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Working Draft

Considerations Relating to the Intermediate-Term Outlook For Wheat in the United States[*]

This report considers some of the major factors that may affect the outlook for wheat in the period 1950-54 under two levels of national income and employment. The first situation represents a continuation of high employment with disposable income per capita at about 1948 rates despite somewhat lower prices. The second would involve one-fourth less disposable income per capita, and 10 percent less employment. These two levels are assumed to be as high or as low as national levels of economic activity will average annually during the five-year period, although levels within any one year may rise above or fall below those indicated; the average for the five years is assumed to be within the limits of this range. It is anticipated in both situations that total population will be about 4 percent larger than in 1948, and that financing of agricultural exports will have reverted by 1952 to more nearly normal channels.

Summary

The return of peacetime conditions and recovery of wheat production in wheat importing countries will eventually call for readjustments in production in this country. If the United States harvests another large crop in 1949 as in the last 2 years a further increase in the carry-over July 1, 1950 is to be expected. In the 1950-54 period, total domestic disappearance may be little different from present levels while exports are likely to be much below the levels of recent years. Under these conditions, unless acreage is adjusted downward or yields are low, stocks would continue to increase in the 1950-54 period.

Total disappearance of wheat in 1950-54 is likely to average about 950 million bushels annually, whether we have the high employment or the less favorable level of business activity described in table 1. Use of wheat for food is estimated at about 530 million bushels annually and that for seed at about 70 million. Use of wheat for feed is estimated at a relatively high level (150 million bushels) because of expected increases in livestock and poultry numbers and favorable prices for livestock and livestock products. It is believed that even more wheat could be fed in those areas where wheat produces more feed per acre and is a cheaper feed than other grains.

The most uncertain demand for wheat is that for export. It is estimated here as ranging downward from 250 million bushels in 1950-51 to 150 million bushels in 1954-55, or an annual average of 200 million bushels.

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[*] This manuscript has been processed in this form as a basis for discussion of the longer-term outlook by State and federal agricultural economists at the Annual Outlook Conference to be held October 11-15, 1948. It has not been approved as an official publication of the Bureau of Agricultural Economics, although it may be published in a revised form at a later date.

If the schedule of exports proposed in the International Wheat Agreement were realized, it would provide for U.S. exports of some 250 to 300 million bushels of wheat annually. It should be recognized that any one of several factors could affect our exports decidedly, and the above indications are significant because of the direction they show rather than the quantitative level.

Factors which will tend to affect our exports include: (1) A substantial increase in population; (2) an increased use of land for the production of livestock feed; (3) dependency on cereals for food rather than higher priced livestock products; (4) a retention of markets in the occupied areas of Europe; (5) the diminishing of aid to ECA countries as agricultural production in Europe and possibly rice trade in the Orient are restored; (6) the restoration of transportation facilities in Europe; (7) domestic policies affecting grain production areas formerly important as surplus producers; (8) trade and fiscal policies of both exporters and importers; (9) postwar growth of bilateral State trading and less international cooperation; and (10) a continuing world shortage of dollars.

If our total requirements average only about 950 million bushels annually, as herein estimated, and if some stocks accumulate from the 1949 crop, an average annual seeded acreage of less than 60 million acres probably will meet these requirements under average weather conditions. Unless yields are below average, marketing quotas will be proclaimed and voted upon by growers. And acreage allotments could decline to the minimum legal level of 55 million acres by about 1952. If wheat yields continue at average levels, wheat farmers must either find ways of increasing exports or feed more wheat. However, should yields be below average, or should export demand be greater than that now visualized, additional acreage would be required. The Secretary of Agriculture is authorized by existing legislation to forego acreage allotments in case of a national emergency.

Wheat prices in 1950-54 are expected to average much lower than in recent years as a result of reduced export demand and lower domestic requirements for feed. While prices would be above corn prices, they would be near enough to such prices to favor above average quantities of wheat being fed to poultry and livestock.

With favorable livestock prices and adequate feed supplies, farmers in the Corn Belt, Lake States and Northeast probably will prefer to make some reduction in wheat acreage. But possible reductions in these areas are limited and any large reduction in wheat acreage will have to come from the wheat areas of the Great Plains and the Pacific Northwest. Under acreage allotments and marketing quotas, farmers in these latter regions probably will have to turn to other enterprises even though they could go on producing low-priced wheat for a long time.

Adjustments which are likely to be profitable in the eastern portion of the Great Plains include an increase in livestock, a shift from wheat to corn, other feed grain crops, alfalfa and soybeans, and the seeding of some of the erosive slopes to brome grass. In the southwestern portions of the Great Plains, more livestock, sorghums, summer fallow, and sand lovegrass and range grasses are desirable. While in the northwestern portions of the

Great Plains, more livestock, summer fallow, improved varieties of barley, possibly flaxseed, and crested wheat grass both for pasture and for seed, all are promising alternatives. Current research indicates that with average prices, 10-bushel wheat land in the Northern Great Plains can be shifted profitably to crested-wheat grass. With the favorable livestock prices expected, crested-wheat grass might well provide the basis for a stable beef enterprise on the larger farms. The smaller farms which must stay in intensive enterprises, can shift to poultry and hogs.

In the Pacific Northwest, alternatives to wheat include more livestock, summer fallow, legumes, improved varieties of barley and oats, and more grass and grass legume mixtures. In addition to poultry and hogs, feeding wheat to cattle in order to take advantage of the increasing demand for slaughter cattle on the West Coast appears feasible in both the Pacific Northwest and the Northern Great Plains.

Feeding more wheat is one way wheat farmers might raise the level at which they will be able to maintain wheat production, since under current legislation the marketing quota for any one year is affected by the amount of wheat used (including feed uses) in the preceding year. If wheat farmers consider the reduction in price which is inevitable with an accumulation of surpluses, the prospective favorable demand for livestock and the possibility of enlarging their market outlets for wheat by feeding some of it, they may conclude that feeding some of their wheat to livestock is good business.

Table 1.- Projections under specified assumptions[1] relative to U.S. wheat for 1950-54 and comparable earlier periods

Item	Unit	Averages		1946	1947	1948 2/	1950-54 average projection	
		1935-39	1941-45				High	Low
National framework (Calendar years)								
Gross national product	Bil. dol.	84	181	204	232	246	245	175
Disposable income	do	66	127	159	176	185	190	145
Employment	Million	44.9	53.1	55.2	59.4	59.6	60.4	54.4
Prices received by farmers	1910-14 = 100	107	174	233	278	291	225	175
Prices paid by farmers including interest and taxes	do	128	157	193	231	250	215	195
Wheat (Years beginning July)								
Price, national average to farmers	Dollars	.81	1.26	1.91	2.29	----	1.50	1.10
Total population 3/	Million	130	138	144	146	148	152	152
Consumption per capita (food uses)	Bushels	3.66	3.76	3.44	3.41	3.44	3.50	3.50
Acres seeded	Mil. acres	73.2	61.4	71.5	77.9	77.7	59.0	
Yield per seeded acre	Bushels	10.3	16.0	16.1	17.4	16.0	15.8	
Production	Mil. bu.	759	985	1,153	1,365	1,284	930	
Stocks on July 1	do	154	446	100	84	195	370	
Imports 4/	do	14	37	0	0	0	0	
Total supply	do	927	1,468	1,253	1,449	1,479	1,300	
Food, civilian and military	do	477	519	494	498	510	530	
Feed	do	124	297	191	180	150	150	
Seed	do	85	74	86	91)	90	70	
Alcohol	do	0	53	0	1)		0	
Total domestic disappearance	do	686	943	771	770	750	750	
Exports 5/	do	53	132	394	480	450)	200	
Shipments	do	3	4	4	4	4)		
Total disappearance	do	742	1,079	1,169	1,254	1,204	950	
Carry-over stocks June 30	do	185	389	84	195	275	350	
Total disposition	do	927	1,468	1,253	1,449	1,479	1,300	

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[1] Data for 1950-54 are approximate estimates with assumptions shown for national framework and with other conditions described in text. They are not forecasts except as assumptions and conditions described are realized. 2/ First half year, data for national framework. Other data are tentative indications. 3/ Population is Census base adjusted for underenumeration of children as of January 1, which is the middle of the wheat marketing year; includes civilian and military population. 4/ Includes only imports for food or animal consumption within the U.S. 5/ Includes shipments to Puerto Rico, Hawaii and Alaska; includes flour in terms of wheat.

Historical Trends

The American wheat farmer is enjoying one of the most prosperous periods in history. High wartime use of wheat for food, feed and industrial purposes, followed by unprecedented postwar demands for feeding a hungry world, emptied the American bread basket. These extraordinary outlets permitted the production and sale of record wheat crops at good prices in each of the last 5 years. Production costs also have increased rapidly, but on family-operated wheat farms in the hard winter wheat area, for example, the operator's net farm income increased from $3,680 in 1941 to over $14,000 in 1947. These returns are in striking contrast to the 1935-39 average of $661.

Increased exports and shipments of wheat and flour contributed materially to this prosperity of the wheat farmer. They increased from about 31 million bushels in 1941-42 to about 483 million bushels in 1947-48. Wheat fed reached a peak of 488 million bushels in 1943-44. Total disappearance of wheat rose from 700 million bushels in 1941-42 to around 1,200 million bushels in each of the last 3 years, while July 1 stocks decreased from 631 million bushels in 1942 to 84 million bushels in 1947.

Favorable weather, the development of higher-yielding varieties, and more timely and improved methods of production have contributed to the record wheat crops of recent years. But much of the increase has resulted from seeding more acres. The acreage seeded to wheat in the United States increased from a low of 53 million acres for the 1942 crop to nearly 78 million acres in each of the last 2 years. 1/ It has exceeded that level in only two previous years, 1937 and 1938 when production controls were not in force.

Much of the increased seedings were in the Great Plains region which normally seeds more than two-thirds of the United States wheat acreage and produces from one-half to two-thirds of our national crop (table 2). Here, where the average annual acreage seeded in 1935-39 was less than 50 million acres and that seeded in 1941-45 was less than 44 million acres, about 56 to 57 million acres of wheat were seeded in each of the last 2 years. Wheat acreages were increased primarily at the expense of feed crops and summer fallow; but cropland that was idle in prewar years returned to wheat production, and about 5 million acres of sod land were broken and seeded to wheat. 2/ Numbers of livestock were reduced and much of the diversification of farming, which had been developed in earlier years when wheat production was in a much less advantageous position, was abandoned.

The acreage seeded to wheat was increased also in the Pacific Northwest, the Corn Belt and Lake States, but the additional acreage seeded in these areas was relatively small compared with that of the Great Plains. In the Pacific Northwest, wheat acreages in each of the last 2 years were more than a million acres greater than the average annual seedings in 1941-45.

1/ All wheat and winter wheat acreage, yield and production, U.S. 1938-48 is shown in <u>The Wheat Situation</u>, Outlook Issue, August 1948, figures on page 2, table on page 20.

2/ Annual Reports of Conditions in the Great Plains, by R. I. Throckmorton, Chairman, Committee on Conditions, Great Plains Council.

Table 2.- All wheat: Acres seeded and production in the United States and by regions, selected periods

Period	United States	Great Plains 1/	North West 2/	Corn Belt and Lake States 3/	South 4/	All other States
			(Million Acres)			
1920-29	65.0	41.8	4.5	13.0	2.2	3.4
1935-39	73.2	49.8	4.7	12.7	2.8	3.2
1941-45	61.4	45.8	4.2	5.8	2.5	2.6
1946	71.6	53.1	5.1	8.4	2.1	2.9
1947	77.9	57.0	5.8	9.4	2.5	3.1
1948 5/	77.7	55.8	5.5	10.6	2.5	3.3
			(Million Bushels)			
1920-29	825	477	88	179	24	57
1935-39	759	371	93	200	32	63
1941-45	985	645	108	148	33	51
1946	1,153	757	138	172	30	56
1947	1,365	945	124	194	38	64
1948 5/	1,284	792	154	242	36	60

1/ N. Dak., S. Dak., Nebr., Kans., Okla., Tex., Mont., Wyo., Colo., and N. Mex.
2/ Idaho, Wash., and Oreg.
3/ Ohio, Ind., Ill., Mich., Wisc., Minn., Iowa, and Mo.
4/ Va., W. Va., N. C., S. C., Ga., Ky., Tenn., Ala., Miss., and Ark.
5/ Preliminary

Here, additional seedings were largely at the expense of summer fallow in the wheat-fallow areas, and at the expense of feed grains, fallow, and, in 1948, dry field peas in the wheat-pea areas. In the Corn Belt and Lake States, wheat seedings for 1948 were nearly 2 million acres greater than the average annual acreage in 1941-45, but they remained about 2 million acres less than the annual seedings in 1935-39.

Current Outlook

The time when farming adjustments will have to be made in order to avoid a wheat surplus is rapidly approaching. A year ago, prospects for the 1948 winter wheat crop were not bright. Export demands were at record levels, and carry-over wheat stocks were at a minimum. But the much heralded "miracle" wheat crop of the Southern Plains, a national crop second only to that produced in 1947, the record corn crop in prospect this fall, and the favorable growing conditions experienced in foreign producing areas have hastened the time for adjustments by wheat farmers.

Export of the 1949 crop seems likely to be much lower than in any year since 1945. Estimated disappearance of wheat in 1949-50 includes 510 million for food, 90 million for seed and industrial use, 150 million for feed, and about 300-350 million bushels for export. Total disappearance for 1949-50 is estimated at 1,075 million bushels as compared with about 1,200 million bushels estimated for 1948-49. 3/

In anticipation of a decline in the demand for the 1949 wheat crop, the Secretary of Agriculture has suggested a national wheat goal for 1949 of 71.5 million acres as compared with the 77.7 million acres seeded for the 1948 crop. With an average yield of approximately 15 bushels per acre seeded (the 1938-47 average) on the goal acreage, production in 1949 would total 1,072 million bushels. To the extent that production exceeds that level because of either larger seedings or yield, it is likely that wheat stocks will increase.

Prospective Demand, 1950-54

What then, is the prospective demand for wheat produced in subsequent years? What will it be in the period 1950-54? Will the export demand remain at anything approaching the 300-350 million-bushel level anticipated in 1949-50? If not, is it likely that increased feeding of wheat to livestock, greater diversion of wheat for industrial uses, or a significant increase in food use can take up the slack and thus permit continued production at a level comparable to that of the suggested 1949 wheat goals?

An analysis of wheat disappearance in past years clearly indicates that the quantities used for food and seed do not change much from year to

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3/ Charts on wheat distribution and tables on supply and distribution, 1930-48 are shown in The Wheat Situation, the Outlook issue, August 1948, on cover page and page 19.

year and can be forecast fairly accurately on the basis of population, per capita consumption and probable acreage (table 1). These items are forecast at an annual average of about 600 million bushels for 1950-54, food at about 530 million and seed at about 70 million. The food estimate is based on a per capita consumption of 3.50 bushels. This is above the annual average of 3.44 bushels in the past 3 years, when conservation measures were in effect. But it is about in line with the long-time downward trend which reflects increased use of green vegetables and other protective foods. It is possible that the consumption of wheat products may show greater recovery than implied in the forecast, but it is not likely that it would increase enough to be significant to the overall consideration of demand for wheat in the next few years. Nor would the assumed variations in income and employment have any significant effect on domestic consumption of wheat for food. In periods of high employment people in the lower income brackets consume more wheat than they do in periods of unemployment, but those in the higher income brackets tend to offset this by substituting other foods for wheat products. The seed estimate of 70 million bushels annually would be sufficient for 58 to 62 million acres, depending upon the rate of seeding.

The use of wheat for animal and poultry feeding has shown considerable variation in the past. The feeding of wheat in 195-54 would be expected to average about 150 million bushels annually as compared with the 124 million-bushel average in 1935-39. Increased livestock and poultry numbers, favorable prices for livestock and livestock products, wheat and corn price relationships, and farmers' experience in recent years with the feeding of wheat, will tend to encourage a greater use of wheat for feed.

Some of these factors, such as the relative demand for livestock and livestock products, will be especially important if high employment prevails. And more than 150 million bushels of wheat might be fed annually in that situation. Certainly more could be fed in either of the situations assumed in table 1. But, here again, the variation which might be expected in the quantity of wheat used for feed in the two assumed situations, is not considered significant in an analysis of the overall demand for wheat.

The use of wheat for alcohol production was important from 1942-45 only because of the demands for solvents, smokeless powder, etc., arising out of the war. It is expected that no significant quantities of wheat will be used for this purpose in 1950-54.

Far more important than any other item of disappearance in the future of wheat growing is the size of our foreign market. A forecast of this is necessary in an analysis of acreage and production requirements. But because of the great uncertainties involved, emphasis should be placed on factors which are likely to affect our export demand rather than on any particular estimate of that demand.

Some of the factors which will tend to affect the level of United States wheat exports in the next few years include:

1. The substantial increase in population in the world and especially in importing countries since the war. World population is increasing at an annual rate of about 25 to 30 million.

2. An increased use of land for the production of feed as the livestock industry is rebuilt.

3. A continued great dependency throughout much of the world on cereals for food as contrasted with the higher-priced animal products.

4. The probable retention of the U.S. market in the presently occupied areas of Europe. This could be affected materially by the outcome of current differences between Eastern and Western Powers. Should a United Germany evolve, and should Western Germany return to her prewar source, Eastern Europe, for her wheat, that market would be lost to the United States. A closely related factor about which little is known, is the future position of Soviet Russia and the Balkans in supplying Western Europe with wheat. Western Europe is receiving more than two-thirds of our current wheat exports and a loss of that market would reduce our exports greatly.

5. The likelihood that the aid program to ECA countries, which is currently taking a significant portion of our exports, will be much less important as agricultural production in Europe and possibly rice trade in the Orient are restored.

6. The restoration of transportation facilities in Europe and Asia which will facilitate the distribution of domestically produced supplies.

7. Domestic policies affecting grain production in areas formerly important as surplus producers.

8. Trade and fiscal policies of both exporters and importers.

9. Postwar growth of bilateral State trading and less international cooperation in the development of world trade agreements.

10. A continuing world shortage of the dollars required to facilitate the purchase of United States wheat and flour. This is closely associated with the traditional reluctance of the United States to accept large-scale imports as payment for exports, and with the reluctance of U.S. capital to invest funds in foreign countries because of the fear of its loss by expropriation. It probably is the most important single factor which is likely to limit U.S. exports in the next few years.

A careful weighing of the various factors which will affect the foreign trade in wheat seems to indicate a decline in world wheat imports and an even greater decline in imports of wheat from the United States. In this analysis exports of 250 million bushels have been estimated for the marketing year 1950-51, followed by a reduction of 25 million bushels each succeeding year until, in 1954-55, they are reduced to 150 million. This would mean average annual exports of 200 million bushels for the five-year period.

While smaller than the extremely high levels reached in the past three years, average exports of 200 million bushels nevertheless would be large compared with other years. In 1921-30 net exports from the United States averaged 177 million bushels, while in the 35 years since 1909, leaving out the years of net imports, net exports averaged 169 million bushels. It must be recognized, however, that this estimated level of exports is based upon an appraisal of a number of factors, several of which could affect our future exports in a decidedly different manner than that which now appears likely. In other words, conditions and developments could be such that exports would hold up better than the 200 million bushel average estimated in this analysis. If the schedule of exports proposed in the International Wheat Agreement were realized, we would be able to export some 250 to 300 million bushels annually.

Prospective Yields and Acreage Needed to Balance Market Demands

If we assume for the 1950-54 period an average annual use of 530 million bushels of wheat for food, 150 million for feed, 70 million for seed, and 200 million for exports, total U.S. requirements would amount to 950 million bushels annually. Should the annual disappearance of wheat in the 1950-54 period average only this quantity, an average annual seeded acreage of only 60 million acres would be adequate under average weather conditions.

An analysis of probable supply and disappearance by years, however, indicates a problem of increased carry-over stocks until about the middle of the period 1950-54. This would have the effect of reducing the acreage allotments required by existing legislation to an average of about 59 million acres. Moreover, based on the analysis by years, if yields are average or better, acreage allotments will be necessary in each year and marketing quotas (under provisions of the Agricultural Act of 1948) will be referred to farmers for a vote for at least a part of the period. Unless yields are below average, the acreage will decline to about 65 million acres for the 1950 crop. Acreage allotments could reach the minimum legal level of 55 million acres by about 1952. If yields are smaller than average, acreage requirements will of course be proportionately greater. It is also to be recognized that the Secretary of Agriculture is authorized by existing legislation to forego acreage allotments in case of a national emergency.

The expected average yield used in this analysis is 15.8 bushels per seeded acre. This yield expectancy has been determined by projecting historical trends in yields and adjusting them to average weather. To the extent that an acreage reduction in the future is made in the less productive

areas, this estimated yield may be conservative.

The estimated yield of 15.8 bushels per acre seeded is about 0.6 of a bushel per acre lower than the average yield obtained during the last 5 years (1944-48), but it is about 0.8 of a bushel per acre higher than the average yield during the period 1938-47. This trend toward higher yields arises from the increased use of more timely and improved production practices such as stubble mulch in the Great Plains and Northwest; straight and contour strip cropping in the Great Plains; chemical control of weeds, insects and diseases; and increased use of fertilizers; also from the development and more widespread adoption of higher yielding varieties. The latter have been especially important. They are exemplified by the new varieties, Pawnee and Comanche, which were released in 1943 and now are grown on the bulk of the wheat acreage in the hard winter wheat areas where they are adapted. Experimental tests indicate that Pawnee wheat yields throughout this area are as much as 25 to 30 percent greater than those from Turkey, the wheat common to the area during World War I.

Wheat Price Prospects for 1950-54

It is reasonable to expect that average farm wheat prices, which have advanced from an average of 56 cents per bushel in 1938-39 to a record high of $2.29 in 1947-48, will be lower in 1948-49, and much lower in the 1950-54 period, compared with recent levels. Lower prices will result from reduced exports and lower domestic requirements for feed. In 1950-54 they also will reflect lower loan levels associated with lower prices generally and the adoption of the new parity formula. With acreage allotments likely in all years, the 20 percent increase in support levels provided by the Act would be effective in each year. 4/

An analysis of the 1950-54 period by years which assumes average yields per acre, the levels of business activity indicated in table 1, and the applications of existing legislation involving allotments, quotas, and the new price support provisions, indicates that the price of wheat to growers would likely average about $1.10 for the projected low level and about $1.50 for the high level. 5/ These prices would be up to 10 cents above comparable projected corn prices, and together with favorable livestock prices would encourage wheat feeding over a considerable part of the period.

4/ Provisions of the Agricultural Act of 1948 are discussed in The Wheat Situation, issue of August 1948, pages 23-31.

5/ Wheat prices received by farmers and parity price, U.S. 1909-48 is shown in The Wheat Situation, Outlook issue, August 1948, figure on page 8.

Production Decisions and Alternatives

It is obvious that a substantial cut from current levels of wheat production will be in order if the above indications of the future demand and yields have validity. In fact, these indications could have a substantial margin of error without eliminating the apparent need for a reduction. One of the first decisions to be made by American wheat growers, then is whether they are going to reduce production in line with prospective demands, at the support prices provided by recent legislation, or whether they are going to wait until burdensome surpluses with all their consequences, force such a reduction. If the latter course is taken acreage allotments, marketing quotas, and minimum support prices provided under the Agricultural Act of 1948 are certain to be necessary.

It may be desirable to carry substantially larger stocks than those which were considered normal before the war, especially in these days of unsettled world political and military conditions. Certainly the stocks accumulated prior to World War II stood us in good stead during and after that conflict. And should we encounter a period of low yields and at the same time have need for large-scale exports, large carryover stocks would be desirable. Moreover, great fluctuations in yields over the world have made it possible in many past years for an exporting country to find a ready market for accumulated stocks. However, large stocks would add to total supplies and thus reduce production permissible under the current law before declining support prices and marketing quotas were required. Moreover, with a future demand for only about 950 million bushels a year, 77.7 million acres of wheat (the 1948 acreage) with a yield of 15.8 bushels per acre would accumulate stocks at a rate of about 275 million bushels a year. At best, provision for larger stocks could provide only temporary relief.

Sooner or later farmers are going to have to start growing less wheat unless they can either find ways of increasing exports or ways and means of feeding more wheat than is now visualized. What are the alternatives and what production decisions are farmers up against as they decide as individuals whether to make a reduction or to wait until it is forced upon them? It is customary to look to the Great Plains for any substantial reduction in wheat production which may be necessary. This is the region which produces a substantial portion of our wheat. It contains the much publicized "dust bowl" of the thirties. And it includes some 5 million acres of sod land which were broken in recent years and planted to wheat. But a look at the production alternatives and the decisions which individual wheat farmers in the Great Plains have to make in order to obtain a substantial reduction in wheat indicates that such a reduction will not be easy.

The typical Great Plains wheat farmer has substantial financial reserves. He has an investment in mechanized wheat equipment, much of it new and expensive, but paid for. This equipment is not suited for the production of many alternative crops. The size of his farm has increased, as has the portion of it which he owns. He could go on producing low-priced wheat for a long time.

Although there are substantial areas in the Great Plains which should be regrassed, most of the area now producing wheat is best suited to the production of that crop. Historically, wheat has produced more feed per acre and per hour of labor than any other crop in much of the western portion of the Great Plains. In the hard winter wheat area it is a more dependable crop than is barley. Unless growing conditions are unfavorable, it provides a significant supplemental income from wheat pasture as well as a winter cover on the land. Even in marginal areas where the long-time best use of the land may be grazing, the financially solvent operator, with wheat equipment and with the typical wheat farmer's antipathy toward livestock, will be reluctant to let his equipment stand idle while he attempts to regrass his land and build up a livestock enterprise. Regrassing can be a slow, expensive operation for the individual operator despite the progress made in recent years with various grasses and methods of establishing them.

On the side of the farmer, in his effort to continue wheat production, will be the opportunity to increase and stabilize his wheat yields through greater use of summer fallow and stubble mulch. Use of higher yielding, disease-resistant varieties, better insect, disease, and weed control, and other more efficient practices can reduce his production costs.

The situation is not greatly different with the wheat farmer in the Pacific Northwest. Like the Great Plains farmer, he too has substantial financial reserves and expensive wheat equipment. And his production alternatives are even more limited than those in the Great Plains. In the wheat fallow areas of the Northwest the farmer who increased his wheat acreage at the expense of fallow probably will have to shift back toward more fallow and a smaller wheat acreage as precipitation recedes from the abnormally high level of recent years. By so doing, however, he may tend to increase his wheat yields and production probably will not be reduced significantly. About the only alternative he has is grass and livestock.

In the wheat-pea areas of the Pacific Northwest farmers who increased their wheat acreage at the expense of dry field peas probably will not find it to their advantage to make any substantial shift back toward peas. Like wheat, dry peas are likely to be in surplus during the period 1950-54. In recent years, use of the stubble mulch, green manures, nitrogenous fertilizers and improved varieties have permitted continuous wheat production on the fertile soils of this area. Some of the steeper slopes should be in grass and grass-legume mixtures to control erosion. But, like those of the Great Plains, most wheat farmers of the Pacific Northwest prefer to maintain their wheat production.

In the Corn Belt, Lake States and Northeast, some farmers who are now growing wheat probably will prefer to reduce their production under the price relationships which are likely to prevail in the next few years. With relatively favorable livestock prices and with abundant supplies of feed, some of the central Corn Belt farmers who increased wheat production as they reduced livestock numbers and hay and pasture acreages, probably will shift back toward more livestock and more hay and pasture. Many Northeastern farmers who increased production of grains in order to take advantage of the abnormally favorable position of wheat and to cut down on excessive feed grain costs probably will reduce their acreage of wheat as feed supplies become more plentiful and price relationships are modified. But much of the wheat in these areas is grown for feed, or it is grown because of the need for a fall seeded small grain in the crop rotation and in the distribution of the farm labor load. For these reasons, and because of the simple fact that less than one-sixth of our acreage and little more than one-fifth of our production (1948) is located in these areas, it is obvious that no substantial reduction in our national output can be expected there.

For similar reasons significant reductions in volume cannot be expected in the South or in other States producing relatively small quantities of wheat. So it all adds up to the fact that any large reduction in wheat must come from the wheat areas of the Great Plains and the Pacific Northwest. And, more important, it adds up to the fact that individual wheat producers cannot depend on others to make the reduction. The fellow "out West" in the marginal wheat area, has just as much at stake in his desire to maintain wheat production as do those in some of our best wheat areas. He may have more at stake. Certainly he has less attractive alternatives.

The cost of reducing wheat acreage to the individual grower is often exaggerated. When wheat is in a less advantageous position than it has been in recent years most growers need more diversification in their operations. They need more conservation. And both diversification and conservation mean less wheat acreage. Some farms are too small to shift to grazing, but there are relatively few farms either in the Great Plains or in the wheat areas of the Pacific Northwest without some cropland which should be regrassed in the interest of conservation. More stubble mulch is needed, and while additional summer fallow may tend to maintain production because of increased yields, it does represent one means whereby the individual can reduce his acreage without a proportionate reduction in the volume of his business. More livestock would provide some diversity of income and of the use of family labor. And livestock and livestock products promise to be in a relatively favorable position.

In the eastern portions of the Great Plains, alternatives which appear feasible include an increase from current low levels of livestock production, a shift from wheat to corn, other feed grain crops, alfalfa, and soybeans, and the seeding of some of the more erosive slopes to brome grass. Doubtless, farmers in these areas will make such shifts quite readily as the price advantage shifts from wheat to livestock. In the

southwestern portions of the Great Plains, more livestock, more sorghums, more fallow, and more sand lovegrass and range grasses are feasible. When associated with the use of wheat pasture, stabilized by the seeding of wheat on fallow, and with the feeding of both wheat and sorghums, these grasses will permit a stable beef enterprise in the hard winter wheat areas. However, such a beef enterprise would require a substantial acreage of pasture and it would not be practical on the smaller wheat farms which have only a limited acreage available for grass. Poultry and hog production, on the other hand, are livestock enterprises which are feasible on most farms in this area. Both poultry and hogs can be carried primarily on wheat. They require little or no pasture. And, they are enterprises which can be developed or liquidated rather quickly with fluctuating wheat supplies.

In the northwestern portions of the Plains more livestock, summer fallow, improved varieties of barley, possibly flaxseed, and crested wheat grass both for pasture and for seed, are promising alternatives. With improved methods of weed control, farmers have learned that they can grow flaxseed on old land. They are learning, too, that improved grasses and improved management practices have outmoded the old rule of thumb which indicated that 7-bushel wheat land should remain in wheat. Findings of some of our current research in the Northern Great Plains seem to indicate that, with long-time average prices, it is economic to shift 10-bushel wheat land to crested wheat grass. With the favorable livestock prices which are likely to prevail in the next few years, there should be little question about the economic advantage of reseeding some of our excess wheat land on those farms with sufficient acreage to maintain a beef enterprise. 6/

Alternatives to wheat in the Pacific Northwest include more livestock, summer fallow, legumes, improved varieties of barley and oats, and more grass and grass-legume mixtures. In addition to poultry and hogs, feeding wheat to cattle in order to put them in slaughter condition and to take advantage of the increasing demand for slaughter cattle on the West Coast appears to offer a real opportunity in both the Pacific Northwest and the Northern Great Plains. Farmers in the Pacific Northwest have the additional opportunity of increasing dairy production in response to the West Coast demand for more dairy products.

Feeding more wheat is one way wheat farmers might raise the level at which they will be able to maintain wheat production. The Agricultural Act of 1948 provides for marketing quotas (in the subsequent marketing year) whenever the Secretary of Agriculture determines that the total supply of

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6/ A similar conclusion has been reached with respect to the economic advantage of crested wheat grass in the Pacific Northwest. Oregon Experiment Station Bulletin No. 448, "Crested Wheat Grass on Wheat Farms," November 1947, indicates that with wheat and cattle prices and production costs 25 percent greater than the average of prices in Oregon during the five-year period, 1935-39, crested wheat grass is more profitable than wheat on gently sloping 8-bushel wheat land, moderately sloping 10-bushel wheat land, or steep or hilly 13-bushel wheat land.

wheat exceeds the normal supply by more than 20 percent. It provides for declining support prices with increases in the percentage which the total supply is of the normal supply. It defines "normal supply" for any marketing year as the domestic consumption (including feed uses) during the preceding marketing year, plus the estimated exports for the marketing year for which normal supply is being determined, plus 15 percent of each of these as an allowance for carry-over. Thus, the "normal supply" in any marketing year increases as the amount of wheat fed in the preceding marketing year increases. 7/

About 150 million bushels of wheat for feed were included in the 950 million bushels estimates as the annual demand for wheat in the period 1950-54. Wheat farmers probably cannot depend on other farmers to feed more than the 150 million bushels, but they could increase the amount fed considerably above that level if they themselves would feed some wheat. Wheat is a good feed. Pound for pound it is worth about 5 percent more than corn for livestock feed. In our western wheat areas it usually is a cheaper feed than corn. The wheat farmer needs more livestock and more grass on his less productive, more erosive land, and he needs a larger market for his wheat.

If wheat growers consider the price sacrifice which is inevitable with an accumulation of wheat surpluses; if they consider their need for conservation practices in order to maintain their soil resources; and if they consider the prospective favorable demand for livestock, and the possibility of enlarging the market outlets for their wheat by feeding some of it to livestock, they may conclude that these are pretty good alternatives for a portion of their wheat.

Barring some unforseen development beyond the scope of this discussion, wheat farmers most certainly are headed for a smaller market outlet for wheat unless they find ways of increasing either exports or feed uses. The question, then, is what are the most profitable ways of meeting that situation.

7/ The Act does not permit wheat production for feed in excess of any acreage allotments or marketing quotas which may be established.