
Average		l			l										]
1934-38	9.8	10.9	7.1	10.5	11.9	12.9	11.2	15.8	20.8	17.0	14.4	18.8	7.3	8.4	7.6
1929 - 38	10.8	11.9	8.2	12.1	11.8	12.2	10.5	16.2	20.4	16.7	14.4	18.1	8.4	8.2	7.1
1909-13	13.1	13.2	12.9	19.8	11.9	9.2	8.9	20.0	19.3	15.6	16.7	15.7	10.0	10.0	4.8
		1			l								l		J

Year	United King- dom	Eire	France	Italy	Ger- many	Aus- tria	Czecho- slo- vakia	Switzer- land	Bel- gium <sup>c</sup>	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Por- tugal
1934 1935 1936 1937 1938	37.3 34.8 30.7 30.7 38.0 35.0	40.4 41.0 30.7 31.8 32.2 40.7	25.4 21.5 19.8 20.5 30.6 23.6	19.0 22.9 17.7 23.2 24.2 22.7	$30.7$ $32.9$ $31.6^{a}$ $33.6^{a}$ $40.7^{d}$ $33$		21.7 26.1 24.3 24.4 29.6 33.3'	33.5 35.5 26.1 32.0 40.1 31.3	42.1 36.5 36.7 35.7 45.2 39.8	49.2 43.9 41.7 39.9 51.1 50.0	45.7 47.1 38.2 42.3 52.0 46.7	26.1 31.7 27.9 31.6 30.7 28.0	38.7 35.0 31.1 34.2 38.7 37.9	16.4 14.0 11.3 11.1 11.1 12.2	18.4 16.0 7.5 12.0 14.0 15.2
1940 1941 Average	S	38.3 35.1	A A	$20.8 \\ 21.5$		5° 5°	30.5 <sup>t</sup> 31.8 <sup>t</sup>	31.7 36.2	ss s	ss s	$\begin{array}{c} 34.2 \\ 34.5 \end{array}$	25.3 S	$ \begin{array}{c c} 20.3 \\ 17.3 \end{array} $	9.1 10.9	8.5 12.2
1934–38 1929–38 1909–13	33.9	34.1 34.8 37.4	$\begin{vmatrix} 23.5 \\ 23.5 \\ 19.7 \end{vmatrix}$	$21.4 \\ 21.3 \\ 15.6$	33.9 33.0 32.6	24.2 $23.9$ $20.2$	$ \begin{array}{c c} 25.2 \\ 25.7 \\ 22.0 \end{array} $	33.5 32.4 31.6	39.3 37.7 36.7	45.1 44.2 36.1	45.1 44.1 41.1	29.9 28.4 25.5	35.7 33.9 31.8	12.9 13.3 13.7	13.8 12.9 7.4

Year	Poland	Lithu- ania	Latvia	Esto- nia	Fin- land	Greece	Tur- key	Other Near East	Egypt	Japan	Chosen	Man- chukuo	Mexico	South Africa	New Zea- land
1934 1935 1936 1937 1938	17.4 17.1 18.2 16.9 18.4 19.1	20.4 18.8 16.3 15.5 18.4 18.8	22.9 18.8 16.5 18.6 20.3 20.6	19.3 14.6 15.0 16.6 18.3 16.9	26.2 24.3 25.3 27.5 29.1 25.3	13.1 13.0 9.5 14.2 16.9 16.2	12.8 10.9 16.2 16.1 16.5	10.7 12.2 9.8 11.4 12.9 13.5	25.9 29.6 31.3 32.0 31.2 32.7	30.0 29.9 26.7 28.3 25.4 33.4	11.7 12.1 10.0 12.3 12.3 14.7	11.7 14.0 12.8 13.8 12.8 9.8	9.0 9.4 10.8 8.8 9.6 10.5	8.8 10.3 7.8 6.1 8.4 7.2	26.4 35.6 32.3 32.5 29.4 31.0
1940 1941 Average 1934-38 1929-38	S S 17.6	18.0 18.3 15.5	S S 19.5 19.6 17.4	16.8 16.7 15.8	18.8 18.8 26.9 26.6 17.1	13.2 10.4 13.4 12.2 14.4 <sup>h</sup>	13.8 S 14.6 14.3	14.8 9.7 11.4 11.0	32.1 26.5 30.0 29.0 25.6	32.1 26.5 28.1 27.2 21.3	11.9 13.1 11.7 11.2 12.0	11.0 S 13.1 14.0	9.2 8.5 9.6 9.6 5.3	6.8 5.8 8.4 8.3 9.0	34.2 34.1 31.4 31.2 28.7

<sup>\* (</sup>Computed from data in Tables III and IV. Averages are computed from average production and acreage.

<sup>&</sup>quot; Including gains from Czechoslovakia.

b Four-year average.

e Including Luxemburg.

d Including the Saar.

o Including the Saar and the Sudeten area.

<sup>&</sup>lt;sup>1</sup> Bohemia-Moravia, Slovakia.

Syria and Lebanon, Palestine, Cyprus.
 One year only.
 Two-year average.

TABLE VI.—PRODUCTION OF OTHER GRAINS AND POTATOES IN PRINCIPAL PRODUCING AREAS, 1934-41\*
(Million bushels)

					RYE						Ротат	OES	
Year	Europe ex-Russia	Ger- many, Austria	Poland	Czecho- slovakia	Lower Danube	Baltic States	Scandi- navia	Nether- lands, Belgiuma	United States	Europe ex-Russia	Ger- many, Austria	Poland	United States
1934	894	322.1	254.5	60.0	46.8	67.2	31.5	42.6	17.1	5,467	1,820	1,230	406
1935	886	318.8	260.5	64.5	56.9	60.1	28.6	33.9	58.6	4,901	1,595	1,194	386
1936	843	309.4	250.5	56.5	62.1	50.8	22.1	33.6	25.3	5,409	1,789	1,260	332
1937	816	291.1	221.9	58.4	59.7	65.8	25.1	33.2	49.8	6,175	2,165	1,478	395
1938	975	362.1	285.6	75.0	68.4	61.4	26.3	37.4	55.6	5,720	$2,073^{b}$	1,270	374
1939	980	$366.2^{b}$	300.4	50.0°	$68.3^{d}$	67.1	23.7	38.1	39.0	A	2,068		363
1940	782	$300.0^{b}$	232.0	40.0°	$58.0^{d}$	48.3	21.4	32.1	41.1	L	2,164		378
1941	820	A		45.0°			23.0	· · · · ·	45.4	A	${f A}$		356
Average 1934-38	883	322.7	254.6	62.9	58.8	61.1	26.7	36.1	41.3	5,534	1,888	1,286	379

			С	orn (Maizi	ε)				Вл	ARLEY		OA	тя
Year	Europe ex-Russia	Ru- mania	Yugo- slavia	Hun- gary	Italy	United States	Argen- tinaª	Europe ex-Russia	Ger- many, Austria	Lower Danube	United States	Europe ex-Russia	United States
1934	724	191	203	83	126	1,461	452	715	161	92	117	1,684	542
1935	611	212	119	56	98	2,304	396	697	168	98	286	1,652	1,195
1936	776	221	204	102	120	1,507	340	697	169	138	147	1,654	786
1937	770	187	210	109	134	2,651	174	680	180	100	220	1,681	1,162
1938	721	201	187	105	116	2,562	191	731	209	107	253	1,859	1,068
1939	733	238	159	$94^d$	102	2,602	408	728	$196^{b}$	$110^{d}$	275	1,841	936
1940	770	208	172	$117^{d}$	135	2,461	403	716	$184^{b}$	$114^{d}$	310	A	1,246
1941	690	185			103	2,678	356	S		• • • •	362	S	1,181
Average 1934-38	720	202	185	91	119	2,097	311	704	177	107	205	1,706	951

<sup>\*</sup> For general note see Table III.

Table VII.—Wheat Production in Miscellaneous Countries, 1934-41\*

(Million bushels)

Year	Prairie Prov- inces	Other Canada	China	Iran (Per- sia)	Iraq	Brazil	Peru
1934 1935 1936 1937 1938 1939 1940	263.8 264.1 202.0 156.8 336.0 494.0 513.8 293.0	12.0 17.8 17.2 23.4 24.0 26.6 26.4 18.8	825 783 848 636 640° 667° 700°	70.9 75.3 79.4 71.4	13.8 11.0 19.7 21.3 22.0 26.0 18.0	5.31 5.37 5.28 5.34 6.26 6.73	1.76 2.13 3.03 3.32 3.79 4.11 3.74
1941	400.0	10.0	120	62.5	12.0	• • • • •	3.70

<sup>\*</sup> For general note see Table III.

## TABLE VIII.—WHEAT ACREAGE IN THE UNITED STATES AND ARGENTINA, 1934-41\*

(Million acres)

Harvest	U.S.	total	U.S. v	vinter	U.S. s	pring	Arge	ntina
year	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested	Sown	Har- vested
1934	63.6	43.4	44.6	34.6	19.0	8.8	18.8	17.2
1935	69.2	51.2	47.1	33.4	22.1	17.8	14.2	11.7
1936	73.7	48.9	49.8	37.7	23.9	11.2	19.3	17.6
1937	81.1	64.4	57.7	47.0	23.4	17.4	20.7	17.2
1938	79.6	69.9	56.6	49.8	23.0	20.1	21.3	20.1
1939	63.5	53.5	46.5	38.1	17.0	15.4	17.8	12.8
1940	61.5	53.0	43.2	35.8	18.3	17.2	17.5	15.5
1941	62.4	55.6	45.7	39.5	16.7	16.1	18.0	14.3

<sup>\*</sup> Latest official data.

a Including Luxemburg.

b Including the Sudeten area.

 $<sup>^{\</sup>circ}$  Excluding the Sudeten and territory lost to Hungary.

d Including gains from Czechoslovakia.

c Crops harvested in March-July of the following year.

 $<sup>^{\</sup>rm a}$  Estimates of the Shanghai office of the U.S. Department of Agriculture.

TABLE IX.—WHEAT MARKETINGS IN NORTH AMERICA, MONTHLY, FR	ROM	1936-	37
--	-----	-------	----

Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	Мау	June	July	Total
			Unit	ed Stati	s: Rece	IPTS AT	l welve	Primary	MARKE	rs* (Mil	lion bus	hels)		
1936-37°	84.2	29.5	10.6	15.2	10.7	10.4	7.8	6.1	7.6	8.9	7.6	19.4		218
1937-38	111.9	62.2	35.2	22.6	16.1	10.6	10.9	8.5	10.6	10.9	14.3	17.0		331
1938-39	101.2	61.1	38.5	27.3	19.1	14.9	11.9	9.5	13.7	16.0	25.5	44.0		383
1939-40	99.0	43.9	39.0	19.8	12.2	11.5	9.4	11.4	21.9	28.4	29.4	13.4		339
1940-41	103.9	46.2	39.9	18.5	10.0	9.0	10.4	8.4	12.6	17.0	29.9	49.3		355
1941–42	102.2	50.3	39.9	32.4	17.6	22.5	19.7	17.8	17.5	12.7	18.1	25.1		376
		Cal	NADA: RI	ECEIPTS	AT COUN	TRY ELI	EVATORS	AND PLA	TFORM L	OADINGS	† (Milli	on bush	els)	
1936-37		42.9	53.4	21.9	8.5	8.1	2.8	3.1	5.8	4.2	4.1	3.6	3.1	162
1937-38		20.5	45.0	17.8	9.8	5.2	5.6	3.2	4.0	4.6	2.8	3.9	3.1	126
1938-39		39.6	122.2	62.0	21.2	9.6	4.6	2.6	5.5	5.1	5.0	5.2	8.0	291
1939-40		54.1	178.2	78.7	36.7	15.3	4.5	5.5	7.9	6.0	7.0	12.8	20.0	427
1940-41		35.6	102.5	69.2	37.7	39.2	20.7	17.6	18.0	24.0	32.6	33.4	27.9	458
1941-42		20.1	29.9	43.7	29.8	25.9	10.6	6.5	8.3	7.1	7.1	11.0	24.7	225

<sup>\*</sup> Trade data, here compiled from Survey of Current Business and Chicago Journal of Commerce. Includes Chicago, Duluth, Indianapolis, Kansas City, Milwaukee, Minneapolis, Omaha, Peorla, Sioux City, St. Joseph, St. Louis, Wichita.

TABLE X.--WORLD WHEAT VISIBLE SUPPLIES, AUGUST 1, 1937-40, AND MONTHLY, 1941-42\* (Million bushels)

Approximate	Grand	Four	North	United St	ates grain	Canadia	n grain	Aus-	Argen-	Afloat	U.K.
date	total	ex- porters	America	United States	Canada	Canadab	United States	tralla	tina	to Europe	ports
Aug. 1								-			
1937	194.3	156.7	121.3	89.3	.1	27.8	4.1	14.5	20.9	25.6	12.0
1938	231.2	180.6	114.8	96.4	.3	17.1	1.0	21.5	44.3	36.5	14.1
1939	533.2	472.8	241.3	149.3	.5	84.9	6.6	18.0	213.5	34.9	25.5
1940		577.2	422.9	160.1	.1	235.6	27.1	98.5	55.8		
1941-42											
Aug. 1		892.3	689.4	246.7	.2	411.2	31.3	42.2	160.7		
Sept. 1		913.1	724.0	274.6	.2	421.2	28.1	37.0	152.1		
Oet. 1		914.5	742.0	284.9	.8	431.5	24.8	29.5	143.0	l l	
Nov. 1		924.9	766.9	280.6	.8	459.4	26.1	24.5	133.5		
Dec. 1		914.0	763.9	276.3	.8	458.4	28.4	23.0	127.1		
Jan. 1			763.3	270.8	.7	460.8	31.0		169.5		
Feb. 1			736.2	258.6	.4	452.6	24.6		239.1	<b>.</b> .	
Mar. 1		1,104.8	715.7	249.9	.3	444.6	20.9	134.5	254.6		
Apr. 1			681.3	237.8	.2	428.3	15.0		257.7		
May 1		1,018.9	648.7	229.4	.2	403.7	15.3	121.0	249.2		
June 1			619.3	221.9	.2	376.5	20.8		236.2	ĺ l	
July 1			610.3	227.5	.2	361.8	20.8		225.4		
Aug. 1			656.7	262.4	.1	374.2	20.0		212.4		

<sup>\*</sup> Selected, for dates nearest the first of each month, from weekly data in Commercial Stocks of Grain in Store in Principal U.S. Markets, Canadian Grain Statistics, Broomhall's Corn Trade News (for Asloat to Europe, U.K. ports, and Australia), and Boletin Informativo for Argentina.

<sup>†</sup> Data for Prairie Provinces only, computed from official figures given in Canadian Grain Statistics; from August 1939 including small receipts at interior and private mill elevators not previously included. For corresponding data from 1921-<sup>a</sup> Thirteen markets, including Detroit, through 1936.

<sup>&</sup>lt;sup>a</sup> Data not strictly comparable: two markets, Enid, Oklahoma, and Amarillo, Texas, added to the total at the beginning of January 1941; two other markets (not specified) added in June 1941, and one in November 1941.

b Excluding, for comparability, stocks in transit by rail which are now included in officially published totals.

TABLE XI.—WHEAT CARRYOVERS IN THE UNITED STATES AND CANADA, 1936-42\*
(Million bushels)

		1	United Stat	tes (July	1)				Cana	da (July	31)		
Year	On farms	In country mills and elevators	Commer- cial stocks	In city mills <sup>2</sup>	Total in four positions	U.S. grain in Canada	On farms	In country mills and elevators	In terminal elevators	In transit	In flour millsc	Total in five positions	Cana- dian grain in U.S. <sup>d</sup>
1936 1937 1938 1939 1940 1941	44.0 21.9 59.1 90.4 83.1 87.3 159.5	21.9 11.5 30.6 36.6 33.6 73.8 141.8	25.2° 9.0 22.2 64.1 84.2 142.7 224.5	50.6° 40.4 40.8 61.1 80.7 81.6 96.8	141.7° 82.8 152.7 252.2 281.6 385.4 627.0′	.0 .1 .7 .6 .6 .2	5.5 4.0 5.1 4.7 17.3 14.0	36.2 7.4 2.8 13.9 64.0 224.4 139.8	59.7 17.7 12.2 70.1 173.6 187.6 232.9	5.0 2.8 2.4 4.8 16.9 21.1 18.7	1.7 1.0 1.1 1.1 1.1 2.4	108.1 32.9 23.6 94.6 272.9 448.3 404.2	19.3 4.1 1.0 8.3 27.5 31.8 19.8

- \* Official data of U.S. Department of Agriculture and Dominion Bureau of Statistics.
- "Estimates of U.S. Department of Agriculture, based on wheat reported held in city mills (Table XII); including amounts "stored for others."
- b Strictly "in country, private, and mill elevators in the Western Division"; but including stocks in flour mills in the Western Division.
- c In the Eastern Division only.
- <sup>d</sup> In bond, usually chiefly for export as wheat. Includes bonded wheat in transit by rail from 1940.
- <sup>c</sup> Including some new-crop wheat. See The Wheat Situation. August 1941, p. 2.
  - / Including 4.4 million bushels in steel bins.

TABLE XII.—CITY MILL STOCKS IN THE UNITED STATES, JUNE 30, 1936-42\*
(Million bushels)

77	V	Wheat in mil	lga	О	ther wheat o	wned by mil	ls	Total wheat	Flour	Percentage of census	
Year -	Total	Owned	Stored for others	Private terminals <sup>b</sup>	Public terminals	Transit to mills	Country elevators	owned by mills	wheat <sup>d</sup>	flour output represented	
1936 1937 1938 1939 1940 1941	47.10 49.35 50.75 78.90 83.51 87.59 97.81	40.94 42.20 39.77 65.74 73.67 63.33 68.02	6.16 7.15 10.98 13.16 9.84 24.26 29.79	2.47 2.14 2.90 6.17 7.17 3.86 5.77	3.26 2.03 2.55 5.14 6.35 5.01 7.77	13.28 18.97 8.99 17.44 13.46 15.69 14.03	2.69 2.53 2.83 5.23 3.04 3.28 2.16	62.64 67.87 57.04 99.72 103.69 91.17 97.75	20.00 17.73 16.49 17.11 19.71 18.80 17.01	97.0 93.3 93.6 92.8 91.8 93.3 93.3	

- \* As reported to Bureau of the Census, here compiled from press releases of U.S. Department of Commerce. Available from 1925. See Wheat Studies, December 1936, XIII, 218.
  - <sup>4</sup> And in elevators attached to mills.
  - b Private terminal elevators not attached to mills.
  - <sup>e</sup> Excluding wheat "stored for others."
  - $^{d}$  Taking 1 bbl. = 4.7 bu.; but see Table XXI.
  - · Percentage of flour output reported in Census of Manu-

factures for the second or third calendar year preceding. The percentage for 1936 would be about 5 per cent lower if the census of 1933 had been as complete as earlier censuses. See Wheat Studies, April 1936, XII, 275.

TABLE XIII.—United States Wheat Disappearance by Classes, 1941-42, with Comparisons\*
(Million bushels)

Item	Hard red winter		Soft red	winter	Wh	ite	Hard red	spring	Durum	
reem	Averagea	1941-42	Averagea	1941-42	Averagea	1941-42	Averagea	1941-42	Average <sup>4</sup>	1941-42
Initial stocks	371 490 290) 52	161 395 556 266 290	29 209 238 {201} { 3} 34	41 209 250 194 56	18 89 107 { 59} 26} 22	22 89 111 69 42	62 138 200 {118} 2} 80	136 207 343 139 204	18 40 58 {34} {5} 19	25 43 68 33 35

<sup>\*</sup> Latest estimates of U.S. Department of Agriculture, see Wheat Situation, August 1940, p. 26 and August 1941, p. 22 for data from 1929.

Four years ending 1932-33 plus the four years ending 1940-41, omitting the drought years 1933-34 through 1936-37.

TABLE XIV.—WORLD WHEAT STOCKS EX-RUSSIA AND EX-ASIA, ABOUT AUGUST 1, 1934-42 WITH COMPARISONS\*
(Million bushels)

		Four						Euro	pe and N	orthern A	frica		Afloat	
Year	Grand total	ehlef ex- portersa	North America <sup>b</sup>	United States grain <sup>b</sup>	Cana- dlan grain	Aus- tralia	Argen- tina	Total	Europe ex- Danube	Lower Danube	French North Africa, <sup>d</sup> Egypt	To Europe	To ex- Europe	Total
1934	1,188	679	477	274	203	84	118	463	383	67	13	35	11	46
1935	939	503	361	147	214	57	85	408	350	34	24	17	11	28
1936	752	372	269	142	127	43	60	348	296	34	18	21	11	32
1937	512	206	120	83	37	41	45	272	220	40	12	26	8	34
1938	593	300	178	153	25	50	72	244	194	36	14	37	12	49
1939	1,150	636	356	253	103	50	230	466	373	75	18	35	13	48
1940	1,400	787	582	282	300	130	75	553	436	85	32	LL	$\mathbf{L}\mathbf{L}$	60
1941	1,550	1,116	866	386	480	70	180	390	L	$_{ m LL}$	$\mathbf{s}$	LL	$\mathbf{L}$	44
1942	1,800	1,421	1,051	627	424	150	220	$\mathbf{A}$	A	LL	$\mathbf{L}$	$ \mathbf{s} $	ss	SS
Average			•	4.00	101									
1934-38.	797	412	281	160	121	55	76	347	289	42	16	27	11	38
1929-33.	956	608	475	326	149	50	83	300	231	53	16	36	12	48

<sup>\*</sup> Revised estimates (see Wheat Studies, October 1939, XVI, 66, for data from 1922) based so far as possible upon stocks of old-crop wheat reported either officially (e.g., North America) or unofficially (e.g., affoat to Europe).

Table XV.—Summary of International Trade in Wheat and Flour, Annually from 1934–35 with Comparisons\*

(Million bushels)

				Net e	xports of	net-expo	rting cour	ntries					orts of k-Danub	
Year			Four o	verseas ex	porters		French	Lower		Others		e.	r-Danun	e
AugJuly	Total	Total	United States	Canada	Aus- tralia	Argen- tina	North Africaa	Danube	India	ex- USSR	USSR	Total	British Isles	Conti- nent
1934-35	540	454	(4)	163	109	182	26	22	1	35	2	350	217	133
1935-36	518	418	(32)	246	102	70	20	25	- 1	25	29	339	220	119
1936-37	623	474	(17)	210	102	162	6	89	19	30	5	443	212	2314
1937-38	555	404	117	89	126	72	15	54	<b>1</b> 9	20	43	404	208	196
1938-39	643	479	103	158	96	122	10	85	(1)	35	34	428	247	181
1939-40	625	502	45	192	86	179	17	87	1	1	8	445	240	205
1940-41	495	448	31	231	90	96	17	14	0	1	6	320	245	75
1941-42	405	365	27	225	30	83	15	20	)		5	260	205	55
Average					40=	100			0	00		200	001	450
1934-39	576	454	44	173	107	122	15	55	8	29	23	393	221	172
1929-34	693	573	88	224	121	139	18	46	1	7	48	509	240	269

<sup>\*</sup> Mainly from data in Table XVI. But data for the United States are here adjusted for changes in stocks of U.S. wheat in Canada, and through 1936-37 data for Canada are adjusted for changes in stocks of Canadian wheat in the U.S.; from 1937-38 data for Canada include grain clearances as in Wheat Studies, December 1941, XVIII, 185, Series B. Figures in parentheses represent net imports, ignored in arriving at totals and averages. Those in Italies for 1939-40 and following are our present approximations.

<sup>&</sup>lt;sup>a</sup> United States, Canada, Argentina, Australia.

c Hungary, Yugoslavia, Rumania, Bulgaria.

b United States data as of July 1.

<sup>&</sup>lt;sup>d</sup> French Morocco, Algeria, Tunis.

a French Morocco, Algeria, Tunis.

<sup>&</sup>lt;sup>b</sup> Including various countries.

<sup>&</sup>lt;sup>c</sup> Deducting net exports by one or more of these countries in years in which they were net exporters.

d Including our estimates for Spain.

TABLE XVI.—International Trade in Wheat and Flour, Annually from 1934-35 with Comparisons\*
(Million bushels)

A. Net Exports (In parentheses, net imports)

Year AugJuly	United States <sup>a</sup>	Can- ada <sup>b</sup>	Aus- tralia	Argen- tina	Brazil	Chile	Hun- gary	Yugo- slavia	Ru- mania	Bul- garia	Mo- rocco	Al- geria	Tunis	India	USSR
1934-35	(3.9)		109.1	181.5	(32.6)	.37	12.80	4.26	4.22	.37	7.59	13.13	4.80	1.0	1.9
1935–36 1936–37	(31.7)	254.1 $194.8$	102.1 101.7	$69.9 \\ 162.4$	(37.2) (38.6)	2.29 (.24)	17.30 25.09	.79 18.27	5.87 37.58	$\frac{1.14}{7.91}$	4.87 (1.51)	10.07 6.16	4.63 $(.60)$	1.2 18.6	28.5 4.6
1937-38 1938-39	$117.6 \\ 102.6$	86.8 165.1	125.9 95.6	$71.6 \\ 122.2$	(36.8) (40.6)	(.11) $(1.02)$	9.04 29.64	4.65 5.46	32.61 45.96	7.88 3.50	2.40 4.10°	7.10 1.48°	5.01 4.27	18.6 (1.3)	$43.0$ $33.2^{4}$
1939-40	44.2	207.5	86.0	179.3	(32.7)	(.23)	38.40°	9.82	30.75	LL	4.10	Ţ.	1,21	SS	(,,)
1940-41	31.2	224.1	90.0	95.9	(33.2)	(.16)	ss	()e	ss	$\mathbf{L}\mathbf{L}$		ř		SS	SS
1941-42	27.0	215.0	30.0	83.2	(25.7)	(3.20)	SS	.00	SS	SS		A.		SS	()
1934-39 1929-34	33.5 87.5	$173.1 \\ 221.7$	106.9 $121.5$	121.5 139.1	(37.2) (32.3)	.26 (.13)	18.77 20.68	6.69 9.09	25.25 $11.31$	4.16 4.57	3.49 5.40	7.59 8.20	$\frac{3.62}{5.09}$	7.6 (.5)	22.2 47.7

В.	NET	IMPORTS	(In	parentheses,	net	exports)	
----	-----	---------	-----	--------------	-----	----------	--

Year AugJuly	United King- dom	Eire	France	Italy	Ger- many	Aus- tria	Czecho- slo- vakia	Switzer- land	Bel- gium <sup>h</sup>	Nether- lands	Den- mark	Nor- way	Swe- den	Spain	Por- tugal
1934-35 1935-36	200.5 205.3	16.9 15.0	(16.6) 8.0	11.5 5.1	10.1	$\frac{9.8}{7.2}$	1.4 2.2	17.9 16.7	39.8 39.0	19.5 21.7	18.99 8.99	8.88 7.73	(1.78) (1.89)	(.00) (.00)	.70 (3.59)
1936-37	199.1	12.5	12.0	57.5	31.8	9.9	(9.2)	17.7	39.4	21.3	6.36	8.55	.53	${f LL}$	.14
1937-38	194.7	13.1	15.5	4.4	38.4	7.6	1.4	14.9	37.0	24.1	6.55	7.03	(.75)	${ m LL}$	2.39
1938-39	229.5	17.1	(9.2)	13.2	43	.0°	(1.3)	17.1	37.7	30.3	5.08	8.61	1.63	$\mathbf{L}\mathbf{L}$	2.25
1939-40 1940-41 1941-42	L LL A	s ss ss	LL LL	LL SS SS		LL SS SS	**************************************	LL SS SS	s ss ss	A SS SS	SS SS SS	LL SS SS	(A) °	$_{ m LL}^{ m LL}$	.92 3.84 5.21
Average 1934–39 1929–34	205.8 221.3	14.9 19.1	1.9 39.2	18.3 35.0	23.2 20.3	8.3 14.6	(1.1) 13.7	16.9 18.5	38.6 44.0	23.4 29.4	9.19 12.40	8.16 8.27	(.45) 4.69	10.00 2.78	.38 2.88

c.	NET	IMPORTS	(ln	parentheses,	net	exports)	
----	-----	---------	-----	--------------	-----	----------	--

THE PERSON															
Year AugJuly	Po- land	Lithu- ania	Latvia	Es- tonia	Fin- land	Greece	Tur- key	Syria, Leba- non	Egypt	Japan <sup>j</sup>	Man- chukuo	China	Cubak	South Africa	New Zea- land
1934-35 1935-36 1936-37 1937-38 1938-39	(3.89) (7.09) (5.33) (.43) (3.13)	(.97) (2.12) (.00) (.08) (1.05)	(1.10) (1.54) .99 .95 .49	(.23) .00 .12 .16 .02	4.26 4.33 3.69 3.01 2.30	14.5 14.8 21.5 18.3 13.0	(4.39) (.52) (4.30) (3.65) (2.01)	(.34) (.31) (1.39) .91 (1.06)	2.15 .18 (.55) (.57) .20	1.1 4.8 3.7 (10.0) (9.8)	31.3 14.5 4.9 5.7 13.3	21.1 7.9 1.2 8.8 29.3	4.58 4.92 4.69 4.95 5.01	.91 .07 (.94) .93 1.73	.59 .96 .56 4.07 3.34
1939-40 1940-41 1941-42 Average 1934-39 1929-34		(.84)	(.04) 1.00		SS SS 3.52 4.95	12.0 SS SS 16.4 19.9	(2.34) (SS) ° (2.97) (.60)	(.44)	(.46) () <sup>1</sup> LL .28 5.92	(7.9) (LL) (A) (2.0) 1.17	L SS SS 13.9	16.9 31.8 <sup>m</sup> SS 13.7	5.03 5.14 5.00 4.83 4.42	SS LL LL .61 1.85	1.31 1.62 1.45 1.90 .75

<sup>\*</sup> Data from official sources, in large part through International Institute of Agriculture. Data in italies are our present approximations.

<sup>&</sup>lt;sup>a</sup> Including shipments to possessions; from 1935-36 derived by subtracting imports for consumption rather than general imports less re-exports.

b Using custom exports of grain as in Wheat Studies, December 1941, XVIII, 185, Series A.

<sup>&</sup>quot; Eleven months.

d Five months.

O Net import.

Nine months.

P Net trade in "commerce général."

<sup>&</sup>quot; Including Luxemburg.

<sup>&</sup>lt;sup>1</sup> See Wheat Studies, December 1939, XVI, 157.

<sup>\*</sup>Exclusive of trade with Chosen and Taiwan.

\*Gross imports of flour; all from United States from January 1939, mainly from United States in earlier years.

<sup>&</sup>lt;sup>1</sup> Net export.

<sup>&</sup>quot; Gross imports from May 1941.

TABLE XVII.—UNITED STATES	TRADE IN	Wheat	AND	$\mathbf{Other}$	GRAINS,	Annually	FROM	193637*
		(Million	bushe	els) a				

Year		Whe	at grai	n	Flor	ur as wheat	==	Whea	t and flour				
July-June	Exports	Imp	orts	Net exports	Exp	orts	Im-	Ship- ments	Net Incl.	Rye	Barley	Oats	Corn
		(A)	(B)		(O)	(D)	ports	(E)	ments				 
1936–37	3.2	34.3	13.5	(44.6)	6.1	12.3	.2	3.0	(23.4)	(3.7)	(23.5)	.7	(77.4)
1937-38	83.7	.6	2.8	80.3	16.4	7.1	.1	3.3	107.0	6.6	11.9	12.3	69.3
1938-39	84.6	.2	9.0	75.4	22.1	9.1	.4	2.9	109.1	.8	8.2	4.1	66.6
1939–40	23.6	.2	9.9	13.5	21.2	9.4	.3	3.5	47.3	.7	2.1	(9.2)	34.9
1940-41	10.8	3.4	7.3	.1	22.8	7.0	.3	$3.6^{b}$	33.2	(1.1)	(.3)	(9.0)	20.1
1941-42	5.0~10.0	1.0	12.0	(8.0)-(3.0)	15.0 - 20.0	10.0-15.0	.0	3.0	25.0-30.0				
Lend-lease $^{\circ}$ .	1.0				2.7				• • • •	.1	.1	2.7	12.6

<sup>\*</sup> Data from Monthly Summary of Foreign Commerce and U.S. Dept. Comm. Statement No. 3009. Figures in parentheses are net imports, in italics our present approximations. One barrel of flour is considered equivalent to 4.7 bushels of grain for wheat, 6 bushels for rye, 9 for barley, 10% for oat meal, 4 for corn meal; and 1.1 bushels of malt is equivalent to one bushel of barley. Wheat grain imports are (A) for domestic consumption and (B) for milling in bond. Flour exports are (C) wholly of U.S. grain and (D) "other." Shipments (E) are to Alaska, Hawaii, and Puerto Rico, and from January 1935 through December 1939 to the Virgin Islands.

Table XVIII.—European Net Trade in Other Grains and Potatoes, Annually, 1934-39\*
(Million bushels)

Voor	Rye (in	cl. flour)		Barley			Oats			Corn			Potatoes	
Year Aug Julya	British Isles	Conti- nent	British Isles	Conti- nent	Fr. N. Africab	British Isles	Conti- nent	Fr. N. Africab	British Isles	Conti- nent	Fr. N. Africa <sup>b</sup>	British Isles	Conti- nent	Fr. N. Africab
1935–36. 1936–37. 1937–38.	$+1.63 \\ +1.41 \\ +0.29$	$+ 0.02 \\ 0.00 \\ +13.42$	+39.87 $+42.66$ $+42.18$	+36.12  +12.00  +28.42	- 8.81 -14.22 - 2.73	+12.31 + 7.45 + 4.09	+38.77 $+19.46$ $+31.31$	-1.81 $-3.62$ $-0.90$	+118.69 +115.18 +143.81 +138.58 +110.05	$+136.62 \\ +141.93 \\ +212.90$	$     \begin{array}{r}     -2.51 \\     -2.00 \\     +0.29     \end{array} $	+5.64  +10.59  +6.21	- 9.87 18.12 21.52	+0.92 $-0.24$ $-1.15$

<sup>\*</sup> Data from International Institute of Agriculture. Flour converted to equivalent bushels of rye at 65 per cent. Plus (+) indicates net imports, minus (-) indicates net exports.

TABLE XIX.—International Trade in Wheat Flour, Annually from 1934-35\*
(Thousand barrels of 196 pounds)

Year				Net e	xports					Net imports	
AugJuly	All net exporters	Four exporters	United States <sup>b</sup>	Canada	Aus- tralia	Argen- tina	Hun- gary	Japan°	Man- chukuo	Ohina	Brazil
1934-35 1935-36 1936-37 1937-38 1938-39 1939-40 1940-41	27,727	17,467 15,390 15,697 16,836 20,684 21,335 25,452 L	4,489 3,917 4,488 5,792 7,647 6,654 7,168 LL	4,552 4,918 4,469 3,522 4,530 6,686 10,262 LL	7,335 6,197 5,645 6,620 7,462 7,000 <sup>a</sup> 7,500°	1,091 898 1,095 902 1,045 995 522 596	413 636 690 489 524 1,200 <sup>a</sup> S	3,651 1,974 748 3,137 2,344 2,973 2,200 SS	6,708 3,296 1,204 1,375 2,853 3,000 1,300 SS	735 419 162 1,878 3,027 2,622 5,507'	734 611 482 437 429 301 195 151°

<sup>\*</sup> Data mainly from official sources and international Institute of Agriculture. See also Wheat Studies, December 1939, XVI, 196.

<sup>&</sup>lt;sup>a</sup> Bushels of 60 pounds for wheat, 56 for rye and corn, 48 for barley, and 32 for oats.

<sup>&</sup>lt;sup>b</sup> U.S. Department of Agriculture estimate.

<sup>&</sup>lt;sup>e</sup> Lend-lease deliveries for United Nations shipment, May 1941-July 1942.

a Calendar years 1934-38 for corn and potatoes.

<sup>&</sup>lt;sup>b</sup> French Morocco, Algeria, and Tunis.

<sup>&</sup>lt;sup>a</sup> United States, Canada, Australia, Argentina.

<sup>&</sup>lt;sup>b</sup> Including shipments to possessions; imports for consumption from 1935-36.

<sup>&</sup>lt;sup>o</sup> Exclusive of net shipments to Chosen and Taiwan, which averaged 729,000 in the calendar years 1934-38.

d Including our approximation for July

Our guess.

f Gross imports from May 1941.

<sup>9</sup> Nine months.

Table XX.—United States Flour Production and Disposition, Quarterly from July 1937\*
(Thousand barrels)

Year July-June	Total	July- Sept.	Oet Dec.	Jan March	April- June	Total	July- Sept.	Oct Dec.	Jan March	April- June
	A. Re	PORTED PROD	UCTION, ALI	REPORTING	MILLS	B. Es	гіматер Тоз	AL UNITED	STATES PROD	UCTION
1937–38 1938–39 1939–40 1940–41 1941–42	100,974 104,638 104,449 105,331 104,826	26,327 27,366 29,145 26,673 27,005	26,312 26,888 25,845 26,863 27,192	24,288 25,184 24,994 25,645 26,389	24,047 25,200 24,465 26,150 24,240	107,147 110,962 110,761 111,698 111,162	27,889 29,020 30,907 28,286 28,637	27,910 28,513 27,407 28,486 28,836	25,821 26,707 26,504 27,195 27,984	25,527 26,722 25,943 27,731 25,705
	C. NET	EXPORTS P	LUS SHIPME	NTS TO POS	SESSIONS		D. Estin	IATED NET	RETENTION	
1937-38 1938-39 1939-40 1940-41 1941-42	5,649 7,171 7,163 7,036 6,125	1,234 1,343 2,386 1,390 1,625	1,555 1,645 1,737 1,956 1,500 <sup>a</sup>	1,363 1,857 1,768 1,460 1,500°	1,497 2,326 1,272 2,230 1,500°	101,498 103,791 103,598 104,662 105,037	26,655 27,677 28,521 26,896 27,012	26,355 26,868 25,670 26,530 27,336	24,458 24,850 24,736 25,735 26,484	24,030 24,396 24,671 25,501 24,205

<sup>\*</sup> Reported production and trade data from U.S. Department of Commerce, Wheat Ground and Wheat Milling Products, Monthly Summary of Foreign Commerce, Foodstuffs Round the World, and Statement No. 3009; estimated production as for Table XXI. For earlier data from January 1925, see Wheat Studies, May 1936, XII, 335, and September 1937, XIV, 33.

TABLE XXI.—United States Milling and Flour Disposition, Annually from 1934-35\*

Year July-	Wheat	ground	Millfeed output		:		luction and ousand bar	l disposition rels)	<b>n</b>	_		apita nption
July- June	Total (million bushels)	Per barrel (bushels)	(thou- sand tons)	Output	Domestic exports <sup>a</sup>	General imports less re- exports	Ship- ments to posses- sions <sup>b</sup>	Net exports plus shipments	Computed net retention	Esti- mated con- sumption	Flour (pounds)	As wheat (bushels)
1934-35 1935-36 1936-37 1937-38 1938-39 1939-40 1940-41	470.8 483.6 492.1 493.9 508.1 505.1 507.9 507.5	4.561 4.628 4.608 4.610 4.579 4.560 4.547 4.565	4,008 4,268 4,298 4,318 4,368 4,298 4,290 4,330	103,227 104,505 106,803 107,147 110,962 110,761 111,698 111,162	3,934 3,323 3,918 4,999 6,657 6,519 6,353	0 35 39 34 79 70 62°	576 598 616 684 593 714 745	4,510 3,886 4,495 5,649 7,171 7,163 7,036 6,125	98,717 100,619 102,308 101,498 103,791 103,598 104,662 105,037	100,000 100,700 101,400 102,000 102,600 103,200 104,200 105,300	154 154 154 154 154 154 154 154	3.59 3.64 3.62 3.62 3.60 3.58 3.57 3.59

<sup>\*</sup> Estimates by the Food Research Institute of wheat ground, millfeed output, flour output, and flour consumption, combined with official trade data.

The state of the s

Table XXII.—Approximate World Wheat Supplies and Disappearance, Annually from 1934-35\*
(Million bushels)

Year	Worl	d ex-Ru	ssia			B	ritish Is	les			Conti	nent ex-	Russia	
August- July Initial stocksa	Crops	USSR ex- ports	Total sup- plies	Disap- pear- ance	Initial stocks	Crops	Net im- ports	Total sup- plies	Utili- zation	Initial stocks	Crops	Net im- ports	Total sup- plies	Utili- zation
1934-35 1,188 1935-36 939 1936-37 752 1937-38 512 1938-39 593 1939-40 1,150 1940-41 1,400 1941-42 1,550	3,489 3,557 3,509 3,810 4,574 4,205 3,917 3,940	2 29 5 43 34 	4,679 4,525 4,266 4,365 5,201 5,355 5,325 5,490	3,740 3,773 3,754 3,772 4,051 3,955 3,775 3,690	44 39 42 38 35 74 100 125	74 72 63 63 81 72 75	217 220 212 208 247 240 245 205	335 331 317 309 363 386 420 420	296 289 279 274 289 286 295 300	406 345 288 222 195 374 425 250	1,472 1,503 1,417 1,473 1,778 1,621 1,225 1,360	111 94 142 142 96 118 60 40	1,989 1,942 1,847 1,837 2,069 2,113 1,710 1,650	1,644 1,654 1,625 1,642 1,695 1,688 1,460 1,435

<sup>\*</sup> Summarized from Tables II, XIV, and XV.

a Rough guesstimate in the absence of official data.

Including flour milled in bond from imported wheat.
 Including Virgin Islands, January 1935-December 1939.

<sup>&</sup>lt;sup>e</sup> Imports for consumption.

<sup>&</sup>lt;sup>a</sup> Excluding India and Japan, and otherwise less comprehensive than crop data.

<sup>&</sup>lt;sup>b</sup> Net imports.

Table XXIII.—Wheat Supplies and Disposition in Four Chief Exporting Countries, Annually from 1936-37\*

(Million bushels)

7/		Supplies	And the second second		Don	nestic utiliza	Surplus			Year-end stocks			
Year	Initial stocksa	Сгор	Total	Milled (net)b	Seed use	Fed on     farms <sup>d</sup>	Resid- uala	Total	domestic use <sup>p</sup>	ex- portsh	Aa	$B_{t}$	
					A. U	NITED STA	res (July	⁄-Junc)					
1936-37 1937-38	142 83	627 876	<b>76</b> 9 959	471 468	$96.6 \\ 94.1$	88 113	$+53 \\ +25$	709 700	60 259	(23) <sup>7</sup> 106	83 153		
1938–39 1939–40 1940–41	153 253 282	932 751 812	1,085 1,004 1,094	475 472 476	75.5 $72.9$ $74.4$	126 91 99	$^{+47}_{+39}_{+25}$	723 675 674	362 329 420	109 47 34	253 282 386	•••	
1941-42	386	943	1,329	480	64.2	98	+33	675	654	$27^k$	627		
	B. CANADA (August-July)												
1936-37 1937-38 1938-39	127 37 25	219 180 360	346 217 385	43.5 42.8 47.2	$34.1 \\ 33.0 \\ 34.5$	17.3 21.1 34.5	$^{+}_{+}^{4}_{6}_{+}$	99 103 124	247 114 261	210 89 158	$\begin{array}{c} 37 \\ 25 \\ 103 \end{array}$		
1939-40 1940-41 1941-42	103 300 480	$521 \\ 540 \\ 312$	624 840 792	49.5 43.2 46.0	$36.2 \\ 30.2 \\ 29.0$	$ \begin{array}{r} 36.8 \\ 48.1 \\ 59.2 \end{array} $	$^{+10}_{+8}_{+9}$	132 129 143	492 711 649	$192 \\ 231 \\ 225^{k}$	300 480 424	•••	
		C. Australia (August-July)											
1936–37 1937–38 1938–39 1939–40 1940–41 1941–42	43 41 50 50 130 70	151 187 155 210 83 170	194 228 205 260 213 240	31.8 29.7 31.0 32.9 32.0 33.0	14.5 15.4 13.9 13.4 13.1 12.0		$   \begin{array}{r}     +5 \\     +7 \\     +14 \\     -2 \\     +8 \\     +15   \end{array} $	51 52 59 44 53 60	143 176 146 216 160 180	102 126 96 86 <sup>k</sup> 90 <sup>k</sup> 30 <sup>k</sup>	41 50 50 130 70 150	8.9 13.9 20.8	
					D. A	RGENTINA	(August-	-July)	•		~		
1936–37 1937–38 1938–39 1939–40 1940–41 1941–42	60 45 72 230 75 180	250 208 379 131 299 224	310 253 451 361 374 404	67.1 70.6 74.1 73.5 73.0 74.0	24.9 25.6 21.4 21.0 21.6 19.6		+11 +13 + 4 +12 + 3 + 7	103 109 99 107 98 101	207 144 352 254 276 303	162 72 122 179 96 83	45 72 230 75 180 220	$     \begin{array}{r}       -3 \\       19 \\       120 \\       9 \\       120 \\       \dots     \end{array} $	
					E.	Four Can	ег Ехрок	TERS					
1936-37 1937-38 1938-39 1939-40 1940-41 1941-42	372 206 300 636 787 1,116	1,247 1,451 1,826 1,613 1,734 1,649	1,619 1,657 2,126 2,249 2,521 2,765	614 611 627 628 624 633	170 168 145 143 139 125	105 134 160 128 147 157	+73 $+51$ $+73$ $+59$ $+44$ $+64$	962 964 1,005 958 954 979	657 693 1,121 1,291 1,567 1,786	451 393 485 504 451 365	206 300 636 787 1,116 1,421	•••	

<sup>\*</sup> Based chiefly on latest official data or estimates, including those in preceding tables with some provisional approximations for 1941-42. For similar data from 1925-26, see Wheat Studies, December 1938, XV, 252-53.

and the sum of specified utilization items. This residual represents the algebraic sum of loss in cleaning (separate estimates available for Canada), feed use (except that covered in preceding item), certain very minor uses of wheat,

g Sum of the two following items.

and errors in other items.

<sup>&</sup>quot;United States (July 1) and Canada (July 31), see Table XI, columns 6 and 13. Australia and Argentina (Aug. 1), stocks "B" adjusted for net exports and net millings in Aug.-Nov. and Aug.-Dec. respectively.

<sup>&</sup>lt;sup>b</sup> United States, wheat equivalent of flour production less net exports of flour. Canada, official estimates of "wheat milled for food." Australia, official estimates for July-June years through 1939-40. Argentina, our estimates based on calendar-year flour milled less flour exports.

<sup>&#</sup>x27;Argentina, based on acreage sown and average seed requirements per acre.

<sup>&</sup>lt;sup>d</sup> United States, official estimates of wheat fed on farms where grown. Canada, the sum of official estimates of unmerchantable wheat and of merchantable wheat fed on farms where grown. Australia and Argentina, no data.

e Difference between derived total domestic utilization

Total supplies less sum of net exports and year-end stocks.

<sup>&</sup>lt;sup>h</sup> United States (including shipments to possessions, Table XVII) and Canada adjusted as in Table XV. Four exporters total shown here includes U.S. data for July-June, rather than August-July as in Table XV.

<sup>&</sup>lt;sup>4</sup> Australia, official estimates as of Nov. 30. Argentina, our approximations to Dec. 31 total stocks of old-crop wheat.

Net imports less shipments to possessions.
 Our rough guesstimate. Canada August-April = 169.

Table XXIV.—Wheat Disposition Estimates, by Countries, 1934–39 Annual Averages\*
(Million bushels)

Country		Domest	ic Supplier	3	Dis-	Country	1	Disap-				
Country	Initial stocks	Crops	Net trade	Total	appear- ance		Initial stocks	Crops	Net trade	Total	pear-	
United Kingdom Eire British Isles Spain	42.8 2.6 45.4 32.0	6.5 70.5 134.5	+205.8 + 14.9 + 220.7 + 10.0	312.6 24.0 336.6 176.9	279.5 146.9	Hungary Yugoslavia Rumania Bulgaria Danube	11.9 14.0 6.1	89.3 123.4 58.4	$ \begin{array}{r} -18.8 \\ -6.7 \\ -25.2 \\ -4.2 \\ -54.9 \end{array} $	94.5 112.2 60.3	61.9 83.5 97.8 53.1 296.3	
Portugal Switzerland Sweden	6.0 4.8 4.0	25.6	+ 16.9 4	23.6 27.6 29.2	24.7	Poland			- 4.0 8	1	71.9 8.4	
Neutrals  Germany  Austria	46.8 37.8 2.8	174.0 14.7		257.3 235.0 25.8		porters Morocco	4.4	23.2	-59.7 $-3.5$	24.1	376.6 19.7	
Czechoslovakia Italy France Belgium	18.6 30.4 82.6 6.1	56.9 267.5 301.8 18.1	+18.3 + 1.9	74.4 316.2 386.3 62.8	58.1 288.2 313.1 56.2	Tunis French No.	4.5 2.4	14.1	- 7.6 - 3.6	12.9	26.4	
Netherlands Norway Denmark Finland	4.0 3.0 2.4	15.8 2.1 13.8 6.0	$+\ 8.2 + 9.2$	43.2 13.3 25.4 10.4	38.1 9.9 23.0 9.2	Africa  Turkey  Other Near East <sup>b</sup> .		$124.7 \\ 23.6$	-14.7 $-3.0$ $+3.4$	27.0	56.8	
Latvia Estonia	1.0	6.6 2.8	0 + .0	7.6 3.1	$6.5 \\ 2.9$	EgyptIndiaJapanChosen		366.2	-7.6 $-2.0$	358.6		
Axis importers  European importers	189.9 282.1			1,797.4	1,512.3	Manchukuo Brazil		34.4	+13.9 +37.2	48.3 42.7		

<sup>\*</sup> Data from Tables III and XVI, and Helen C. Farnsworth's "World Wheat Stocks, 1890-1914 and 1922-39," Wheat Studies, October 1939, XVI, 64-66. Under trade plus (+) indicates net imports, minus (-) indicates net exports. Data are for the five August-July years ending 1938-39.

Table XXV.—Average Daily Volume of Trading in Wheat Futures on all United States Futures Markets and of Open Commitments on the Chicago Board of Trade, Monthly from July 1936\*

(Million bushels)													
Year	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May	June	Average
	A. Volume of Trading												
1936–37. 1937–38. 1938–39. 1939–40. 1940–41. 1941–42.	51.1 63.0 29.0 26.8 19.0 17.6	39.7 44.6 28.3 23.6 16.7 20.4	26.5 33.9 28.1 28.6 15.0 20.0	19.8 37.2 15.2 20.2 13.9 17.4	23.6 38.6 14.6 16.7 17.7 12.3	44.8 24.4 12.5 42.2 11.3 11.3	32.4 26.4 12.0 28.1 8.8 9.7	35.3 18.2 7.6 28.2 12.6 6.4	45.0 21.4 7.5 29.7 16.9 6.8	47.9 22.9 13.6 34.6 17.3 10.0	37.0 20.5 27.7 35.4 21.1 9.0	59.4 34.3 21.4 17.3 20.1 10.3	38.5 32.1 18.1 27.6 15.9 12.6
	B. OPEN COMMITMENTS												
1936-37. 1937-38. 1938-39. 1939-40. 1940-41. 1941-42.	70.1 95.7 87.9 91.9 77.8 48.6	92.3 137.1 113.5 97.2 83.9 49.4	89.4 126.1 108.7 75.1 60.1 53.2	98.0 110.5 111.8 79.4 55.7 58.5	101.9 101.0 116.7 86.4 55.1 53.0	93.8 101.4 100.4 78.4 54.8 40.9	108.7 93.1 92.8 84.0 48.0 35.5	106.1 90.0 87.6 81.2 48.7 34.7	112.5 89.9 84.9 91.8 43.9 35.0	110.0 83.8 71.2 105.6 43.4 36.3	87.3 71.8 68.1 105.3 43.7 33.2	88.9 68.9 71.8 67.2 40.2 33.6	96.6 97.4 93.0 87.0 54.6 42.7

<sup>\*</sup> Official data of the Grain Futures Administration and its successor, the Commodity Exchange Administration. For carlier data, see Wheat Studies, December 1931, VIII, 195, and December 1940, XVII, 218.

<sup>&</sup>quot; Total domestic supplies less August 1 stocks 1935-39.

<sup>&</sup>lt;sup>b</sup> Syria, Lebanon, Palestine, and Cyprus. Palestine and Cyprus trade is for calendar years 1935-39.

Table XXVI.—Prices of Wheat in Four Chief Exporting Countries, Annually from 1936-37 and Monthly, 1941-42\*

(U.S. cents per bushel)

Year				United	Winni	peg <sup>b</sup> (Aug	Buenos	Mel-						
and	Farm	price			No. 2 H. W. (K. C.)	No. 2 R. W. (St. L.)			Western	****			Airesc 1	bourne <sup>d</sup>
month	Wtd.	Unwtd. av.	All classes	Basic cash (Chi.)			No. 1 Dk. N. S. (Mnpls.)		White (Se- attle)	Wtd. aver- age	No. 1 Mani- toba	No. 3 Mani- toba		(Aug July)
1936-37	103	113	131	126	128	129	150	154	108	121	123	118	109	100
1937-38	96	86	98	97	98	97	123	106	88	122	131	113	108	85
1938-39	56	56	70	69	68	72	79	73	67	57	62	54	59	47
1939-40	69	75	91	91	89	94	94	91	79	69	70	65	61	54
1940-41	69	71	85	87	82	89	88	91	76	66	67	63	56	68
1941-42	86	97	112	118	115	120	116	118	96	67	70	65	55	70
July		86	99	104	98	103	100	99	86	67	68	63	55	69
Aug		88	105	110	107	108	106	108	94	66	67	62	55	69
Sept		96	112	116	114	116	114	118	97	64	66	61	55	69
Oct		91	102	112	112	113	110	111	94	64	67	62	55	69
Nov		93	106	114	113	117	114	111	94	63	67	62	55	69
Dec		102	115	124	120	127	123	120	96	64	68	62	55	69
Jan		106	120	128	126	134	128	128	101	67	70	65	55	69
Feb		105	121	127	123	131	125	129	103	69	71	67	55	69
Mar		105	119	126	121	130	124	126	101	69	71	66	55	69
Apr		100	114	121	115	121	119	121	98	70	72	67	55	72
May		100	116	120	115	120	120	122	97	70	72	67	55	70
June		96	111	116	111	119	114	116	92	71	73	67	55	70
July		95	110	116	108	122	114	116	99	72	73	68	55	70

<sup>\*</sup> Basic data partly from official sources and partly from trade journals. Annual averages are arithmetic averages of monthly data. Conversions of foreign prices at par when exchanges were near par, otherwise at current exchange rates.

the Dominion Bureau of Statistics; those of No. 3 Manitoba are simple averages of unweighted weekly average prices; converted at official exchange rate from Sept. 11, 1939.

<sup>o</sup> Simple averages of daily quotations from Revista Semanal and Revista Oficial. Prices are for 78-kilo wheat except that, to Nov. 30, 1937 they are for 80-kilo wheat; converted at official exchange rate from October 1939.

d Simple averages of daily quotations from Wheat and Grain Review (Melbourne) of "Wheat, Trucks, Williamstown," through 1937-38. From August 1938, averages for Sydney, Melbourne, and Adelaide from Monthly Review of the Wheat Situation in Australia, nominal from November 1939; converted at official exchange rate from April 1940. From 1940-41 monthly averages of daily f.o.b. prices as quoted in Broomhall's cables. This series runs 1-5 cents higher than nominal prices in preceding series.

<sup>o</sup> Soft White (Portland) from June 1940.

TABLE XXVII.—PRICES OF DOMESTIC WHEAT IN EUROPE, ANNUALLY FROM 1936-37\*

(Indicated currency per quintal; except as noted for the U.K.)

Year AugJuly	United F (shillings Standard		Sweden (kronor)	Ger- many (RM) <sup>a</sup>	France (francs)a	Italy (lire)a	Nether- lands (florins)a	Belglum (francs)	Den- mark (kroner)	Bul- garla (leva)a	Ru- mania (lei)	Hun- gary ( <i>pengö</i> )	Yugo- slavia (dinars)
1936–37 1937–38 1938–39 1939–40 1940–41	10.0 10.0 10.0 11.0 14.5 15.1	9.05 8.40 4.74 6.60 14.50 15.35	19.09 20.15 17.36 19.79 25.34 27.00	20.49 20.51 20.73 20.60 20.60 20.60	$145.4$ $187.2$ $210.5$ $199.7^{b}$ $224.5^{b}$ $290.3^{b}$	120 125 135 135 155 155	9.84 9.98 10.05 10.98 12.05 13.60	132.8 136.6 123.8 141.4 170.0° 205.7°	19.25 18.06 14.34 18.45 28.00° 28.00°	300 320 340 350 430 620	482 521 411 515 855° 1,131°	19.0 21.5 20.4 20.9 26.1 <sup>a</sup> 28.0 <sup>a</sup>	165 188 155 204 313 <sup>a</sup>

<sup>\*</sup> Data from official sources, the International Institute of Agriculture, and foreign news sources. Averages of available monthly data, at times not complete.

<sup>&</sup>lt;sup>a</sup> Data of the U.S. Department of Agriculture on farm prices (as of the fifteenth of the month), all classes and grades in six markets, No. 2 Hard Winter at Kansas City, No. 2 Red Winter at St. Louis, No. 1 Dark Northern Spring and No. 2 Hard Amber Durum at Minneapolis, and Western White at Scattle (Soft White Portland from June 1940). See especially Agricultural Statistics, 1940, pp. 26–27, and Crops and Markets and Foreign Crops and Markets. Monthly prices of the foregoing series (except farm prices and Western White at Scattle) are averages of daily prices weighted by carlot sales. Prices of basic cash wheat are unweighted average prices of the cheapest wheat deliverable on Chicago contracts without premium or discount.

<sup>&</sup>lt;sup>b</sup> Based on data from Canadian Grain Statistics, Grain Trade of Canada, and Monthly Review of the Wheat Situation (Dominion Bureau of Statistics). Winnipeg weighted averages are simple averages of weekly weighted average prices; monthly average prices of No. 1 Manitoba are as reported by

<sup>&</sup>quot;Fixed prices to producers; in Germany for the Berlin area,

b Less a tax of from 14 to 49 francs per quintal.
 c Maximum price to producers.

## WHEAT STUDIES of the FOOD RESEARCH INSTITUTE

VOLUME XVII	
NO.	PRICE
1. World Wheat Survey and Outlook, September 1940. Helen C. Farnsworth and V. P. Timoshenko. September 1940, pp. 1-37	\$ .75
2. Wheat Subsidization and Exports: The Experience of 1938-39. V. P. Timoshenko. October 1940, pp. 39-99	1.00
3. Price Relations of Liverpool Wheat Futures, with Special Reference to the December-March	
Spread. Sidney Hoos and Holbrook Working. November 1940, pp. 101-43	
5. World Wheat Survey and Outlook, January 1941. Helen C. Farnsworth and B. M. Jensen. January 1941, pp. 221-60	. 75
6. Rice and Wheat in World Agriculture and Consumption. V. D. Wickizer. March 1941, pp. 261-314	1.00
7. Wheat in the Post-Surplus Period 1900-09 with Recent Analogies and Contrasts. Helen C. Farnsworth. April 1941, pp. 315-86	1.00
8. World Wheat Survey and Outlook, May 1941. Helen C. Farnsworth. May 1941, pp. 387-420	. 75
VOLUME XVIII	
1. World Wheat Survey and Outlook, September 1941. Helen C. Farnsworth and B. M. Jensen. September 1941, pp. 1-36	. 75
2. Wheat in National Diets. M. K. Bennett. October 1941, pp. 37-76	1.00
3. Why Enrichment of Flour? A. E. Taylor. November 1941, pp. 77-108	.75
4. The World Wheat Situation, 1940-41: A Review of the Crop Year. Helen C. Farnsworth. December 1941, pp. 109-90	1.25
5. World Wheat Survey and Outlook, January 1942. Helen C. Farnsworth and B. M. Jensen. January 1942, pp. 191-227	. 75
6. Federal Crop Insurance in Operation. J. C. Clendenin. March 1942, pp. 229-90	1.25
7. Variability in Wheat Yields and Outputs. Part I. Cycles or Random Fluctuations. V. P. Timoshenko. April 1942, pp. 291–338	1.00
8. World Wheat Survey and Outlook, May 1942. J. S. Davis. May 1942, pp. 339-66	.75
VOLUME XIX	
1. World Wheat Survey and Outlook, September 1942. J. S. Davis. September 1942, pp. 1-24.	1.00
2. New International Wheat Agreements. J. S. Davis. November 1942, pp. 25-84	1.00
3. Wheat in the Third War Year: Major Developments, 1941-42. M. K. Bennett, Helen C. Farnsworth, and Rosamond H. Peirce. December 1942, pp. 85-120	1.00
RECENT CONTRIBUTIONS from the FOOD RESEARCH INSTITUTE	
(Numbered reprints available free on request)	
NO.	
111. "Quotations on Commodity Futures as Price Forecasts." Holbrook Working. Econometric uary 1942	a, Jan-
112. "International Commodity Agreements in the Postwar World." J. S. Davis. American Eco Review, Supplement, March 1942	nomi <b>c</b>
113. "Toward a More Adequate Approach to the Farm Tenure Program." Karl Brandt. Jour Farm Economics, February 1942	nal of
114. "Mobilizing Our Dormant Resources for Total War." Karl Brandt. Foreign Affairs, Apri	1 1942
115. "Is Federal Crop Insurance Worth Its Cost?" J. C. Clendenin. Proceedings of the Western Economics Association, June 1942	
116. "Agricultural Price Policies in War Time." Holbrook Working, Journal of Farm Econ August 1942	omics,
119. "Transportation—Germany's Open Flank." Karl Brandt. Foreign Affairs, January 1943	

### FOOD RESEARCH INSTITUTE

### STANFORD UNIVERSITY, CALIFORNIA

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

#### RESEARCH STAFF

MERRILL K. BENNETT, Executive Director Joseph S. Davis, Director John B. Canning, Associate\* Karl Brandt, Economist Vladimir P. Timoshenko, Economist Vernon D. Wickizer, Economist†

HOLBROOK WORKING, Economist
HELEN C. FARNSWORTH, Associate Economist
ROSAMOND H. PEIRCE, Assistant Statistician
KLAUS E. KNORR, Assistant Economist†
JOZO TOMASEVICH, Assistant Economist†

ALONZO E. TAYLOR, Director Emeritus (Minneapolis, Minnesota)

\* On leave.

† Acting.

### **PUBLICATIONS**

#### WHEAT STUDIES

Six numbers in Volume XIX (1942-43), including three Survey and Outlook issues covering world wheat developments in four-month periods preceding dates of publication; a brief Review of major world wheat developments in 1941-42; and two studies of special subjects. Subscription: \$6.00 per volume.

Bound volumes I-XVIII, eight or ten numbers in each, \$7.50.

### GRAIN ECONOMICS SERIES

Books, wider in scope or of greater length than issues of Wheat Studies.

No. 2. N. Jasny, Competition among Grains. January 1940. 606 pp. \$4.00.

No. 3. V. D. Wickizer and M. K. Bennett, The Rice Economy of Monsoon Asia. November 1941. 358 pp. \$3.50.

### WAR-PEACE PAMPHLETS

Brief discussions of topics important in wartime or in planning the peace. No. 1. Helen C. Farnsworth, Wartime Food Developments in Germany. September 1942. 25c.

### FATS AND OILS STUDIES

Books on fats and oils of animal and vegetable origin, dealing primarily with economic aspects—production, trade, prices, and utilization—but with due reference to technical knowledge.

No. 6. Karl Brandt, The German Fat Plan and Its Economic Setting. September 1938. 344 pp. \$3.00.

No. 7. Karl Brandt, Whale Oil: An Economic Analysis. June 1940. 264 pp. \$3.00.

### MISCELLANEOUS PUBLICATIONS

Books embodying the results of research in fields other than those covered by the series listed above, or more comprehensive in character.

No. 9. J. S. Davis, On Agricultural Policy, 1926-1938. January 1939. 494 pp. \$3.00.

### CONTRIBUTIONS

Chiefly reprints of papers, by members of the Food Research Institute, published in professional journals. Free on request. See inside back cover.

List of publications available on request. Address orders and inquiries to

### FOOD RESEARCH INSTITUTE

STANFORD UNIVERSITY, CALIFORNIA