SUGGESTED PRODUCTION ADJUSTMENTS IN OHIO AGRICULTURE FOR 1947
(Under assumed conditions)

By

The Ohio Agricultural Production Adjustment Committee

Department of Rural Economics and Rural Sociology

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Ohio Agricultural Experiment Station
and
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Forms and Tables

I. INTRODUCTION

Each year since 1942 the Ohio Agricultural Experiment Station and the College of Agriculture of Ohio State University have cooperated with the Bureau of Agricultural Economics, United States Department of Agriculture, in preparing a statement of suggestions for crop and livestock production in Ohio for the year ahead. The need for production adjustment analyses continues in peace as in war.

J. I. Falconer, Head of the Department of Rural Economics and Rural Sociology, Ohio State University and Ohio Agricultural Experiment Station was again designated as Chairman of the Ohio Production Adjustment Committee. The membership of this committee consists of representatives of the following organizations:

Ohio Agricultural Experiment Station
College of Agriculture, O.S.U.
Bureau of Agricultural Economics, U.S.D.A.
Soil Conservation Service
U.S.D.A. Agricultural Council for Ohio

The following individuals served on the Work Committee which was largely responsible for preparing this report:

J. I. Falconer, Chairman
J. H. Sitterley, Department of Rural Economics, O.S.U.
George T. Schaefer, Bureau of Agricultural Economics, U.S.D.A.
Department of Agronomy staff - R. D. Lewis, Chairman
Department of Animal Husbandry staff - D. J. Kays, Chairman

The Committee has attempted to suggest what Ohio farmers should produce in 1947, considering prospective demand and requirements for 1947 production and long-time stability in the farming of the state. In the development of the various crop and livestock estimates, the Committee has drawn from historical data, past studies, and the best judgment available. Peacetime implications of the wartime adjustments in Ohio agriculture were analyzed and wherever possible, under the assumed conditions of this study, were reflected in the estimates for 1947.

The "long-time objective" crop and livestock estimates presented in the report, Postwar Crop and Livestock Pattern for Ohio, December 1944, were used as a guide to the desired level of production in a stabilized agricultural situation for Ohio. The present report is developed primarily on a state basis since the detailed type of farming area analysis of 1944 is still considered to be reliable and continues to meet the need for such data.

II. BASIC ASSUMPTIONS

As in past studies, the estimates presented in this report were arrived at as nearly as possible on a basis of a set of assumed conditions. The following basic assumptions were made:

(1) The need for and the demand for the major farm products of Ohio will remain at a high level. A strong domestic demand will absorb any decline in exports in 1947-48.

(2) The prices for farm products will continue at about present levels due to a strong effective domestic demand.

(3) Cost of farm supplies will rise somewhat but production of the major products of Ohio farms will continue to be profitable.

(4) A greater supply of farm labor will be available in 1947 than in 1946. The quality of the labor should improve somewhat. Farm wages will probably rise above 1946 levels.

(5) Farm machinery will be available in substantially greater volume in 1947. Likewise, the supply of fertilizers should be greater. Certain seeds may continue to be short in supply. Most insecticides and fungicides should be available in adequate quantities.

(6) 1946 crop prospects plus normal yields on 1947 suggested acreages of the feed grains insure adequate grain supplies for livestock feed for 1946-47 and 1947-48 in Ohio. High protein feeds probably will not meet requirements.

(7) The remainder of 1946 and the 1947 planting, growing, and harvesting seasons will be at least normal.

(8) The time has arrived when more attention should be given to good land management.

The estimates or suggestions of this report, based upon these assumptions, are not intended to be goals for 1947. The estimates represent the best judgment as to the crop acreages and the livestock numbers that Ohio farmers should produce in 1947 under the assumed conditions. In setting goals, further consideration should be given to national needs. Thus, the goals for Ohio may be established either above or below the level of production suggested in this report. Goals much different from the estimates presented in this report would necessitate changes in the assumed conditions of production.

III. CROP PRODUCTION IN 1947

Utilization of Cropland

The total acreage of cropland in Ohio has changed little in recent years. However, the acreage of the principal groups of crops has changed significantly from year to year as shown by Table 1. The long-time objective provides for withdrawing about 650,000 acres from crop production.

TABLE 1 - Ohio: Estimated Utilization of Cropland in 1947, With Comparisons

Use of Cropland	1945		1946		1947		Long-time Objective	
	Acreage	% of Total Cropland	Acreage	% of Total Cropland	Acreage	% of Total Cropland	Acreage	% of Total Cropland
Column	1	2	3	4	5	6	7	8
	1000 acres	%	1000 acres	%	1000 acres	%	1000 acres	%
Intertilled crops	5057	40	5039	40	4735	38	3703	31
Small grain crops	3613	29	3570	28	3585	28	3004	25
Sod crops	3164	25	3248	26	3450	27	4483	38
Tame hay & seed crops	2289	(18)	2373	(19)	2450	(19)	3035	(26)
Rotation pasture	875	(7)	875	(7)	1000	(8)	1448	(12)
Idle cropland	776	6	741	6	830	7	754	6
Total cropland	12600	100	12600	100	12600	100	11944	100

The acreage of intertilled crops suggested for 1947 is 4,735,000 acres. This is 304,000 acres less than that estimated for 1946; and is about 730,000 acres below the wartime peak reached in 1944. Such an intertilled acreage would amount to 38% of the total cropland area of the state as compared to 40% in 1946 and 1945 and 43% in 1944.

This suggested downward adjustment in the intertilled acreage as well as in the proportion of the total cropland planted to such crops is in the direction recommended as a long-time objective for a balanced conservational type of farming. The suggested acreage for 1947 would still be a little over 1,000,000 acres above the long-time objective of about 3,700,000 acres or 31% of the cropland of Ohio. It is a definite advance toward a system of farming that will eventually rebuild the soils of the state.

Small grain acreage reached a wartime low in 1944 and was expanded by about 350,000 acres in 1945. The 1946 acreage is estimated at about 43,000 acres below 1945. No change in the cropland acreage used for small grain crops is suggested for 1947. A relatively high small grain acreage is desirable in order to obtain the needed grass seedings for expanding the sod crop acreage. For this reason, a 1947 acreage, almost 600,000 acres above the long-time objective is justified.

A gradual rise in the cropland acreage utilized by the sod crops, including rotation pasture, becomes evident in Table 1. In 1945 25% of the cropland was in sod crops; 26% in 1946; and 27% is suggested for 1947. An increase of 125,000 acres in the acreage of rotation pasture and an increase of almost 75,000 acres of cropland used for hay and seed crops are suggested. These upward adjustments are in the direction indicated by the long-time objective cropping system for soil maintenance and rebuilding but though fairly substantial for a single year fall far short of the objective itself. The long-time objective cropping systems provide for using 38%, about 1,000,000 acres more than suggested for 1947 of the cropland for the sod crops.

During the past few years the acreage of idle (including crop failure) cropland has been at a minimum of about 6% of the total cropland area. The stimulus of the war and virtually no abandonment or crop failure have been the prime factors in holding the idle cropland acreage to the level suggested as a long-time objective. However, the Committee felt that after 10 or 12 years of relatively high yields due largely to good weather that an added safety factor, should be provided for in case more normal abandonment occurs in 1947. Thus, a 90,000-acre increase in idle cropland was suggested for 1947 largely as an offset to the greater (virtually none past few years) abandonment anticipated in the winter wheat to be seeded this fall.

Effects on Soil Productivity

The long-time trend in the productivity of the average soils of Ohio has thus far, but not inevitably, been downward. However, the yields of crops have been sustained and even raised by the interjection of numerous new cultural techniques and more efficient varieties. Had not the productivity of the soils been declining, these new techniques and plant strains would have produced far greater increases in yields.

Ohio agronomists have been calculating, by means of a system of productivity balances, the percentage changes that occur annually in the productive capacities of the soils of the state under specific cropping and management systems.[1]

1/ Our Heritage - The Soil, Ohio Agricultural Extension Service, Bulletin #175.

By applying this method of analysis to the entire rotated cropland acreage the productivity balances, shown in Table 2, are obtained.

Slight progress was made during the thirties toward a better balance (lower negative factor) but this was abruptly reversed by the stimulus to produce in order to meet wartime requirements for food. This acceleration in the rate of soil deterioration has been a source of concern to farmers and many have considered ways and means of easing the drain on their land. This concern began to be reflected in 1945. In that year the soy bean acreage seeded was cut 223,000 acres below the peak reached in 1944. At the same time the small grain acreage in which meadow seedings are made (the first step toward soil rebuilding) was increased 350,000 over 1944. Sod crops were also increased by 60,000 acres. In 1946 farmers again cut their soybean acreage and further increased the area in sod crops. These adjustments though not large have been sufficient to produce a slight reduction in the rate at which the state's soils were being depleted (see Table 2).

TABLE 2. Ohio: Soil Productivity Balance, 1947 Estimated, With Comparisons

Year	Productivity Balance Factor	What's Happening to Productivity of Ohio Soils
	Percent	
1929	-.65	depleting
1935	-.61	"
1939	-.51	"
1942	-.61	"
1943	-.64	"
1944	-.76	"
1945	-.70	"
1946	-.71	"
1947 Suggested	-.50	"
Long-time objective	Positive balance	Maintaining

The long-time objective is a crop and livestock pattern for the state that will maintain the productivity of the land. In the interests of national and individual farm security, progress toward this goal should be made as rapidly as post-war conditions permit. Farm management studies in Ohio show that farming is more profitable where the productivity of the land is maintained than where it is exploited.[1] The farming pattern of the state will still require major adjustments before the long-time objective - a positive productivity balance, is reached.

The suggested cropping pattern for 1947 with its reduced acreage of intertilled crops provides for a significant

1/ The Relationship Between Soil Maintenance and Profitable Farming. Ohio Agricultural Experiment Station, Bulletin #604.

step toward the long-time objective (see Table 2). The relatively high acreages of wheat and oats, a temporary situation, and the use of greater proportions of these acreages as companion crops for seedings of the clovers and alfalfa is the preliminary step. It is prerequisite to an expansion of the acreage of sod crops, the basis for a soil maintaining and rebuilding program. In addition, the continuation and intensification in 1947 of the use of lime, fertilizer, and manure will do much to facilitate the attainment of the long-time objective. Even under the cropping pattern suggested for 1947, soil depeltion will continue to be a major agricultural problem in Ohio.

Acreage Adjustments - Major Crops

Some rather important adjustments in the acreages of specific crops have been suggested for 1947 - Form 1 - on the premise that the conditions assumed in this study materialize. Any significant variation from the assumed conditions would necessitate reappraisal and revision of the estimates shown in Form 1.

The suggested acreage adjustments are generally in the direction of the recommended long-time objective and provide for a reduction in the acreage of cropland used for intertilled crops and an expansion of the acreage of the sod crops particularly rotation pasture.

Corn: Perhaps the most significant acreage adjustment suggested for 1947 is the 300,000 acre reduction in the acreage of corn from 1946 level. While this proposed reduction appears rather drastic, the acreage of corn to be planted in 1947 would be only about 90,000 below that of 1945 and would still be about 800,000 acres above the long-time objective.

After 5 consecutive years of record breaking combined acreages of corn and soybeans, the Committee felt that Ohio farmers should make every effort to adjust back to a more normal and a better type of cropping pattern. Only a relatively small reduction from the 1946 soybean acreage was suggested since a continued shortage of fats and oil was anticipated. Also, soybean acreage has already fallen about one-half million acres or 1/3 from the wartime peak.

Soybeans: The decline in the acreage of soybeans has been rapid since the record acreage of about 1,500,000 acres were planted in 1944. The 1945 acreage dropped about 250,000 acres below the 1944 peak. This reduction was followed by another decline of about 225,000 acres in 1946. The soybean acreage suggested for 1947 would be about 34,000 acres below the 1946 plantings, or 1,000,000 acres. The suggested 1947 acreage would still be considerably, 300,000 acres, above that recommended as a long-time objective.

The successive decreases since 1944 in the acreage

Form 1

Ohio: Suggested use of farm land in 1947, with comparisons

Use of farm land	Acreage	Reported for 1945	Goal for 1946	Expected in 1946	Suggested for 1947	Long-time Objective
Column	1	2	3	4	5	6
		1000 acres	1000 acres	1000 acres	1000 acres	1000 acres
Corn, all	P	3592	3750	3808	3500	2704
Soybeans, grown alone	P	1261		1034	1000	697
Soybeans for beans	H	1147	1300	941	930	675
Soybeans for hay	H	89		64	55	22
Tobacco, all	H	20.1	21.9	20.7	22	26
Burley	H	16.0	14.4	15.2	16	17
Other domestic	H	4.1	7.5	5.5	6	9
Sugar beets	P	24	40	29	40	45
Irish potatoes	P	64	71	58	80	126
Popcorn	P	30		14	10	
Truck crops for processing, total	P	63.6		73.0	78.0	85
Green peas	P	7.3		7.4	10.0	
Tomatoes	P	29.6		37.3	35.0	
Sweet corn	P	20.9		22.3	25.0	
Lima beans	P	1.5		1.2	2.0	
Cabbage (kraut)	P	2.3		2.5	3.0	
Cucumbers for pickles	P	2.0		2.3	3.0	
Truck crops for fresh market	H	12.0		12.4	15.0	20
Cabbage	H	1.9		2.2	2.5	
Cantaloups	H	2.0		2.1	2.0	
Carrots	H	1.8		1.8	2.0	
Celery	H	1.4		1.5	2.0	
Onions	H	0.7		0.9	1.5	
Tomatoes	H	4.2		3.9	5.0	
Adjustment for multiple use		10.0		10.0	10.0	
Total cropland used for intertilled crops 1/		5057		5039	4735	3703
Oats	P	1282	1200	1526	1330	1074
Barley	P	23	20	19	20	36
Winter wheat	P	2284	2300	2010	2300	1924
Oats for grain	H	1252		1490	1300	1050
Barley for grain	H	21		18	19	36
Grains cut green for hay	H	20		20	20	24
Rye for grain	H	31	40	20	20	49
Buckwheat	P	18		15	15	17
Adjustment for multiple use		25		20	100	96
Total cropland used for close-growing crops 1/		3613		3570	3535	3004

(Continued)

Form 1 (Continued)

Ohio: Suggested use of farm land in 1947, with comparisons

Use of farm land	Acreage	Reported for 1945	Goal for 1946	Expected in 1946	Suggested for 1947	Long-time Objective
Column	1	2	3	4	5	6
		1000 acres	1000 acres	1000 acres	1000 acres	1000 acres
Hay, all tame--except soybean, cowpea, peanut and small grain hay	H	2207		2288	2525	2010
Hay, all tame	H	2316	2300	2372	2400	2956
Seeds, hay and cover crop, all	H	302	335	320	400	435
Alfalfa	H	9	20	10	15	60
Red clover	H	230	255	240	300	250
Sweet clover	H	7	10	10	15	25
Alsike	H	14	20	15	20	40
Timothy	H	42	50	45	50	60
Rotation (cropland) pasture		875		875	1000	1448
Adjustment for multiple use		220		235	275	310
Total cropland used for sod crops 1/		3164		3248	3450	4483
Idle cropland		766		741	830	754
Total cropland 1/		12600		12600	12600	11944
Orchards, vineyards, and small fruits (adjusted)		10		10	10	
Orchards, vineyards, and small fruits, total		160		160	160	
Other plowable pasture		3000		3000	3000	2900
Open nonplowable pasture		2500		2500	2500	2500
Woodland pasture		1200		1200	1200	350
Wild hay	H	5		5	5	
Other land in farms		2383		2383	2383	
Total land in farms		21858		21858	21858	21400
Winter cover crops, legumes	P	10		10	10	
Other pasture in farms	U	3300		3300	3300	
New seedings after harvested nurse crops	U	1650		1650	1650	
Hay - and seed-crop aftermath	U	1000		1000	1000	
Winter grains grazed (pre-harvest)	U	50		50	50	
Stalk and stubble fields	U	600		600	600	

1/ Total acres used for crops is less than the sum of the acreages of individual crops to the extent that two or more crops were, or will be, planted on or harvested from the same land during the year.

P = Planted acres
H = Harvested acres
U = Used

of soybeans results from the less favorable competitive position held by this crop as compared to the feed grains especially corn and in some areas small grain. Considerable difficulty is encountered in working soybeans into the rotation since the late maturity of the beans interferes with the seeding of winter wheat.

Wheat: The acreage of wheat has been expanding during the past few years up to the 1946 seedings (fall of 1945) which were about 275,000 acres below the plantings for harvest in 1945. Unfavorable weather for maturing and harvesting corn and soybeans was an important factor in this decline. However, the additional acreage that farmers had intended to seed to wheat were planted to oats in the spring of 1946.

The 2,300,000 acres of wheat suggested for 1947 is almost 300,000 acres above the long-time objective. An acreage of wheat considerably in excess of that recommended is justified in the shorter run since a relatively high acreage of wheat is essential to the expansion of the acreage of meadow and rotation pasture to the recommended levels.

Favorable fall weather in recent years has been a factor influencing the acreage seeded to wheat. Winter killing has been negligent; less than 1% for 8 or 10 years. However, the Committee has assumed about a 5% abandonment in its calculations for 1947 in anticipation of the eventual return of greater winter killing and other more normal crop hazards.

The returns from wheat as a cash crop are relatively attractive to Ohio farmers. In numerous localities wheat as a cash crop offers greater returns than soybeans. In other sections wheat produces more feed per acre than alternative crops.

Oats: Provided Ohio farmers are able to seed the 2,300,000 acres of wheat suggested for this fall, then about 1,330,000 acres of oats should be seeded in the spring of 1947, a decrease of about 200,000 acres from 1946 plantings. If a smaller wheat acreage is seeded this fall, than a greater acreage of oats should be planted in 1947. The oat acreage suggested for 1947 is considerably above the long-time objective.

It is highly important that the combined acreage of oats and wheat be held at a high level for the next few years in order to provide nurse crop acreages essential in establishing greater acreages of the sod crops. In addition, oat yields and returns in recent years have made this crop attractive to the farmers of Ohio.

Hay and pasture crops: Soil deterioration continued during the War at an accelerated rate, the harmful effects of which are becoming more evident. A definite reversal of the downward wartime trend in the acreage of hay and rotation pasture should be undertaken as rapidly as possible. The 1946 hay acreage is only slightly above 1945 and it is thought that the acreage of rotation pasture has changed

little during the past year. An additional 37,000 acres of tame hay, other than soybeans or small grain hay, is suggested for 1947, a step toward the long-time objective of about 2,910,000 acres.

A rather substantial expansion, 125,000 acres, in the rotation pasture acreage is suggested for 1947, bringing the total up to 1,000,000 acres as compared to the long-time objective of almost 1,500,000 acres. This increased acreage of rotation pasture can be obtained by 1947 by holding over a greater acreage of old seedings and to a more limited extent the expansion of new seedings.

Hay and cover crop seed supplies are likely to continue short relative to requirements in 1947 and 1948. The harvesting of the maximum volume of seed should be encouraged in 1946 and 1947. A high level of seed production, particularly the legumes, should be maintained until the long-time objective sod crop acreages are obtained.

Sugar beets: During the past several years sugar beet acreage has fallen to less than half the average, 1937-41, pre-war acreage. Such a decline appears to be attributable largely to labor shortages and to the relative greater profitableness of less risky alternative crops. In view of the current sugar shortage and in the expectation that this scarcity will continue at least for another year or two the committee suggested that 40,000 acres of sugar beets be planted in 1947 as compared to the 29,000 acres planted in 1946 and a long-time objective of 45,000 acres. In addition, the committee based this suggestion upon the prospect for improved supplies of labor, fertilizers and specialized machines for sugar beet production. The relatively high yields obtained in recent years are also likely to exert a strengthening influence on 1947 plantings.

Potatoes: The downward trend in the acreage of potatoes has continued throughout the war period to the current crop year, declining from the 1937-41 average of 110,000 acres to 58,000 acres in 1946. Yields have been below normal for several years. Disease and other risk factors have caused the potato grower considerable difficulty. The committee feels that this downward trend should be stopped and reversed since Ohio is now a deficit potato producing area. 80,000 acres of potatoes are suggested for 1947 as compared to the long-time objective which provides for 126,000 acres. Greater availability and use of DDT, fertilizer, labor and specialized potato machinery may result in the expansion of Ohio's potato acreage in 1947.

Truck crops: Labor shortages and the profitableness of alternatives have kept the wartime acreages of the truck crops for processing only moderately higher than the 1933-42 average. Truck crop acreage for the fresh market has in recent years fallen substantially below the

10-year pre-war average. Seventy-eight thousand acres of the truck crops for processing are suggested for 1947, an increase of 4,500 acres from 1946 but 7,000 acres below the long-time objective. Fresh market truck crop acreage should be expanded from 12,000 acres in 1946 to 15,000 acres in 1947 as compared to a long-time objective of 20,000 acres.

Probable Yields

The probable yields in 1947 were set at levels approximating rather closely the average yields obtained during the 1937-41 period - Form 2. Allowance has been made for the greater use of lime and fertilizer and for somewhat improved cultural practices as compared to the base period. However, generally, the 1947 probable yields are still considerably below those recommended as a long-time objective. The appraisal of weather as a factor in the high yields of the past 7 or 8 years has been a difficult task. No doubt a return of somewhat "more normal" weather would result in significantly lower yields than have been harvested in recent years.

The 1947 probable corn yield was set at 48 bushels per acre as compared to the 1937-41 average of 45 bushels. This upward adjustment was based on a more widespread use of hybrid corn particularly the newer higher yielding varieties. Also, the use of more fertilizer on corn ground will help to offset the effects of less favorable weather. As more new and improved machinery becomes available the effects of weather on yields may be lessened somewhat.

Soybean yields for 1947 were estimated at 20 bushels per acre as compared to a 19 bushel yield during the 1937-41 period. New higher yielding varieties along with greater farmer experience with this relatively "new" crop should raise the average yield at least one bushel per acre by 1947.

Wheat and oat yields in 1947 probably will be slightly above the 1937-41 average. It is rather doubtful if the unusually good small grain yields of the past few years will again be obtained next year.

Tame hay yields in recent years have consistently exceeded the 1937-41 average of 1.38 tons per acre. A greater proportion of the tame hay acreage is now in clover or clover mixtures than was the case during the 1937-41 period. Also, the application of greater quantities of lime and fertilizer to the rotation during the past few years has had a favorable effect on hay yields. The tame hay yield probable in 1947 has been estimated at 1.45 tons per acre, compared to the long-time objective of 1.9 tons.

Total Production

If the estimated acreages and yields materialize then

Form 2

Ohio: Probable crop yields per acre in 1947 with comparisons

Crop	Acreage	Unit	Base Period	Yield per acre		
				Average for base period	Probable in 1947	Long-time Objective
Column	1	2	3	4	5	6
				Units	Units	Units
Corn, all	P	Bu.	1937-41	44.9	48.0	54.0
Soybeans for beans	H	Bu.	1937-41	19.2	20.0	22.0
Burley tobacco	H	Lb.	1937-41	915.0	1050.0	1300.0
Other domestic tobacco	H	Lb.	1937-41	1003.0	1150.0	1400.0
Sugar beets	P	Ton	1937-41	7.5	8.5	12.0
Irish potatoes	P	Bu.	1937-41	104.4	110.0	125.0
Oats for grain	H	Bu.	1937-41	36.3	37.0	41.0
Barley for grain	H	Bu.	1937-41	26.3	26.0	28.0
Winter wheat	P	Bu.	1937-41	20.2	21.0	22.0
Rye for grain	H	Bu.	1937-41	15.8	16.0	16.0
Buckwheat	P	Bu.	1937-41	16.4	16.0	16.0
Peas	P	Ton	1937-41	0.6	0.6	0.8
Tomatoes	P	Ton	1937-41	6.0	6.0	7.0
Sweetcorn	P	Ton	1937-41	1.7	1.7	2.3
Cabbage (Krout)	P	Ton	1937-41	7.8	8.0	9.5
Hay, all tame	H	Ton	1937-41	1.38	1.45	1.9
Wild hay	H	Ton	1932-41	0.75	0.80	---
Rotation (cropland) pasture		a.u.m.			2.5	3.5
Open permanent pasture and range in farms		a.u.m.			1.5	2.0
Woodland pasture in farms		a.u.m.			0.6	0.8
Other pasture in farms		a.u.m.			0.75	1.0

H = Harvested

P = Planted

the total production in 1946 of corn, small grain, and soybeans will be about 21% above the 1935-44 average and only 4% below 1945 a near record year - Table 3. Probable production in 1947, based on suggested acreages (Form 1) and yields (Form 2), would be about 13% above the 1935-44 average but substantially below 1946. This decline in production would result largely from (1) the suggested decrease in acreage of corn and oats, and (2) the normal yields which are below the actual yields obtained in recent years.

The probable production of corn in 1947 is estimated at 168 million bushels as compared to 178 million in 1946; 177 million in 1945; and a ten-year average of 156 million bushels.

The 1947 wheat crop will probably approximate 48 million bushels, about the same as in 1946, but almost 13 million bushels below 1945 in which year the wheat acreage equalled that suggested for 1947. However, probable 1947 production of wheat would still be substantially above the ten-year average of 42 million bushels.

Oat production in 1947 will probably drop considerably below 1946 due to a substantial reduction in the acreage suggested and also probably a lower per acre yield. The production of oats, however, would exceed the ten-year average by about 7 million bushels.

The volume of soybeans to be harvested in 1947 will probably be about double the 1934-43 average but the lowest production since 1942. The probable 1947 production of soybeans will be about the same as the estimated 1946 harvest and only 1.5 million bushels below 1945.

Tame hay production has varied relatively little in recent years from the 1935-44 average. Likewise, the acreage of tame hay harvested has fluctuated within a rather narrow range of the average. The 1945 production was about 2% above the average while in 1946 the production is expected (July 1 indications) to exceed the average by 4.3%. Production in 1947 from a somewhat greater acreage than will be harvested in 1946 (Form 1) would decline to the 1945 level (2% above average) if a normal yield is obtained.

TABLE 3 - Ohio: Suggested 1947 Production of Major Crops, With Comparisons

Crop	1935-44 Average		1945		1946 Indicated July 1		1947 Suggested 1/	
	Bushels (1000)	Tons (1000)	Bushels (1000)	Tons (1000)	Bushels (1000)	Tons (1000)	Bushels (1000)	Tons (1000)
Corn	155,800	4,364.1	176,913	4,955.5	178,036	4,987.0	168,000	4,705.9
Wheat	41,875	1,257.5	60,996	1,831.6	47,760	1,434.2	48,300	1,450.4
Oats	41,021	656.3	53,210	851.4	64,070	1,025.1	48,100	769.6
Barley	747	17.9	630	15.1	504	12.1	494	11.8
Rye	1,075	30.1	558	15.6	340	9.5	320	9.0
Buckwheat	283 2/	7.1	306	7.6	240	6.0	240	6.0
Soybeans	9,889 2/	297.0	20,072	602.8	18,820	565.2	18,600	558.6
TOTAL	-----	6,630.0	-----	8,279.6	-----	8,039.1	-----	7,511.3
% of 1935-44 average	-----	100.0	-----	124.9	-----	121.2	-----	113.3
Tame hay	-----	3,410.0	-----	3,473.0	-----	3,558.0	-----	3,480.0
% of 1935-44 average	-----	100.0	-----	101.8	-----	104.3	-----	102.0

1/ Based on suggested acreages, Form 1, and normal yields, Form 2.

2/ 1934-44 average

IV. LIVESTOCK NUMBERS AND PRODUCTION IN 1947-48

Estimated Livestock Numbers and Production

Horses. The horse population in the state continues to decline. Nothing appears likely to slow down or reverse this trend. The number of colts being raised are insufficient to maintain even one-half of the present number of horses. By January 1, 1947 the number will be down to 265,000 head (Form 4). This continued downward trend will make available feed and pasture for other types of livestock.

Milk cows. On January 1, 1945 there were 1,172,000 milk cows on farms in the state. This was the largest number to be recorded to date. Since then the number has dropped off some and on January 1, 1946 stood at 1,145,000 head. In view of the continued heavy demand for dairy products some increase in dairy cow numbers above this level appears desirable. However, the likelihood of any appreciable increase during the remainder of 1946 and the early part of 1947 is highly improbable. The lack of replacement stock makes any sizeable increase impossible. Since January 1, 1943 the number of heifer calves saved for replacements has been declining. During 1942 287,000 heifer calves were saved. In 1945 only 254,000 were kept. This decrease in calves saved is currently reflecting itself in the number of 1-2 year old heifers. On January 1, 1946 there were 24,000 less 1-2 year olds on Ohio farms than a year earlier. In as much as it is from this group that the replacements must come the only prospect for increasing milk cow numbers for the next 2 years is through a below normal culling program. With the current high prices for feed and labor and the good prices for cull animals for beef it is questionable if there will be any significant decrease in culling.

Beef cattle. Abundant roughage and pasture on many farms together with high prices of both feeder and finished cattle are expected to more than counter-act any tendency that some farmers may have to liquidate their breeding herds while prices are high. Consequently a small increase in beef cow numbers is suggested.

The prospects for a large corn crop (some of which may be soft due to late planting) and the continued heavy demand for finished cattle should bring some increase in the number of cattle placed on feed over a year earlier. The high price of feeders will be the major factor in the way of an even larger increase in number put on feed.

Poultry and eggs. The number of hens and pullets on farms is expected to be approximately 5 percent smaller January 1, 1947 than January 1, 1946. The narrow egg feed ratio, the tight feed situation throughout the hatching season and the sustained demand for poultry have combined to bring the curtailment about.

Chickens raised in 1946 are expected to be substantially

below last year as a result of the high cost of feed during the growing season. 1947 production is suggested at a level approximating 1946. Both commercial broilers and turkey production are slightly below the 1945 level and should remain about the same in 1947.

Sheep. Sheep numbers have been on the down grade since 1943. In the opinion of the Production Adjustment Committee the downward adjustment has been carried too far on many farms from the standpoint of sound economy and some increase in number in 1947 is desirable. The long-time objective established for the Post-war Crop & Livestock Pattern for Ohio is 2 million head. In view of the favorable price for lambs and the small number available for replacement it is doubtful if an increase will occur.

The number of lambs placed on feed should be about the same in 1947 as in 1946. With a more favorable feed situation in prospect and a strong demand for meat the only thing in the way of an increase in number will be the supply of lambs available for the feed lots.

Hogs. With a good corn crop and current demand for pork, a substantial increase in the number of sows bred for the spring and fall farrowing in 1947 is in prospect. The Production Adjustment Committee was of the opinion that farrowings should not increase to more than 460,000 spring litters and 370,000 fall litters in the state if the long time stability of the industry is not to be endangered. In 1943, following the large corn crop of 1942, 551,000 litters were farrowed in the spring and 488,000 in the fall (see Table 4). Producers will recall that in spite of the exceptionally heavy war demand at the time these hogs were marketed prices weakened materially and acute marketing difficulties resulted.

TABLE 4 - Ohio: Corn Production and the Number of Sows Farrowed, 1935-44 Average, With Comparisons

Period or Year	Production 1000 Bu.	Sows Farrowed		
		Spring	Fall	Total
		1000 Head	1000 Head	1000 Head
1935-44 average	155,800	401	350	751
1937-41 average	156,342	386	341	727
1940	122,360	450	367	817
1941	160,974	392	360	752
1942	185,752	459	432	891
1943	174,042	551	488	1,039
1944	142,956	474	337	811
1945	176,913	360	364	724
1946 indicated	178,036	400	328	728
1947 suggested	168,000 1/	460	380	840
1948 suggested	---	430	370	800

1/ Based on suggested acreage, Form 1, and normal yield.

In view of the current outlook for feed grains and the strong demand for meat, some increase in fall breeding is suggested, but producers should avoid excesses if the difficulties of 1943-44 are to be avoided.

LIVESTOCK FEED REQUIREMENTS

With minor exceptions, the same feeding rates for the various types of livestock were assumed for 1946-47 and 1947-48 as were used in the 1945-46 feed year. On the basis of these feeding rates and estimated livestock numbers and production (Form 3) 4,629,100 tons of grain will be required in 1946-47 and 4,712,000 tons in 1947-48. The estimates for both years are approximately the same as that fed in 1945-46.

In addition to the grain 3,147,200 tons of hay and 14,169,000 animal unit-months of pasture will be required in 1946-47 and 3,148,400 tons of hay and 14,059,000 animal unit months of pasture in 1947-48.

AVAILABILITY OF FEED

On the basis of the July 1, 1946 acreage and production estimate, feed grain production plus carry-over will make available for feeding in 1946-47 a total of 6,247,900 tons. This is 161,600 tons more than was available the previous year (see Form 3) and 1,236,700 tons more than in 1944-45. The 1944-45 feed supply was the shortest of the war period, due to the small carry-over and to the unfavorable 1944 growing season. The largest feed grain supply was in 1942-43 when the tonnage reached 7,157,000 due to the good crop season in 1942.

The estimated 1947 cropping pattern for Ohio (see Form 1) will provide, if normal yields are attained, 5,895,700 tons of feed grain for use October 1, 1947-48 or 5.6 percent less than the estimated volume of feed available for the feed year beginning October 1, 1946. However, this will be substantially above 1944-45 supply and also above the average pre-war supply.

FEED BALANCE SHEET

If the anticipated crop acreages and production materializes and livestock numbers are as suggested, there will be 1,343,800 tons of surplus feed grains over and above the 1946-47 feed requirements. This will be available for out shipment or for expanding the state's livestock program beyond that suggested in this report. In 1945-46 the feed grain supply exceeded the livestock requirements by 1,125,700. A sizeable but somewhat smaller surplus of feed grains is also estimated for 1947-48. The closest balance between supply and requirements since the start of the war existed during the feed year 1944-45 when the supply exceeded the demand by less than 200,000 tons. Generally some feed grains supplies are available for out shipment.

A slightly larger surplus of hay will remain in both 1947 and in 1948. However, in neither year will the excess above estimated requirements be more than a reasonable safe margin. This is particularly true in view of the fact that in neither year is the supply of pasture quite adequate to fully meet needs.

Form 3

Ohio - Supply of feeds available for feeding livestock and for other purposes, 1947-48, with comparisons

Item	Year beginning Oct. 1		
	1945-46	1946-47	1947-48
Column	1	2	3
Feed grains	Tons thousands	Tons thousands	Tons thousands
Corn, all:			
Carry-over beginning of year	276.3	336.1	336.1
Production (inc. gr. in silage and fodder)	4955.5	4987.0	4705.9
Total supply	5231.8	5323.1	5042.0
Seed	17.8	16.8	16.0
Carry-over end of year	336.1	336.1	336.1
Net supply	4877.9	4970.2	4689.9
Oats:			
Carry-over beginning of year	89.3	136.2	192.0
Production	851.4	1025.1	769.6
Total supply	940.7	1161.3	961.6
Seed	46.8	42.5	42.5
Carry-over end of year	136.2	192.0	160.0
Net supply	755.7	926.8	759.1
Barley:			
Carry-over beginning of year	1.4	2.4	2.0
Production	15.1	12.1	11.8
Total supply	16.5	14.5	13.8
Seed	0.9	0.9	0.9
Carry-over end of year	2.4	2.0	1.5
Net supply	13.2	11.6	11.4
Other grains:			
Wheat fed on farms where grown	366.3	300.3	336.3
Other wheat produced and fed in the State	60.0	30.0	30.0
Rye fed on farms where grown	8.6	5.0	5.0
Buckwheat fed on farms where grown	4.6	4.0	4.0
Total net supply of feed grains	6086.3	6247.9	5895.7
Total needed for food and industrial use	250.0	275.0	300.0
Total available for feeding livestock and for outshipments	5836.3	5972.9	5595.7
Total needed for feeding livestock	4710.6	4629.1	4712.0
Total available for outshipments	1125.7	1343.8	883.7
Total inshipments needed	---	---	---

(Continued)

Form 3 - Continued

Ohio: Supply of feeds available for feeding livestock and for other purposes, 1947-48, with comparisons

Item	Year beginning Oct. 1		
	1945-46	1946-47	1947-48
Column	1	2	3
	Tons thousands	Tons thousands	Tons thousands
Other farm-produced concentrates			
Soybeans fed	16.9	15.0	15.0
Skim milk fed (dry basis)	63.9	48.1	48.3
Hay			
Carry-over beginning of year	280.0	487.0	450.0
Tame hay production	3473.0	3553.0	3480.0
Wild Hay production	4.0	4.0	5.0
Total supply	3757.0	4049.0	3935.0
Carry-over end of year	487.0	450.0	450.0
Net supply	3270.0	3599.0	3485.0
Total needed for feeding livestock	3159.0	3147.2	3148.4
Available for other purposes	111.0	451.8	336.6
Inshipments needed			
Other roughages produced and fed			
Corn silage	1125.0	1125.0	1125.0
Corn stover	2000.0	1800.0	1500.0
Small grain straw	200.0	200.0	200.0
	Grazing season		
Grazing capacity of pastures and ranges (in animal unit months)	1946 A.U.M.	1947 A.U.M.	1948 A.U.M.
Rotation (cropland) pasture	2188	2500	2500
Open permanent pasture and range in farms	8250	8250	8250
Woodland pasture in farms	720	720	720
Other pasture in farms	2475	2475	2475
Total carrying capacity	13,633	13,945	13,945
Total requirements for livestock	13,966	14,169	14,059

Form 4

Chio: Suggested production of livestock and livestock products in 1947, with comparisons

Items of livestock and livestock products	Unit	Reported for 1945	Goal for 1947	Reported for 1946	Suggested for 1947	Suggested for 1948
Column	1	2	3	4	5	6
		1,000 units	1,000 units	1,000 units	1,000 units	1,000 units
On farms January 1:						
Horses, mules and colts	Number	326		293	265	240
Cattle and calves, all	do.	2,283	2,200	2,215	2,235	2,245
Cows kept for milk, 2 years +	do.	1,172		1,149	1,150	1,160
Other cows, 2 years +	do.	99		99	105	105
Sheep and lambs, all	do.	1,791	1,660	1,690	1,750	1,800
Ewes, 1 year +	do.	1,137		1,023	1,060	1,100
Hens and pullets	do.	21,522		21,575	20,500	21,000
			Goal for 1946 2/	Expected In 1946		
During year:						
Sows farrowed, spring 1/	do.	360	365	400	460	430
Sows farrowed, fall 2/	do.	364		328	380	370
Chickens raised 3/	do.	33,587	29,354	30,000	30,000	31,000
Commercial broiler production	do.	3,747		3,500	3,500	4,000
Turkeys raised	do.	1,155	1,044	1,100	1,100	1,200
Milk cows, ave. during the year	do.	1,115	1,104	1,110	1,115	xxx
Milk produced	1000 Pounds	5,530	5,354	5,371	5,400	xxx
Wool shorn	Pounds	11,956		10,610	11,005	xxx
Eggs produced	Dozen	231,750	204,565	227,466	215,250	xxx
Cattle put on feed 4/	Number	120		135	135	xxx
Ave. gain on feeder cattle 5/	Pounds	250		250	250	---
Sheep and lambs put on feed 4/	Number	360		390	390	xxx
Ave. gain on feeder sheep & lambs 5/	Pounds	23		23	23	--
Ave.wt.,hogs sold or butchered 5/	do.	247		237	232	---
Net production of hogs 4/ cwt.	do.	11,310		11,031	11,340	xxx

1/ December 1 (of previous year) to June 1.
2/ June 1 to December 1.
3/ Excluding commercial broilers.
4/ Twelve-month period beginning on October 1
5/ Weight in pounds instead of 1,000 pounds.

Table 5

Ohio - Estimated Net Weight Production of Hogs

Year and pig crop	Sows Farrowing	Pigs per Litter	Pigs Saved	Death Loss Percent	Death Loss No. of head	Hogs Raised	Average Market Weight	Total weight produced	Percentage of weight put on during feed year	Net Production
	1000 Head	Head	1000 Head	Percent	1000 Head	1000 Head	Pounds	1000 Pounds	Percent	1000 Pounds
1945-46										
Spring 1945	360	6.92	2491	9.7	241	2250	260	585,000	40	234,000
Fall 1945	364	6.77	2464	9.7	239	2225	250	556,250	90	500,625
Spring 1946	400	6.90	2760	1/ 10.7	295	2465	235	579,275	60	347,565
Fall 1946	328	6.80	2230	1/ 10.7	238	1992	245	488,040	10	48,304
Total	1452	6.85	9945	10.2	1013	8932	247	2,208,565	--	1,130,994
1946-47										
Spring 1946	400	6.90	2760	1/ 10.7	295	2465	235	579,275	40	231,710
Fall 1946	328	6.80	2230	1/ 10.7	238	1992	245	488,040	90	439,236
Spring 1947	460	2/ 6.54	3008	1/ 10.7	322	2686	235	631,210	60	378,726
Fall 1947	380	3/ 6.70	2546	1/ 10.7	272	2274	235	534,390	10	53,439
Total	1568	6.72	10544	10.7	1127	9417	237	2,232,915	--	1,103,111
1947-48										
Spring 1947	460	2/ 6.54	3008	1/ 10.7	322	2686	235	631,210	40	252,484
Fall 1947	380	3/ 6.70	2546	1/ 10.7	272	2274	235	534,390	90	480,951
Spring 1948	430	2/ 6.54	2812	10.0	281	2531	230	582,130	60	349,278
Fall 1948	370	3/ 6.70	2479	10.0	248	2231	230	513,130	10	51,313
Total	1640		10845	10.4	1123	9722	232	2,260,860	--	1,134,026

2/ 1934-43 average

3/ 1935-44 average

1/ 1940-44 average

Form 5

Ohio - Estimated quantities of feeds needed for feeding livestock for the 12-month period beginning October 1, 1945

Class of Livestock	Feed per animal, bird or cwt.						Total livestock and feed				
	Concentrates				Tame and Wild Hay	Units of Livestock	Concentrates			Tame and Wild Hay	Pasture and Grazing (1000)
	Grains 1/	Seeds and Skim Milk	Commercial by-Products	Total			Grains 1/	Seeds and Skim Milk	Commercial by-Products		
Column	1	2	3	4	5	6	7	8	9	10	11
	Pounds	Pounds	Pounds	Pounds	Pounds	1000 units	1000 Tons	1000 Tons	1000 Tons	1000 Tons	A.U. Months
1. Horses, mules and colts	1300	--	5	1305	2500	293	190.4	--	0.7	366.2	1465
2. Milk cows	1530	15	305	1850	3200	1149	879.0	8.6	175.2	1838.4	6894
3. Beef cows	190	--	10	200	1500	99	9.4	--	0.5	74.2	594
4. Feeder cattle	1800	20	180	2000	1000	120	108.0	1.2	10.8	60.0	120
5. Other cattle and calves	680	30	80	790	1100	860	292.4	12.9	34.4	473.0	1720
6. Ewes, 1 year	75	--	3	78	450	1023	38.4	--	1.5	230.2	1023
7. Feeder sheep and lambs	105	--	20	125	200	360	18.9	--	3.6	36.0	36
8. Other sheep and lambs	40	--	--	40	375	352	7.0	--	--	66.0	352
9. Hogs, cwt. net production	410	10	35	455	--	11310	2318.5	56.6	198.0	--	1600
10. Hens and pullets	50	--	20	70	xxx	21575	539.4	--	215.8	xxx	65
11. Chickens raised	17	0.1	4	21	xxx	30000	255.0	1.5	60.0	xxx	32
12. Comm. broilers produced	5	--	4	9	xxx	3500	8.7	--	7.0	xxx	xxx
13. Turkeys raised	80	--	10	90	xxx	1100	44.0	--	5.5	xxx	45
14. Other livestock	xxx	xxx	xxx	xxx	xxx	xxx	1.5	--	0.3	15.0	20
15. Total	xxx	xxx	xxx	xxx	xxx	xxx	4710.6	80.8	713.3	3159.0	13966

1/ Includes corn, oats, barley, rye, and wheat, fed from any source including harvested grain, corn silage, corn fodder, unthreshed grain, or commercial mixed feeds.

Form 5a

Ohio - Estimated quantities of feeds needed for feeding livestock for the 12-month period beginning October 1, 1946

Class of Livestock	Feed per animal, bird, or cwt.						Total livestock and feed				
	Concentrates				Tame and Wild Hay	Units of Livestock	Concentrates			Tame and Wild Hay	Pasture and Grazing (1000)
	Grains 1/	Seeds and Skim Milk	Commercial by-Products	Total			Grains 1/	Seeds and Skim Milk	Commercial by-Products		
Column	1	2	3	4	5	6	7	8	9	10	11
	Pounds	Pounds	Pounds	Pounds	Pounds	1000 Units	1000 Tons	1000 Tons	1000 Tons	1000 Tons	A.U. Months
1. Horses, mules and colts	1300	—	5	1305	2500	265	172.2	—	0.7	331.2	1325
2. Milk cows	1530	15	305	1850	3200	1150	879.7	8.6	175.3	1840.0	6900
3. Beef cows	190	—	10	200	1500	105	10.0	—	0.5	78.7	630
4. Feeder cattle	1800	20	180	2000	1000	135	121.5	1.4	12.1	67.5	135
5. Other cattle and calves	680	30	80	790	1100	870	295.8	13.0	34.8	478.5	1740
6. Ewes, 1 year +	75	—	3	78	450	1060	39.7	—	1.6	238.5	1060
7. Feeder sheep and lambs	105	—	20	125	200	390	20.4	—	3.9	39.0	39
8. Other sheep and lambs	40	—	—	40	375	343	6.8	—	—	58.8	343
9. Hogs, cwt. net production	410	7	33	450	--	11031	2261.3	38.6	182.0	—	1840
10. Hens and pullets	50	—	20	70	xxx	20500	512.5	—	205.0	xxx	62
11. Chickens raised	17	0.1	4	21	xxx	30000	255.0	1.5	60.0	xxx	30
12. Comm. broilers produced	5	—	4	9	xxx	3500	8.7	—	7.0	xxx	xxx
13. Turkeys raised	80	—	10	90	xxx	1100	44.0	—	5.5	xxx	45
14. Other livestock	xxx	xxx	xxx	xxx	xxx	xxx	1.5	—	0.3	15.0	20
15. Total	xxx	xxx	xxx	xxx	xxx	xxx	4629.1	63.1	688.7	3147.2	14169

1/ Includes corn, oats, barley, rye, and wheat, fed from any source including harvested grain, corn silage, corn fodder, unthreshed grain, or commercial mixed feeds.

Form 5b

Ohio - Estimated quantities of feeds needed for feeding livestock for the 12-month period beginning October 1, 1947

Class of Livestock	Feed per animal, bird or cwt.					Total livestock and feed				
	Concentrates				Tame and Wild Hay	Units of Livestock	Concentrates			Tame and Wild Hay	Pasture and Grazing (1000)
	Grains 1/	Seeds and Skim Milk	Commercial by-Products	Total			Grains 1/	Seeds and Skim Milk	Commercial by-Products		
Column	1	2	3	4	5	6	7	8	9	10	11
	Pounds	Pounds	Pounds	Pounds	Pounds	1000 Units	1000 Tons	1000 Tons	1000 Tons	1000 Tons	A.U. Months
1. Horses, mules and colts	1300	--	5	1305	2500	240	156.0	--	0.6	300.0	1200
2. Milk cows	1530	15	305	1850	3200	1160	887.4	8.7	176.9	1856.0	6960
3. Beef cows	190	--	10	200	1500	105	10.0	--	0.5	78.7	630
4. Feeder cattle	1800	20	180	2000	1000	135	121.5	1.4	12.1	67.5	135
5. Other cattle and calves	680	30	80	790	1000	870	295.8	13.0	34.8	478.5	1740
6. Ewes, 1 year	75	--	3	78	450	1100	41.2	--	1.6	247.5	1100
7. Feeder sheep and lambs	105	--	20	125	200	390	20.4	--	3.9	39.0	39
8. Other sheep and lambs	40	--	--	40	375	353	7.0	--	--	66.2	353
9. Hogs, cwt. net production	410	7	33	450	--	11340	2324.7	38.7	187.1	--	1720
10. Hens and pullets	50	--	20	70	xxx	21000	525.0	--	210.0	xxx	63
11. Chickens raised	17	0.1	4	21	xxx	31000	263.5	1.5	62.0	xxx	31
12. Comm. broilers produced	5	--	4	9	xxx	4000	10.0	--	8.0	xxx	xxx
13. Turkeys raised	80	--	10	90	xxx	1200	48.0	--	6.0	xxx	48
14. Other livestock	xxx	xxx	xxx	xxx	xxx	xxx	1.5	--	0.3	15.0	20
15. Total	xxx	xxx	xxx	xxx	xxx	xxx	4712.0	63.3	703.8	3148.4	14059

1/ Includes corn, oats, barley, rye, and wheat, fed from any source including harvested grain, corn silage, corn fodder, unthreshed grain, or commercial mixed feeds.