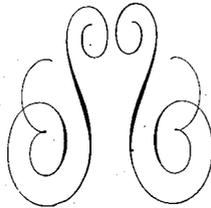


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Benton County
Farm Program
Conference



Corvallis, Oregon

January 23, 1946

Prepared for Publication by
Farm Program Conference Committees
Distributed by Benton County Extension Agents

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FOREWORD

The cooperation of Corvallis and Monroe business firms has made possible the publication of this report of the Benton County Farm Program Conference held in Corvallis on January 23, 1946.

Funds necessary for the publication of the report by the Gazette-Times have been furnished by the following business firms.

Corvallis Feed & Seed	Corvallis Implement Company
U. S. National Bank—Branch of of Corvallis	Corvallis Hotel
Graham & Wortham Drug Company	Benton Hotel
Albright & Raw Drug Company	Alex Smith Hardware
Spurlin & Robnett Hardware & Implements	Earl S. Harris
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Benton County State Bank	Hartssock & Tharp Motors
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Whiteside Theaters	Irish & Taylor
Green Valley Creamery	Wood Motor Company
Frank Groves Service Station	Corvallis Lumber Company
Modern Lockers	O'Toole Motors
	Dr. F. C. Meyers

The purposes of the conference were to gather accurate and detailed information on the local, state, and national phases of agriculture and rural home life, to present this information in concrete and definite form, and to make recommendations based upon information furnished by the Farm Program Conference committees.

Recommendations of the conference constitute the best opinions of committees composed of practical producers and people closely associated with rural home life. The report forms a guide for Benton County agriculture.

Committees spent much time on their respective work, sifting the more valuable suggestions in the formation of their reports. Notwithstanding, all this careful endeavor and the fact the best available data was used, the recommendations of this report should not be taken as final. Conditions are constantly changing, and recommendations in this bulletin will need revision during succeeding years.

The value of reports contained in this publication will come from intelligent use of findings by the individual producers and organizations throughout the county.

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Benton County Farm Program Conference

THE LAND USE AND ECONOMICS COMMITTEE REPORT

The Land Use and Economics Committee considered 8 topics, believed to be of importance to the welfare of Benton County farmers. They are: land utilization, size of farms, soil erosion, flood control, forestry, Benton County farm marketings, part time farms, and farm accounting. Recommendations of the committee are as follows:

I. Land Utilization

According to the census, Benton County contains 414, 080 acres of land, close to one-fourth of this figure is improved land. Much of the remainder is suited only to grazing or interim use with grazing and forestry, and straight forestry. Much of this forest land lies throughout the western half of the county. Classification has been carried on by 50 committeemen of the Land Use Community Committees. The remainder, except for grazing to some extent, offers very little in the way of cropland regardless of the development which it may be subjected to. Yet people, in the future as in the past, may attempt to make farms of this grazing and forest land. Grazing lands, of this area, should be used in connection with established farms, for the most part, rather than as separate farm units. Settlement of such areas add to county road and school costs which involve greater costs per capita, for the time these facilities are used, than elsewhere in rural areas of the county.

II. Size of the Farm

The number of farms in Benton County has practically doubled since 1900. There has been a limited increase in the improved land in farms, thereby, resulting in smaller farms. It is believed that further subdivision of improved lands is feasible in Benton County to the extent of developing 75 to 100 new farms. There also is opportunity to clear additional river bottom and valley floor lands. A suggested economic farm unit for the various major soil types is as follows: Chehalis series, 60 to 80 acres; Willamette series, 120 acres; Amity series, 200 acres; Dayton series, 300 acres; Hill soils, 200 acres, with 100 acres in cultivation. Minimum farm units for a successful long time enterprise are as follows:

1. Diversified farming units

This type of farm requires a minimum of 60 acres of good average soil, such as, Newberg, Chehalis, or Willamette, all under cultivation. Livestock, dairy, and poultry enterprises along with production of hay pasture, grain, small seeds, and some fruit and vegetables fit into a diversified farming unit.

2. Grain, hay, and field seed farming units

Minimum requirements for this type of farm are 150 acres. Less acreage could not be operated economically because of necessary

outlay for power machinery, for planting and harvesting of crops. Livestock also fit into this type of farming.

3. Dairy Farm

Seventy-five acres of cropland is a minimum for 12 to 16 cows. Part of this acreage will be devoted to hay and grain and the balance to pasture. Irrigated land for hay and pasture will reduce the number of required acres.

4. Orchard Unit

The selection of a suitable soil is very important in establishing an orchard and small fruit unit. Adapted orchard soil will provide an economical unit during low prices. The orchard should be of several different types of fruit, divided into several units to avoid harvest problems and provide a more assured income. A minimum of 20 acres well cared for in bearing orchard should constitute a unit. One should avoid too much diversification among types.

5. Truck farm

A truck farm requires at least 30 acres of cropland to provide proper management and adequate income for all price levels. This soil has to be fertile river bottom soil under irrigation. All truck crops should be grown under contract.

6. Poultry unit for egg production

A minimum of 15 acres and 1000 laying hens is considered advisable. This acreage would provide for adequate range and green feed production. All grains, other feeds, and litter will be purchased.

7. Turkeys

Only experienced operators, for the most part, can successfully handle turkeys as a sole enterprise.

It is a good enterprise to combine with other farm operations. An abundance of range is required, about two acres for every 100 birds. One man can care for a flock of 400 birds if not engaged in other farm work.

8. Stock ranch

Three hundred acres as a minimum, of which one hundred acres will be used for grain, hay and annual summer pasture. Additional out range is desirable. Irrigation for beef and swine will reduce the size of farm to some extent. Production capacity of a farm should be given careful consideration. The pastures should be established before complete stocking of the farm. The number of livestock should never exceed the available feed supply.

New farm units created by subdivision at least should conform to these sizes.

III. Soil Erosion

Erosion types in Benton County due to rainfall

1. Hill cropland erosion due to heavy rains
2. River bank cutting due to floods
3. Surface soil erosion in flood areas.

Reduced soil erosion is apparent because of educational meetings publicity, and demonstrations. Accomplishment is measured over a long period of time. Preventive measures used in the past and for future use are:

1. Use of cover crop.
2. Incorporation of straw
3. Avoiding late fall cultivation of erosion areas.
4. Government flood control projects.
5. Crop rotation.
6. Seeding to perennial grasses in serious problem areas.

7. Avoiding fall flowing in river bottom flood areas.
8. Reforestation of timber land.

IV. Flood Control

The Long Tom Project in Lane and Benton Counties has proven its value in flood control by:

1. Making better crops and forage use of soil formerly capable of producing poor pasture only.
2. Nearly eliminating damage to crops, livestock, fences, roads, and farm buildings.
3. Providing an outlet for local drainage ditches and solving community drainage problems.

Recommendations of the committee are:

1. Continued development of the Willamette River basin for drainage and flood control and other purposes which the people of the area feel are feasible by qualified and competent agencies.
2. Development of Marys River Drainage Basin.
3. Completion of work on the main Willamette River.

V. Forestry

Procedures listed and to be exercised are proposed by the committee as sound management proposed by the committee as sound management programs, which will provide maximum economical use of forest lands and promote natural and artificial reforestation.

1. State Forestry Board

State Forestry Board members to be selected by the Governor primarily on a basis of the individual's experience.

2. Fire Prevention

Close coordination between federal, state, and county agencies and private interests in fire fighting to prevent serious losses that have

occurred in the past; an example is the Tillamook burn.

3. Selective logging

This practice is favored from the standpoint of reforestation, conservation, and utilization of forest products. Management should be handled on a plan which is most equitable and fair to forest product handlers.

4. Benton County Timber figures

a. Acres of timberland	1940
(1) U.S. National Forest	10,698
(2) O & C	47,250
(3) State	12,600
(4) Private	153,060
(5) County	6,145
(6) City	2,420
(7) Public Domain	6,090

TOTAL 237,725

b. Board feet of standing timber merchantable in the county of all types was estimated in 1944 to be 2,492,000,000.

5. Fern and brush land management

Large blocks of fern land and some other areas, covered by dense brush are not being reforested by natural propagation, are located throughout the western portion of the county. No foreseeable use of this land other than forestry and some interim grazing is possible. Natural reforestation will occur where sufficient seed trees are available on fern land if fires are kept out. Some artificial reseeded may be necessary to establish seed trees. Heavy growth of salal and other brush when dense, prevents natural reforestation. Spring burning, only, and artificial reseeded and transplanting of such areas may be required to establish new tree stands. In many areas burning alone perhaps will be sufficient. Areas that are adjacent to livestock units may more profitably be utilized by seeding to bent grass and pasturing until natural

reforestation takes place. Seeding to bent grass will reduce fire hazards.

6. Seeding to grass

Reseeding to perennial grasses, of land adjacent to or situated where livestock producers can economically use such lands for grazing, is practical. Only grasses and legumes which remain green late, in the summer, are recommended in order that fire hazards be reduced. Highland and Colonial bents, Alta and Creeping Red fescues are the best suited for this purpose. The best stands of grass are obtained by immediately seeding after fall burns.

7. Burning of logged-off lands

More thorough and careful burning of logged over lands is required to reduce fire hazards. The present system of light and partial burns leave a tremendous amount of needless and small material, which later develops a serious fire hazard which travels fast, burns deeper towards the mineral earth, and destroys most of the organic matter.

State and federal forest and agriculture research agencies should study and coordinate programs affecting the various land uses of forest lands for the purpose of most efficient and economical long-time use of forest lands.

Continuous burning of an area year after year destroys organic matter and prevents natural reforestation.

VI. Benton County Farms Marketings.

Marketing of agricultural products consistent of 53.6 percent animal products and 46.4 percent crop produce in 1942. About the same proportions of marketing have existed for 20 years in the country for the various branches of agriculture. Increase in poultry over a twelve year period amounted to 8.7 percent. Seed crops increased 11.5 percent while grain crops were reduced 10.8 percent. The shifts have resulted in more farm income, soil conservation, and better land use.

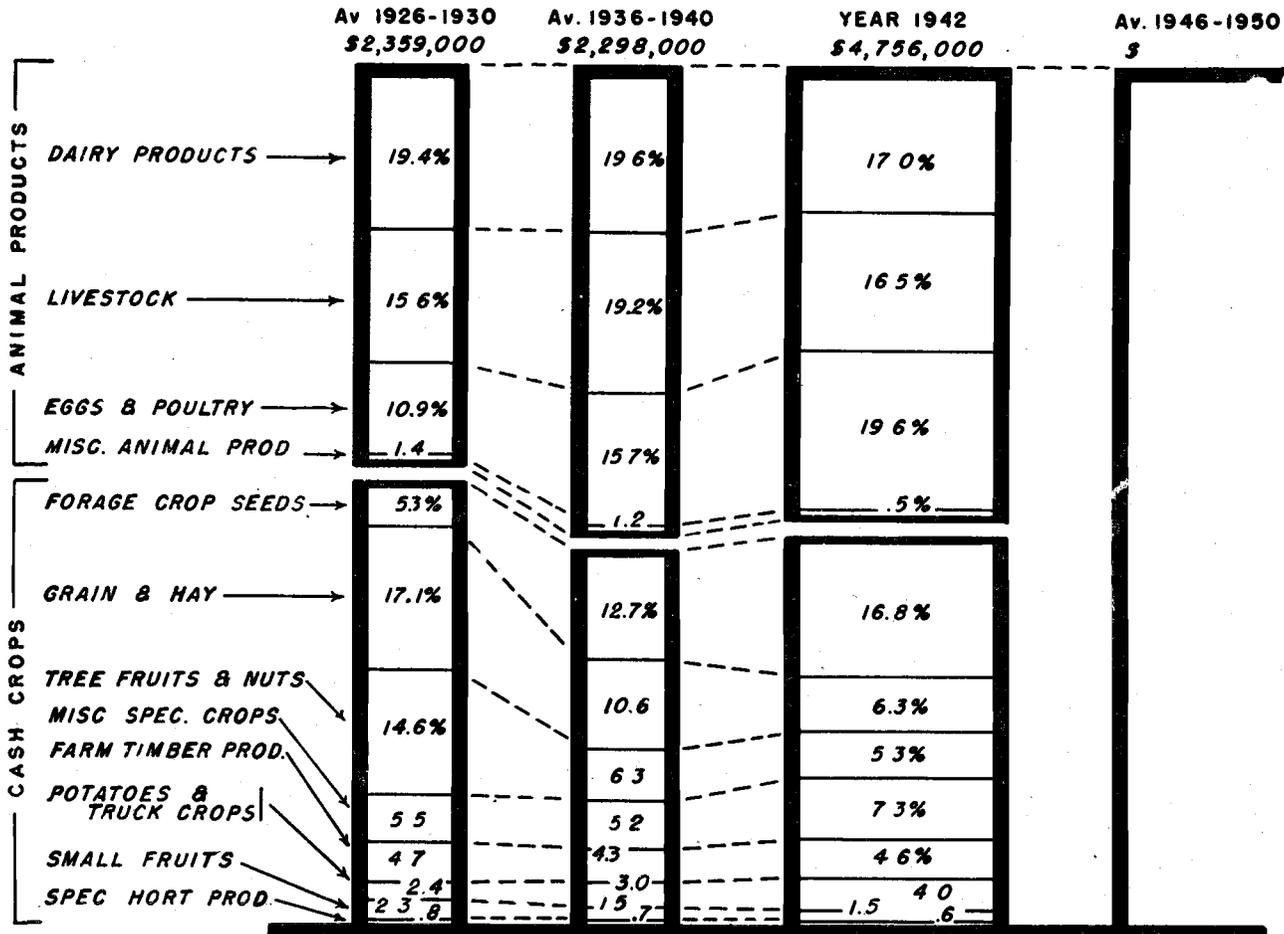
VII. Part-time Farming

At the present time, Benton County has very limited opportunities for part-time farmers. City people contemplating part-time farming will usually do better with a very small acreage or rural residence type of place rather than a small farm, which requires power and machinery to operate. Rural residence type of place usually varies in size from one to three acres.

VIII. Farm Accounts

Farm accounts are a great aid to intelligent farming and reporting income tax. It is recommended that farmers give more attention to record keeping. The Oregon State College Extension service has for sale two types of farm record books for a nominal fee in all County Agents' offices. One is complete farm accounts and the other is a cash farm record book designed especially to help farmers make out their income tax returns on a cash basis.

BENTON COUNTY FARM MARKETINGS



CROPS COMMITTEE REPORT

General

The value of farm crops produced in Benton County amounted to almost one-third of the 1942 agricultural production. The agricultural production represented \$4,756,000. About the same percentage of the farm income in 1930 was derived from farm crops. However, changes were made that twelve year period in the kinds of farm crops which produced this income. In 1930, about seventeen percent was from grain and hay; in 1942, about seventeen percent was from forage crop seeds.

I. ACREAGE TRENDS

The general trend of acreage has been reduction in grain and hay, expansion of seed crop acreage in winter legumes and perennial and annual grass seed, a reduction in potato acreage, expansion of

commercial vegetables and vegetable seed crops.

II. MARKETS

Hay produced is largely consumed within the county. Considerable quantities of brewing barley is shipped out. The balance of the grain is consumed at home for feed and seed purposes. Most of the cover crop seeds are shipped to the South. Perennial grass seed is used rather extensively in Oregon and Washington with a good percent of Perennial ryegrass going to Mid-western and Eastern dealers. Further expansion of markets in the South throughout the Middle West and Atlantic seaboard can be expected, providing a vigorous advertising and sales campaign is carried on. This will need to be provided by some donations

**ACREAGE AND PRODUCTION OF PRINCIPAL CROPS IN
BENTON COUNTY, 1909-1944**

CROP		1909	1919	1929	1939	1943	1944
Hay	(acres)	17,786	20,233	19,870	17,479	12,200	12,300
	(tons)	29,472	32,290	32,915	30,323		
Oats	(acres)	18,532	14,602	10,379	12,048	8,600	8,500
	(bushels)	509,263	347,379	299,264	326,208		
Wheat	(acres)	12,082	20,717	8,810	6,079	4,000	
	(bushels)	208,917	374,648	186,188	127,825		
Barley	(acres)	447	825	1,877	5,195	5,700	5,500
	(bushels)	10,253	19,552	53,743	148,958		
Corn	(acres)	60	1,053	1,559	1,875	850	650
	(bushels)	2,137	35,138	13,509	26,260		
Mixed grain	(acres)		1,006	1,812	7,555	4,500	3,500
	(bushels)		19,947	43,383	155,072		
Seed crops harvested					16,920	32,600	30,236
(pounds)					8,051,450		
Irish potatoes	(acres)	583	928	434	177	300	125
	(bushels)	62,482	107,836	34,617	18,553		
Hops	(acres)	204	213	531	572	650	650
	(pounds)	151,427	134,200	565,265	530,648		
Fiber flax	(acres)			43	10	575	500
	(tons)						
Flaxseed	(acres)				100	400	200
	(bushels)				600		
Vegetables harvested for sale			122	275	472	925	964
TOTAL ACRES		49,694	59,599	45,590	68,432	71,300	63,125

1. Establishment of Camp Adair and the military airbase reduced crop acreage by 15 percent after 1943.

made by various commodity producers and processors in the form of seed for experimental plots and fields.

III. LOCAL PROCESSING PLANTS

The capacity of local seed cleaning and feed mixing plants is sufficient with the exception of one large plant needed at Corvallis to replace three plants lost by fire in recent years. A large farm cleaner would benefit the Alsea community by reducing transportation costs.

GRAIN CROPS

The acreage trend in grains has been downward. In 1939, 33,000 acres of all grains were produced; in 1945, the figure was estimated at 27,000 acres. Competition has shifted grains to where the leading crop is spring barley. The oat acreage has, likewise, been reduced to some extent. The corn acreage has gone downward in spite of the fact that a cultivated crop is needed. However, corn returns per acre, in recent years, have been too low in comparison to other crops.

The county has been a net importer of whole grains during recent years by about 20 carloads. Much of this is wheat for feed purposes. The exported grain is largely hannchen barley used for malting purposes. As long as the heavy demand for seed crop continues there will likely be little change in grain acreage. The cheapest method of supplying many of our feed grains with particular reference on wheat is to import. Barley and oats for feed purposes are more profitably produced locally rather than purchased from the outside. Further development of milling outlets for oat products

could increase the oat acreage. Varieties of oats could be improved. Support oats, a strain of ordinary grey winter, should replace the latter. A heavy yielding spring oat variety with a plump kernel and light hull is badly needed. The quality of seed grain should be improved from the purity standpoint and improvement of farm storage facilities would save much grain annually from rodent, weevil and mechanical damage.

FORAGE CROPS

I. Hay

The Benton County hay acreage in 1944 was estimated at 12,300 acres, composed of five different kinds which are: Alfalfa, 1600 acres; straight grain, 2000 crops; vetch and supporting crops, 6000 acres; clover alone, 1200 acres; and grass hay 1500 acres. Most of this hay was fed in the county, but a small percentage was exported to coastal counties. Thirty-five hundred tons, largely alfalfa from eastern Oregon, were imported in the winter of 1944 and 1945. The Benton County hay acreage has gone downward in the past few years by about 500 acres due to the reduction of certain classes of livestock, improvement in quality and higher yields per acre, and improved pasture condition. Improvement in hay quality can be made by growing clean fields, cutting when the protein content is the highest, and holding sun and rain damage to a minimum.

More alfalfa acres are desired because it is permanent, has a high feeding value for cows and sheep, furnishes some green pasture, sells for a high price per ton, is a great soil builder, and once a stand is secured there will not be a crop failure.

The production of straight grain

hay should be avoided because the same soil will produce oats and vetch by fall seeding. The latter crop yields more per acre and has a higher nutritive value. Effort should be made to reduce the cost of production. This step may be accomplished by reducing hand labor, by more efficient use of equipment on farms such as swathers, side delivery rakes, and buck rakes. Some new equipment including pick-up hay balers, field hay choppers, and forage blowers deserve much consideration. There is a steady movement away from hand labor in hay making.

II. Pastures

The pastureland in Benton County amounts to about 100,000 acres. It is composed of four different types of pasture.

1. Seeded over timber land.
2. Brush and native grass land.
3. Seeded marginal crop and hill land pasture.
4. Pasture produced on good crop land.

For expansion and improvement in the pasture program the committee believed accomplishment can be obtained by the proposed steps.

1. Dairy and swine raisers use irrigated Ladino clover and grass where production is possible.
2. For those who are unable to use irrigated pasture for dairy and swine, seeded perennial grass pasture supplemented with Sudan grass and Sweet clover will improve the forage program.
3. Renovation and reseeding of hill land pasture; both new seedings and old seeded pasture.
4. The seeding of marginal crop land for permanent pasture for several years will greatly aid fertility and provide forage for livestock and poultry.

5. The reseeding of all cut over land immediately following logging operations after burning will reduce fire hazards, speed up reforestation and provide feed for livestock until brush and young trees take over the area.

These practices mentioned have all been proven on large tracts and are now being carried out by a large number of farmers in Benton and many other western Oregon counties.

Grasses and legumes for irrigated pastures are Ladino clover, Alta fescue, Perennial ryegrass, and Orchard grass. Lotus may have some future value. Grasses and legumes suitable for dry land pasture are Subterranean clover, white clover, Alta, Chewings, and Creeping Red fescues. Perennial ryegrass, Orchard grass, Tualatin oat grass, and Highland Bent for isolated lands and logged off areas. Seeded annual pastures can be composed of common ryegrass, winter rye, oats and vetch. Crimson clover, Sweet clover (a biennial), Sudan grass, Dwarf Essex rape, and spring-seeded fall grains. The most outstanding of this group are Sudan grass, Sweet clover, Dwarf Essex rape, common ryegrass, and Crimson clover.

The use of commercial fertilizer is of great value on pasture land if nitrates and phosphate are used. They seem to produce more forage per acre when applied during the late winter and spring months. Fertilized pastures are grazed in preference to nonfertilized pastures by livestock. Irrigated pastures should receive annually three to four hundred pounds of 20 percent super phosphate or 150 to 200 pounds of treble phosphate and a heavy application of gypsum. Barn yard manure applied during the winter months often gives more returns

on pasture than on any other crop.

Irrigated pastures produce in the vicinity of 10 to 12 tons of forage per acre on a dry weight basis during the year. Naturally they need to be fed. A good pasture program in hard times means the difference between a successful and unsuccessful operator.

Expansion of pasture acreage of all types and kinds can be carried out throughout the county. The committee feels that expansion of pasture will keep livestock from overgrazing an area and the animals will still have ample feed. Expansion of pasture will reduce silage and grain feeding to a minimum, thus reducing costs.

III. Silage

There are, roughly, 100 silos in the county. Most of these are used for corn silage. Some grass and legume silage has been used. Silage provides a succulent feed which saves hay and pasture; however, the estimated cost of production per ton for corn silage in 1945 was close to \$10 per ton and for grass and legume silage, close to \$6 per ton. The amount of total digestible nutrients is in the vicinity of 15 to 17 pounds per 100 pounds of silage. As a comparison, the cost of producing Ladino clover per acre over the life of a Ladino stand is in the vicinity of \$10 annually for a yield of around 25 tons green weight per acre. The use of silage has gone down largely because of labor and mechanization necessary over other crops for making it. With the introduction of new machinery, that can be used for hay making as well as silage making, the labor cost and the cost of the machinery will be greatly reduced. This equipment is field forage cutters and forage blowers. The committee is of the opinion

that more grass and legume silage should be produced because it is the best way of converting certain forage crops, such as the first cutting of alfalfa and excess grass pasture, into usable feed at a reasonable cost.

IV. Crop Residues

With the exception of some perennial grass straw, crop residue in most cases should be incorporated into the soil. Thrashed stacks could be used for some winter livestock feed, but eventually if stack bottoms are returned to the soil they will have much value for fertilizer. Most of the crop residue in Benton County is now being incorporated into the soil. Although it may take several years to measure the effects, all farm land will benefit by incorporating straw into the soil. In 1944 one and one half percent of the crop residue was burned; in 1945 approximately three percent. Some burning is due to lack of equipment for straw incorporation. New and better implements for this purpose are needed.

SEED CROPS

Roughly, seventeen percent of the farm income of Benton County is derived from forage and seed crops. The seed industry has been largely developed in the last fifteen years. It again is peculiar in contrast to seed crops of other sections of the United States in that the major seed crops of Benton County are vetches, common ryegrass, Perennial ryegrass, and fescues. Because of its many good qualities, such as improving soil fertility, providing livestock feed, and being a cash crop with a ready market in past years, it demands much of our attention in planning towards the future. Many acreage figures given for the State of

Oregon will practically speak for the entire United States due to the small amount of seed production elsewhere of cover crop and some kinds of grass seed.

I. Winter Cover Crops

The acreage steadily increased up to 1942. Expansion in seed crops has given farmers experience from which they believe a legume or grass seed crop is a necessity for nearly every farm operation and should be the major cash income crop.

ing towards a greater potential market. Prices to growers were stabilized and risk was greatly eliminated. The general outlook for cover crop seeds remains good for the future providing southern farmers do not have to pay excessive prices for seed. Their attitude now is to use cover crop seed.

From seed crops and in particular the cover crop group, great strides in improving soil fertility have been made in the county.

Acreages of Cover Crops in the County

CROPS	1942	1943	1944	1945
Hairy Vetch	18,000	13,500	13,500	12,000
Common Vetch	2,500	1,000	600	1,000
Willamette Vetch	1,100	500	2,000	3,500
Common Ryegrass	8,000	6,000	7,000	8,000
TOTAL	29,600	21,000	23,100	24,500

Benton County grows about 10 percent of the state's cover crop acreage.

Acreage of Cover Crop Seeds for Oregon in 1941

CROPS	ACREAGE
Hairy Vetch	120,000
Common Vetch	36,000
Willamette Vetch	16,000
Common Ryegrass	70,000
TOTAL	242,000

The general opinion of farmers and warehousemen concerning the government seed purchasing program is one of disfavor on the principal of the government competing with private enterprise. Yet most folks agree that through the government seed purchase program far more seed has been handled than could have gone through private channels without expansion of capital. A wider distribution and use of seed in the south has been achieved, thus build-

1. Hairy Vetch

The value of using DDT experimentally for eliminating weevil damage to seed has proven very good. Everyone has great hopes for this insecticide when used on a large scale. The future of hairy vetch in Oregon depends on DDT.

Harvest methods in recent years have turned toward pick up combining, or harvesting while standing with a combine. A few operators still bind and thresh with stationery machines. Combining scatters the straw and a successful machine operator gets a good share of the seed. Threshing machines are good seed savers but require considerable labor. They are desirable on steep land and where an operator has a long harvest season. Estimated over-all costs for 1945 hairy vetch production are in the neighborhood of \$25 to \$30 per acre. Yields of seed are greatest on goil soil, the 1943 average for the county was 330 pounds of clean seed per acre.

Hairy vetch has demonstrated its ability to produce great amounts of spring pasture for sheep and cattle and has helped bring back worn out soils in fertility to where they will produce reasonably good straight grain crops.

With farmers knowing how to produce and harvest greater yields per acre and should DDT solve the weevil problem some concern on markets would be justified. We are informed, through channels of recognized authority, that the south still looks on Hairy vetch as the number one cover crop and that we need not fear an over production of this commodity.

2. Willamette Vetch

This crop has served as a substitute for shrinking Hairy vetch acreage in our legume seed production program and also as a replacement for most Common Vetch. The adaptation and yields confine this crop to soils which are of reasonably good fertility.

Liming of hill soils makes it possible to produce seed crops comparable to the fertile river bottom and first bench soils. Applications of gypsum and phosphate also aid on many soils for increasing yields. Harvesting is largely by combining direct or pick up attachment.

3. Common Ryegrass

Most of the Common Ryegrass now produced in the county is being produced on Amity, Dayton, Carlton and Wapato soil types

which are heavy and more poorly drained than other types. Some production, due to high prices, is creeping on to some of the better bottom soils. The committee believes that Common Ryegrass is not a practical seed crop for hill lands. Annual weeds reduce quality and yields. Wider use of selective sprays for annual weeds would tend to increase seed yields and quality. Light pasturing on late spring seeded Ryegrass is not harmful to the next year's crop.

Spring pasturing prior to harvest reduces seed yields according to the degree of pasturing. This crop responds exceptionally well to spring applications of nitrate fertilizers in the amount of 30 to 40 pounds of available nitrogen per acre. Nitrogen pays well on Common Ryegrass.

II. Grass Seed

Perennial grasses are rapidly gaining in importance as seed crops in Benton County. The estimated 1945 acreage was 5,051 acres. These were composed of Perennial Ryegrass, Alta Fescue, Creeping Red Fescue, Chewings Fescue, Bent, Harding grass, and Meadow foxtail, named in order of acreage importance.

Spring pasturing from past experience of growers is not advisable as seed yields are easily reduced fifty percent. Removal of all straw and stubble after harvest appears to be advisable with Perennial Ryegrass and all Fescues.

Acresages of Perennial Grasses for Seed in Benton County

Perennial Ryegrass	2,500	3,200	4,000	4,400
Alta Fescue	160	150	275	500
Chewings Fescue	35	35	35	35
Creeping Red Fescue	60	45	45	55
Bent	30	30	45	55
Meadow Foxtail	0	0	6	6
Harding Grass	25	25	25	25
TOTAL	2,810	3,285	4,431	5,076

burning of straw on certain fields of Perennial Ryegrass may be a necessity to control blind seed disease.

1. Fescues

Average yields and past prices plus a long-lived crop have made Alta, Chewings and Creeping Red fescue profitable crops. In addition, they are good soil builders. The future of the market for fescues depends on how much promotional work Oregon growers can carry out in Eastern markets. This same procedure established markets for other grasses and legumes in the past. Seed quality from the purity standpoint also needs much improvement as very little of the present 2500 acres of fescues for seed will produce 99 percent pure seed. Rouging of ryegrasses from fescue fields would greatly remedy the situation. The present exorbitant prices now being charged for the 1945 crop cannot be helpful in moving large quantities of seed. If producers expect to sell production from a large acreage, they need not expect present prices. The committee feels considerable expansion of Creeping Red fescue acreage is desirable if quality seed is produced.

2. Perennial Ryegrass

Maintaining the present acreage of perennial ryegrass rather than increasing the acreage appears to be the most logical step. The 18,000 acre crop of Oregon showed signs of price breaks twice during the World War II period. Foreign demand avoided the predicament. Blind seed disease threatens to reduce acreage; however, to date, Benton County growers have experienced only slight traces of the disease. Growers are very careful about planting stock and are cooperating to hold the disease under

control. Anyone planting this grass should by all means use seed free of blind seed disease.

3. Other Grasses

Some expansion in production of Tualatin oat grass and Meadow foxtail is expected.

III. Clovers

1. Alsike Clover

This crop is of little importance in Benton County because of low seed production per acre. The 1945 acreage was 100 in the county.

2. Red Clover

The use of Cumberland red clover is advisable in Benton County because of its hardiness. Growing habits of this variety are more thrifty than ordinary strains. Cumberland seed brings higher prices and this can be expected to continue for many years. For several years the use of red clover for a seed crop has been secondary to hay production. In recent years, except for the past two, the harvesting of seed has not been profitable. Low yields are caused by seed head insects, dry summers, and clover borers, working on the roots. Irrigation will double the seed yield of red clover.

3. Ladino Clover

Forage rather than seed production appears to be the best use of ladino clover as long as other areas can produce a sufficient seed supply. Low seed yields, mixtures of native white and alsike clover, and noxious weeds make it unfavorable for profitable seed production in this county.

4. White Clover

White clover can be expanded as a seed crop alone or in combination with Perennial and common ryegrass. Straight stands varied in

yield in 1945 from 100 pounds to 200 pounds of clean seed per acre. Judging from average price figures in the United States over a period of years the acreage could be expanded considerably. Prices have been as follows: The average 1928-1938, \$31.75 per cwt.; in 1940, \$60.75 per cwt.; and in 1945 \$70.00 per cwt.

5. Subterranean Clover

Subterranean clover is a valuable dry-land pasture legume in Benton County, but so far, Oregon is the only state using it and therefore, a small seed acreage can take care of the state's entire seed needs. However, there is some indication that a wide market may develop in the South and if this occurs it may pay growers here to be getting some experience in growing and harvesting so as to be ready for action if a big market develops. This experience can be gained by seeding small acreages to be harvested for seed production for use on the growers own place and adjacent farms.

IV. Lotus

This crop is still in the experimental stages for Benton County and the committee suggests that further work be carried out on this legume before recommending its use for seed production.

V. Vegetable Seed

War time demand and high prices encouraged Benton County farmers in vegetable seed production and the acreage went to 1000 acres in 1944. Seed crops of red beets, cabbage, kale, Swiss chard, parsnips, carrots, spinach, onions, squash, cucumbers, pumpkins, dill, mustard, Chinese cabbage, rutabagas, mangels, and turnips have been successfully grown. It is believed that only growers who have

very fertile river bottom soil, the necessary equipment, the knowledge, experience, and who are willing to apply all necessary steps to produce quality seed under contract with reliable firms are justified in engaging in this enterprise.

VI. Fiber Flax

Fiber flax is a relatively new crop in Benton County. A few growers have produced fiber flax for some time, but not until 1940 did the acreage begin to expand. In 1942 the county had 900 acres, in 1945 450 acres. Yields are around 2 tons of pulled flax per acre not counting about two short years on this average in every ten years. The production of flax is largely confined to Willamette, Chehalis, and Newberg and better drained Amity soils of high fertility. The decline in flax acreage has been due to competition from other crops. This condition is expected to continue for some time. Gross returns per acre are in the neighborhood of \$60,000 per acre for straw marketed through the Benton County Flax Growers Cooperative at Monroe which can handle production of 1000 acres of flax.

Foreign competition will not be serious to any extent for a few years; however, Foreign sources and other textiles may eventually become quite competitive. In keeping with good farming, crop and rotation practices, and growers maintaining sufficient acreage to operate present processing plants, and for farmers to produce the crop at minimum cost, growers should not have more than one-fifth of their land in fiber flax each year.

Improvement in proper harvesting, handling, and production of fiber free of weeds will mean more money to everyone concerned with the fiber flax industry.

VII. Hops

The hop acreage in Benton County consists of 650 acres. Competition from Washington, Idaho, and California may make operations difficult when the world returns to peace time status. Growers are experiencing much loss annually from downy mildew.

VIII. Potatoes

This crop is of little significance due to competition from irrigated potato producing areas and the difficulty in combating flea beetles and wire worms which reduce yields. Sufficient production to care for farm family needs on each farm is desirable. The potato acreage for the last fifteen years has been 125 acres annually except in 1943.

IX. Weeds

A special committee on weeds propose that all of Benton County be made a weed control area for tansy ragwort by the County Court.

Weed control districts now function in Alsea and Lobster Valleys for tansy ragwort, Russian knapweed, Canada thistle, and morning glory.

A wide use of selective sprays to control weeds in grass seed crops, fiber flax, and fall sown grains should be practiced by farmers as soon as sufficient spray equipment and materials are available. Sufficient experimental and practical use have proven the use of selective sprays to be profitable. New hormone sprays and sinox are selective sprays.

DAIRY COMMITTEE REPORT

I. Dairy Cattle Numbers and Feed Supply:

One fifth of the agricultural income of Benton County is derived from the sale of Dairy products. A gradual increase in dairy cattle took place in the county until World War II, after which some decline occurred.

DAIRY CATTLE NUMBERS
Two Years O'd and Over

Year	Number
1890	3,915
1935	6,200
1940	6,200
1942	6,200
1945	Est. 4,700

Total cow population of the United States is at an all time high. Our national cow population in the past five years, has increased about 8.7 percent, heifers 1 to 2 years about 14.5 percent and heifers under one year about 21.7 percent.

In Oregon the cow population of cows 2 years old or over increased from 275,000 in 1935 to about 284,000 in 1944. Benton County dairy cattle numbers have gone down not because of dairy product demands, but largely due to high feed costs, labor, culling programs, competition from other agricultural industries for land and equipment use, and the use of dual purpose and beef bulls which caused a large portion of the calf crop to be raised for meat purposes. Competition in the dairy industry will become keen.

A. The Committeemen suggest that dairymen keep the following in mind:

1. Efficiency must be the byword to remain in the industry.
2. Size of the farm, feed supply, home labor available are important considerations when determining the number of dairy cattle to maintain.

3. Larger herds have an advantage in efficiency of operations.

4. There is no desire to suggest to anyone how large to develop a business, at the same time herds of 15 to 20 cows for one man operation and 20 to 50 cows for a two man operation seem to be desirable numbers for the most profitable and efficient dairy enterprise.

5. A side line of dairy demands numbers of cows according to labor available, equipment, market possibilities and feed supplies.

6. The majority of Benton County farms can develop a home grown feed supply to handle the dairy operations to be developed or existing already, with the exception of protein concentrates.

For dairy cow numbers of the county the committee believe prewar levels of around 6000 good cows obtained through culling and breeding should be our goal.

B. Over a long period of years it appears desirable to feed Benton County hay, within the county. Why?

1. Dairymen, by producing their own hay, have uniform quality and avoid cash outlay in purchasing hay.

2. During depression and normal periods, Benton County hay has difficulty in competing on markets with Eastern Oregon hay.

3. Local hay can be best marketed through livestock.

4. Fertility removed from the soil in a hay crop remains on the farm largely when fed to livestock where produced.

II. The Roughage Program

From experience of a few local dairymen here and in coast counties, a greater use of grass silage would provide a highly nutritious and palatable roughage.

A. Grass and legume silage crops are:

1. First cutting alfalfa.
2. Ladino pasture.
3. Grass pasture.
4. Oats and vetch.
5. Red Clover.

B. Grass and legume silage is favored because:

1. Total digestible nutrients of grass silage is comparable to corn silage.

2. Grass silage tonnage yields are nearly twice as much as corn. Making of grass silage will require the investment in suitable machinery such as field forage cutters, stationary silage cutter, green forage hay loaders, and forage blowers.

C. Pasture suggestions are:

1. Use of more irrigated and seeded dryland pastures to produce feed when needed most by dairymen.

2. Ladino clover and certain grasses mixed together under irrigation should be used, due to excellent results. Carrying capacity is two cows per acre for a period of six months on the average.

3. Alfalfa, sweet clover, and seeded pastures of adapted perennial varieties be used, which provide an abundance of feed carrying one cow per acre during spring and summer months.

4. Unirrigated grass pastures can be supplemented with Sudan grass during July, August, and September. One acre of average Sudan is sufficient for one cow during the months mentioned.

D. Hay

The continued improvement of hay quality will help the dairy industry to reduce feed costs and obtain more production per cow.

III. Dairy Cattle Disease Control:

The percentage of Bangs and T.B. reactors has been very low in numbers for several years due to a rigid testing program by local and federal veterinarians and a cooperative group of cattle owners.

A. What should be done in the future?

1. Both Banks and a T.B. testing program for all dairy and beef animals should be carried out once a year to safeguard herds of cattle from these two diseases.

2. Sufficient funds shall be appropriated by the County Court as required by the state law for cattle to be tested by a competent veterinarian exercising proper sanitary measures while doing the work.

Mastitis is an udder disease, often times known as garget, caused by infection from various bacteria. Nearly every dairyman in the county has experienced some presence of the disease; often entire herds have gone to the slaughter due to mastitis. Some figures reveal that 20 percent of the nation's dairy cows are afflicted in varying degrees.

B. These are some outlined steps which aid in mastitis control:

1. Wash udders with disinfectant.

2. Use strip cups.

3. Thoroughly clean and sterilize milking utensils.

4. Milk infected cows last.

5. A number of drugs have proven helpful in the control of mastitis, but these should be used with care.

6. Provide cows with clean stalls and loafing quarters.

IV. Dairy Herd Improvement:

At present a Linn-Benton Herd Improvement Association is successfully operating in the two counties. Recommendations and plans have been approved for revising the testing program to include or make available to all dairymen in the two counties D.H.I.A. services.

A. The Plan provides for:

1. Standard plan where an official sample is taken.

2. Owner sampler plan where samples are taken by the owner and taken to a central testing laboratory. This shall include Feed Records as well as Production Records.

3. All sample and record keeping for both groups will be done in the laboratory.

4. Such a program would enable cows to be tested at two-thirds the cost of the present program.

5. Provide for 1500 to 2000 cows for each tester. The present D.H.I.A. tester tests around 35 to 37 herds a year or about 900 cows. He spends full time on a year around basis.

B. An improved butterfat testing program would:

1. Prove more sires.

2. Enable more dairymen to weed out low producers.

3. Better plan the herd size.

4. Go hand in hand with the artificial dairy breeding associations in improving dairy cattle for type and production.

C. Breeding

Artificial breeding offers one of the lowest cost, extensive methods of improving the type, quality, and production of dairy cattle. Benton County farmers within a 15-mile radius of Tangent can have ac-

cess to this service at a reasonable cost. A newly organized cooperative association in Linn and Benton counties has headquarters at Tangent, Oregon. Dairymen not participating in artificial breeding are urged to use high quality sires and avoid cross breeding. Dairy cattle have depreciated in quality according to many farmer reports, for a large part, due to cross breeding of good dairy cows with beef and dual purpose bulls. Use of good sires and D.H.I.A. work will not only restore good cows in herds, but will improve herds.

Average butterfat production per cow in Benton County has increased from 140 lbs. in 1925 to 250 lbs. in 1945, largely because of better sires.

V. Dairy Markets:

A. Comments on dairy product marketing.

1. It is believed that there is a great waste in efficiency in the present method of gathering the raw products from the farm, due to much overlapping of routes.

2. This form of competition is expensive to the operator.

3. Sufficient milk and butterfat plant space is available in Benton County and adjoining counties to handle all dairy production.

4. The outlook for market milk production appears to be in a favorable position.

5. Present market milk prices are not much above manufacturing butterfat prices; however, this situation is believed only temporary.

6. The number of market milk shippers is limited because of State Department of Agriculture and Benton County Market Milk Producers Associations' regulations and the market demand.

7. There has been a 10 to 15 percent turnover in shippers each year, enabling several new market milk herds to ship.

8. Contemplated West Coast population increases may develop a new outlet with distributors in Salem and Portland. Already some market milk is being exported to those markets from the county.

9. More milk per capita has been consumed during the war years than previously, largely because of increased buying power.

B. Committee recommendations

The quality of the product can be improved by many individual farmers through proper handling of milk.

1. Proper cooling.

2. Using clean milking utensils.

3. New milk houses and milk sheds may be desirable to improve sanitary conditions and quality of the product.

4. The committee favors voluntary improvement rather than a regulatory and forced improvement which may be brought about eventually to improve milk and cream quality up to certain standards.

VI. Type of Farm:

Under a long time point of view, which farm should develop a dairy enterprise?

A. This can be largely determined by considering:

1. Size of farm.

2. Feed supply.

3. Kind of pasture.

4. Available labor.

5. Prospective markets.

6. Cost and investment in equipment and cows.

Where the dairy enterprise is a major factor of farm income, it operates most efficiently.

LIVESTOCK COMMITTEE REPORT

The livestock committee have made several recommendations and suggestions concerning livestock enterprises for Benton County, which will be of value in management, production, and trends for the future. In 1942 16.5 percent of Benton County agricultural marketings came from sheep, beef, swine and goats. This figure has remained about the same for a good many years.

I. Beef

We believe there should be no further expansion of beef cattle numbers in Benton County due to past experience after World War I and the great increase in Benton County, Oregon, and in the entire United States during World War II. We suggest that all beef cattle owners do some rigid culling. In addition, the expansion of the beef cattle industry in Benton County is not advisable because of high cost of land, hay, and grain to carry on an economical beef enterprise. This condition has prevailed for several years in Benton County for some costs of operation in beef production. Past experience of high caliber operators using Ladino clover pasture for beef cattle has proven that returns per acre do not provide for enough margin of profit in comparison to other uses of irrigated pasture. A return of 475 pounds of beef per acre a year can be expected from irrigated Ladino clover pasture.

II. Sheep

Sheep numbers in Benton County have dropped during the war until they are approximately one-third of the 25,000 ewes carried in normal times. This reduction has been due to lack of labor, increased cost of feed, and reduced pastures due to high return from field crops. The high market

value for mutton due to shortage of other meats and rationing restrictions is another factor.

We recommend that farmers raise only farm flocks of sheep for the large majority of Benton County farms, and suggest that they have sufficient pasture and supplemental grain and hay for winter feedings to properly care for the flock. Production of the feed on the farm is most desirable.

Other suggestions are, use of high quality rams, use of proven methods of parasite control, and production of early lambs to obtain greatest price per pound produced at the lowest cost. Such lambs are milk and spring grass fattened. They are not in competition against lambs from range countries and do not have to be finished on high priced summer green feeds. Better preparation of fleeces will bring the true value of the wool. Competition from other domestic and foreign sources plus the demand from manufacturers, make this practice necessary.

III. Swine

Swine are of minor importance as far as farm income is concerned. Regardless of numbers, they demand careful consideration and proper management to be an economical enterprise. The number of brood sows kept on farms has varied from 500 to 800 during the last ten years. With high prices the numbers usually increased and with low prices brood sow numbers were reduced.

1. The cost of 650 pounds of grain provide for the overall cost of producing 100 pounds of pork.

2. The cost of feeding can be reduced by the use of irrigated pasture, Red clover, alfalfa, seeded grass pasture, Sudan, and rape. Generally for those who buy grain it is most desirable to purchase it at harvest time.

3. Straight grain, from past experience of farmers and work of the experiment station, should be supplemented with tankage, and during the winter months 10 percent alfalfa or red clover hay in the ration to provide vitamins and proteins. These practices produce 200 pound hogs in 5 to 6 months consistently.

4. Good buildings, hog lots, pig brooders, self-feeders, self-oilers for lice, will help to reduce labor, produce more pigs, and make for more efficient use of deed. (It is recommended that standard methods of mineral feeding be followed. A mineral mixture highly recommended is 100 lbs. ground limestone, 100 lbs. of bone meal, and 100 lbs. of salt, and fed so that swine can have free choice.)

5. Parasite and disease control often is the major item in whether an operator makes a profit from swine operations. It is recommend-

ed that pastures be rotated, houses cleaned by proven methods, and breeding and feeder stock should be free of disease when brought to the farm.

6. Type and quality are important factors in swine production. The best in the state is not beyond the financial reaches of any commercial hog produced in purchasing foundation breeding stock.

IV. Goats

1. It is advisable for some goats to be used for brush control on some valley farms and hill lands.

2. Mohair prices have been too low to advise much increase.

3. Heavy shearing billies are advisable to use in flocks. Shearing twice annually to keep such billies in good condition is considered better management.

4. Use of goats in brush pastures improves grazing conditions for other classes of livestock.

HORTICULTURE COMMITTEE REPORT

Soils suggested for tree fruits and nuts should be at least six feet deep and well drained. Orchards occasionally may prove profitable on shallower soils. Orchards on shallow soils under laid with rock and hard pan, and orchards on soils with high water tables usually result in low production early in life. These difficulties are more pronounced during dry seasons. Many development projects in the northwest have failed because of unfavorable soil conditions.

There are disadvantages and advantages for both river bottom and upland soils for tree fruit, nut, and small fruit production. Commercial vegetables should be confined to river bottom soils and produced under irrigation.

The production of horticultural

products has to result in a high quality if they are to be successfully marketed. Carefully applied control measures for pests and diseases is absolutely essential. Proper pruning, thinning, cultivation of soil, packaging and handling of product are phases which cannot be neglected.

Early fall-sown cover crops should be used in every orchard, vegetable field, and cane fruit planting.

All horticultural planting stock has to be free of disease for high yielding thrifty plants and trees.

Tree fruit and nut growers require about \$2,000 of spray and dusting equipment to handle every 40 acres of diversified orchard. Horticulturists should have their own equipment in order to spray, dust, and cultivate at the proper

time. Community equipment to properly handle a limited acreage has been satisfactory in some areas.

Production of horticultural crops in Benton County consisted of 2315 acres of tree fruits, 830 acres of nuts, 240 acres of berries, 1000 acres of vegetables, and 60 acres of specialties in 1945.

I. Tree Fruits

1. Prunes and Plums

The committee believes prune acreage should not be expanded due to unstability of markets caused by European and domestic competition. Removal of unproductive orchards will mean more profit to the operator and reduce prune tree pests.

Plum acreage can be expanded in a limited way, if growers set out standard varieties and have an assured market.

2. Cherries

No further expansion recommended. Oregon has increased its acreage 10 percent.

3. Apples

New acreage can be increased if growers will produce a quality product. Old unkept, diseased, and pest infected orchards should be destroyed.

4. Pears and Peaches

No increase in acreage is believed desirable.

II. Filberts and Walnuts

1. Filberts

The acreage should be kept to present levels in the county. Much foreign competition is expected soon in this industry.

2. Walnuts

No further expansion of this crop is feasible for Benton County.

Badly frost damaged and seedling orchards producing poor quality nuts are usually a liability to the grower. New orchards should be from grafted stock of suitable varieties from reliable nurseries.

III. Small Fruits

1. Strawberries

Increase in strawberry acreage is desirable. We reached a low acreage of 25 acres in 1943. Over a long period of years well cared for plantings of strawberries have made high profits per acre in comparison to other fruits. The maximum acreage desirable for most farms is 10 acres about equally divided between early and late varieties.

2. Cane Fruits

Present market demand warrants some increase in Boysen and Logan berries. Youngberry acreage, due to certain undesirable characteristics for processing, should not be expanded. Raspberries are more profitable on other lands besides first bench river bottom soils due to flood and frost damage. Blackberries of all types, gooseberries, and currants, are safe to produce only where assured outlets are available.

IV. Vegetables

There is room for a very limited acreage of vegetables for the retail market trade in this locality.

Commercial acreage for processing in 1945 was estimated at 1000 acres. Vegetables successfully produced were sweet corn, 200 acres; beets, 375 acres; beans, 140 acres; cabbage and cauliflower, 25 acres; carrots, 100 acres; cucumber, 40 acres; spinach, 25 acres; squash and pumpkins, 35 acres; tomatoes, 25 acres; and miscellaneous, 25 acres.

Demand increases or decreases acreage each year. Commercial production of vegetables for processing came about during the last six years in Benton County. Shifts in production can be made in a year's time to meet the demand.

All vegetable acreage for processing should be grown under contract or agreement with reliable firms. Production for the most part is practical only on Chehalis, Newberg and Willamette soils high in fertility and where sufficient irrigation water is available to allow four acre inches of water for each acre every 10 to 14 days from early May until early October.

V. Specialty Crops

Mint, bulbs, flowers, shrubbery nursery stock were classed under the heading of specialty crops by

the committee. Soil and climatic conditions prevail in Benton County which are favorable for production of these crops. The committee believes an abundance of knowledge on production and marketing of specialty crops is usually required to be a successful operator.

VI. Nurseries

The committee recommends:

1. All nursery stock planted eventually be certified true to variety and free of disease by state authorities.
2. Elimination of undesirable varieties of fruits and nuts from nursery marketing.
3. Sell planting stock of adapted varieties to producers which is in condition to grow.

SOILS AND IRRIGATION COMMITTEE

I. Soil Conservation

Some Benton County land has been farmed for a century and the continued removal of plant food in crops together with losses from erosion and by leaching are apparent. On many of the shallow soils, crops just aren't what they used to be. In some communities there are areas where farm land has been abandoned because of poor production. To maintain yields it is necessary that an active supply of organic matter be maintained in the soil in order that it will be protected from losses from leaching and erosion and that an ample supply of available plant foods be maintained through the use of crop residues, barnyard manure, and commercial fertilizers.

II. Crop Rotation

On all lands except orchards, hop yards, cane fruits, and a few

specialty crops, crop rotation should be followed that will maintain the organic matter supply, add some nitrogen, and protect the soil from leaching and erosion. The type of rotation will vary with soil types and farm enterprise. The rotation should include a legume if possible, although perennial grasses are a fair substitute. In order to maintain the supply of organic matter, approximately 50 percent of each farm should be in a soil building crop each year.

Crop rotation is especially important to development of intensive farming in the Willamette River bottom. Where commercial vegetable seeds or other intensive crops are produced, each operator should have enough land to make a rotation with soil building crops possible. Not over 50 percent of the land should be devoted to the intensive cultivated crops. The re-

mainder should be in a soil building crop such as alfalfa, clover, pasture, or perennial grasses.

III. Cover Crops, a Necessity

All orchard and commercial vegetable land, or other land which might be bare during the winter, should be protected with a winter cover crop. This cover crop should include an adaptable legume, but if it is impractical to grow legumes, nonlegumes may be used. Cover crops are extremely important on the river bottom to prevent erosion from overflow water.

IV. Crop Residues

Straw and other crop residues contain a substantial portion of the plant food removed by the crops from the soil. The return of these residues to the soil slows down the rate of plant food removal and at the same time adds valuable organic matter.

Legume straws such as vetch, peas, and clover are especially good soil builders. On the basis of plant food content, they have an actual cash value ranging from \$4.00 to \$7.00 per ton.

Straw from cereals has less value as a plant food. Nevertheless, it should always be of use to the soil. Grain straw is much more effective if nitrogen fertilizer is used at the rate of 20 pounds of available nitrogen for each ton of straw.

Except where an exceptionally fine seed bed is required, it is not necessary to plow or turn under the straw completely. It will be utilized in the soil more quickly if mixed with the surface soil. Furthermore, if some of the material is left on the surface, it will give protection from erosion.

V. Barnyard Manure

When farm crops are fed to livestock, less than one-fourth of the mineral plant food is utilized by the animal. The rest is contained in the manure. The livestock farmer then could get the same results by selling only one-fifth as much plant food from the farm, or in other words, he could stay in the farming business five times as long without buying all of his plant food needs in the form of commercial fertilizers. This theory is a practical possibility only when manure is handled without loss. Manure can be handled without loss by using the loafing shed method of handling stock along with plenty of straw for bedding and by using the liquid tank method of storage.

Manure should be applied to the soil at a time when the plant food can be immediately used by the growing crop. The application should be made only in the spring and in the early fall. Winter applications are subject to losses by leaching. Applications in the summer are subject to severe heating.

Manure contains a good supply of all plant foods except phosphorus. Some type of phosphate fertilizer should always be used in the dairy barn instead of lime. Phosphorus not only makes a better fertilizer from the manure, but helps prevent losses of nitrogen by leaching and evaporation.

VI. Erosion

With the advent of profitable perennial grasses, such as the fescues, pasture on steep hill lands subject to erosion should be seeded permanently to grass.

Erosion can be reduced on much of the hill land by following some modification of strip farming so that cultivation is across the slope. More use should be made of con-

tour ditches or diversion terraces to prevent the concentration of runoff on hill lands. Often these diversion terraces used as divisions for contour plantings will be adequate.

VII. Commercial Fertilizers

In any farming area the use of commercial fertilizers to maintain crop yields is necessary. On many farms it will be possible to maintain and increase yields only by the wise use of commercial fertilizers.

Commercial fertilizers are not a substitute for good farming. They are a part of it. A good crop rotation to maintain a supply of organic matter is even more necessary with the commercial fertilizer program than without it.

1. Nitrogen

Within the past few years nitrogen fertilizers have given outstanding results on many Benton County farms. It is obvious that with an increased supply after the war the use will become much more widespread.

Nitrogen fertilizers have been especially effective when used on perennial grasses for seed. It is possible to maintain profitable yields on crops like the fescues and English ryegrass only with heavy annual applications of nitrogen. Similar results will be secured on perennial grasses for pasture. The use of nitrogen will make increased food in the late fall and early spring when it is badly needed.

Nitrogen can be expected to give increase yields on practically all soil types when used on crops that would grow during the late winter or early spring months. Nitrogen overcomes the handicap of the cool soil and makes the crop grow regardless of the weather. Legume

crops may be an exception to this rule.

The production of vegetables and vegetable seed requires heavy application of nitrogen for profitable yields in addition to adequate supplies of phosphorus and other materials depending on the type of crop. Nitrogen should be a major part of the formula for a complete fertilizer for use on vegetables, mint, berries, and other intensive crops grown under irrigation.

The committee believes that the AAA could be of material assistance in demonstrating the effective use of nitrogen as a means of promoting the growth of soil-conserving crops on soils subject to erosion. We suggest that a practice be established that would provide a payment for the use of nitrogen on grasses, and manures on grasses and legumes.

2. Phosphorus

Phosphorus fertilizers should give a profitable response on legume crops on most of the hill soil types. A response on the valley floor soils and on the river bottom is not consistent. It deserves a fair trial on every farm.

Complete fertilizers for intensive crops should contain a relatively high percentage of phosphorus. Applications should total 50 to 100 pounds of available phosphate.

On some of the extreme acid soils the applications of lime may be necessary before phosphate fertilizers are effective.

Under Benton County conditions, only those phosphate carriers supplying phosphorus in available form should be used.

Phosphorus should be used at liberal rates. If ordinary superphosphate is used, minimum applications should be 300 pounds per acre. If treble phosphate is used,

minimum applications should be 150 pounds per acre. Light applications usually result in a waste of money.

3. General

Purchase fertilizers according to plant food content

Purchases of commercial fertilizer should be made on the basis of plant food content. Under Oregon law, all fertilizer must carry a label indicating the guaranteed nitrogen, phosphorus, and potash carried. The value of the material is determined by the amount of the available plant foods carried. Purchasers should be sure of the analysis before buying.

More work needed

Because of the anticipated increased use of commercial fertilizers, more experimental and demonstration work should be launched in Benton County to determine the response of crops to different rates and types of fertilizer the method, time and place of application, and the effect of different fertilizer combinations.

4. Sulphur

Legume crops respond to sulphur on most Benton County soils. Since the soils of the county are acid, sulphur should be applied in the form of gypsum, unless adequate sulphur is supplied in some other fertilizing material.

5. Lime

All of the hill soil types in the county and many of the valley floor soils need medium to heavy applications of lime to grow legumes satisfactorily. Applications will vary from one to three tons per acre.

Benton County farmers have never had a dependable source of supply of lime. There is an imme-

diately need for some organization, either private or cooperative, to import lime into the area and distribute it to farmers making use of bulk handling and automatic spreading equipment to reduce the cost of distribution. The AAA program has been effective in securing widespread demonstration on the use of lime. It would be helpful if lime payments were continued.

VIII. Irrigation

Assuming an adequate water supply, there are approximately 100,000 acres of land in the county that could be profitably irrigated. According to the soil survey, about half of this area is first class irrigable soil of the Willamette, Chelalis, and Newberg series, most of which would grow any of the crops grown under irrigation in the Willamette Valley. The remainder is made up of soils that with proper management would grow excellent pasture and field crops. During the past ten years, irrigation has developed in the county to a point where practically all of the readily available water is utilized with the exception of lands adjacent to the Willamette River where water can be obtained from the main stream or wells, and lands in Alsea Valley.

The construction of all-purpose dams, under the Willamette Valley project, should make increased supplies of water available. This committee feels that the plan of construction as suggested by the U.S. Engineers should be completed immediately, and that steps be taken to determine the feasibility of distributing water for irrigation purposes. One project in the county has been given preliminary study by the U. S. Bureau of Reclamation. This project would cover the area lying between Corvallis and Monroe. When this study is com-

pleted in detail, the committee recommends that farmers in the area study the project carefully and urge its construction, if it proves economically feasible.

Several thousand acres of land are now irrigated in the county, the major part of which is irrigated with sprinkler irrigation systems. This is the only method feasible for much of the rough river bottom land.

Where pumping equipment is involved, the pump, power plant, pipe lines, and other equipment should be designed to fit each individual job.

Land that is surface irrigated should be carefully leveled and prepared to avoid unnecessary water losses and to save labor.

Irrigation is considered a necessity for the growth of commercial vegetables, for vegetables seed crops, and other specialty crops. It should be expanded to include strawberries, and cane fruits, hops and all types of orchards.

On the general farm, irrigated grass and ladino clover pasture has proven to be the most economical feed crop that can be raised for cattle and swine. Experiences of farmers indicate that a good irrigated ladino clover pasture will supply the major feed needs for dairy cows at the rate of 2 or 3 cows to the acre for 6 months out of the year. Good pastures need regular irrigation, annual fertilization, and rotation grazing.

Even though it is necessary to start on a small acreage, provision should be made to expand irrigation to a larger acreage. In addition to pastures, irrigation will pay

on red and alsike clover and alfalfa for hay, flax and other crops. One of the most profitable uses of irrigation is to save time in crop rotation; for example, the ground can be irrigated following a grain or hay crop and a new stand of alfalfa or clover can be established in the late summer or early fall. These late seeded crops will make a full yield the following season.

IX. Drainage

The Soil Survey of Benton County lists approximately 51,000 acres of land needing drainage. Most of this area should eventually be tile drained to permit full utilization.

Tile drainage systems should be carefully designed according to the local topography and soil type. Tile placed at a depth less than two feet are generally ineffective. Tile sizes are best determined by the amount of water handled and in no case should anything less than four-inch tile be used.

Your committee also feels that drainage improvement would be assisted if a power trenching machine were available in the area.

The committee commends the AAA Drainage Benefit Program and feels that it should, by all means be continued.

Under a recent interpretation of the Flood Control Act, the U.S. Engineers can make major drainage improvements. The improvement of the Long Tom channel in South Benton County is a good example. Similar improvements on Muddy Creek, and Marys River would improve the drainage and provide drainage outlets for a sizable area of land.

TURKEY COMMITTEE REPORT

The turkey industry of Benton County must be considered in relation to the status of the entire industry. Benton County produces market birds, hatching eggs, and poulters for local and out of state buyers. The recommendation of the committee provides excellent basis for economical turkey production in the future.

I. Trends in Turkey Production

1. United States . . . The 1937 to 1941 pre-war average was 30,000,000 turkeys; the 1945 crop of turkeys was over 40,000,000 which was a 43 percent increase over the pre-war average. The 1946 national goals are 10 percent less turkeys.

2. Oregon . . . Ranks fourth in the number of market turkeys with considerable increase during war years. The 1945 crop was 2,605,000, a 65 percent increase over the pre-war years.

3. Benton County . . . The 1945 production was 130,000 birds which is more than the high pre-war year of 1940. The producers now in the business are mostly established turkeymen, operating economical units with good equipment.

II. Turkey Numbers for Post War Period in Benton County

1. For 1946 the committee favors keeping within the 1946 national goal of 10 percent reduction in numbers.

2. For future years in order to avoid idle equipment, production should probably be maintained around the 1940 levels providing prices will permit. If some unforeseen demand calls for more production, increases to meet the demand are favored.

III. Outlook for Production of Hatching Eggs

1. The same conditions prevailing in Western Oregon for egg and

poult production apply for Benton County which are more favorable than other areas of the United States for quality and egg and poult costs. These conditions are:

1. Climate.
2. Disease free hatching egg flocks; particularly pullorum.
3. Improved egg quality.
4. Eggs from Broad-Breasted Bronze turkeys.

IV. What Should Be the Trend Regarding the Size and Type of Market Birds and Breeding Flocks?

1. Slightly smaller toms that have better action, balance, and symmetry may be necessary for improved breeders. However, the large Broad-Breasted Bronze developed in the last 15 years more nearly meets all types of market demands and has great possibilities in the future market, calling for large quantities of eviscerated, quick frozen, and cut-up birds. Small type birds are favored by the housewife who buys only two or three times a year, because of the amount of meat and small cooking facilities.

2. Maintain disease free flocks and continue Oregon Turkey Improvement Program.

3. Improve fertility, hatchability, and livability.

4. Select and breed high egg producing birds.

V. Financing Methods and Marketing Program

1. Most growers borrow money or are carried by feed companies.

2. Credit is usually not extended until after poults are through the brooding period and are ready to go on range.

3. Credit to the extent of financing all production operations and costs to beginners is unfair competition against established growers. It results in exploiting

an industry to the detriment of all.

4. Growers in Benton County have the choice of marketing birds through several independent dealers. Producers also may purchase feeds and supplies from several reputable dealers in the county and in adjoining counties.

VI. Amount of Capital and Land Necessary to Develop a Commercial Turkey Farm

1. It requires a good sized farm and a large amount of capital to operate a commercial turkey unit.

2. Established growers expecting to stay in business should figure on at least two acres of range for every 100 turkeys. This allows enough land to rotate range.

3. It will cost \$2 per bird for a first year investment in equipment.

4. Under the present conditions, it will cost \$5.50 to \$6.00 to mature a market bird above the equipment cost.

5. Feed represents 60 percent, labor 20 percent, poult 12 percent, and overhead 8 percent, for market bird costs.

6. Feed represents 33 percent, and overhead percent, labor 27 percent, depreciation on breeders 31 percent for breeder costs.

7. Many people very often think in terms of profit rather than cost.

VII. Factors to Consider in Purchasing Poults

1. The first essential in successful brooding is to obtain poults of good quality.

2. Poults should be from vigorous, broad-breasted, well-balanced, early maturing birds, and free of transmissible disease, especially Pollorum and Para-typoid.

3. Experienced growers keep their breeding stock or depend upon reliable breeders or hatcherymen for their poults.

4. Beginners will profit by discussing purchasing of poults with experienced growers.

VIII. General Recommendations in Brooding and Rearing Poults

1. Good brooder houses and equipment kept sanitary are essential for successful turkey production.

2. A stationary brooder house 30 feet wide, having a 6 to 10 foot alleyway down the center, with pens equipped with equal sized porches is a popular type brooder.

3. Young poults require adequate light, feeders, and watering devices.

4. Brooding and rearing operations should be entirely isolated from older birds to prevent disease spread.

5. Range equipment, if portable, helps control disease, prevent contamination, avoid killing out of green feeds, and obtains better distribution of fertilizer.

6. Turkey equipment should not be used by chickens. Both types of poultry do not mix well from the disease standpoint.

IX. Selection and Handling of Turkey Breeding Stock.

1. Select breeders before birds go to market.

2. Breeders that produce the best eggs and lay well are balanced, active, unawkward, and disease free.

3. If early eggs are desired, place the hens under lights four weeks and toms six weeks before hatching eggs are wanted.

4. Equipment for breeding stock, that is portable, allows for better management of breeders, disease control, prevents contamination, better distribution of fertility, and avoids killing out of green feed.

X. Factors to Be Emphasized in a Long Time Breeding Program

1. Fertility, hatchability, rate of growth, rate of gain, rate of feathering, body conformation, symmetry, action, early maturity, free from broodiness, egg production, egg quality, and livability are factors for improvement.

This can be accomplished by trapnest hatching, progeny testing, and family average program.

This is an expensive program and only a few growers are qualified or have the means to carry it on. Much progress can be made by constant selection of birds, during the growing season at 16 to 18 weeks; again at 24 to 26 weeks; and again at marketing time.

2. Advertising :

The committee believes more national advertising and publicity for the Oregon Turkey industry is necessary immediately.

RURAL YOUTH COMMITTEE REPORT

The following figures are an accurate survey of the county 145 school census taken from the records of the County School Superintendent. The school census includes ages from nine to nineteen years inclusive.

City of Corvallis		Rural District of Benton County	
Boys.....	917	Boys.....	997
Girls.....	960	Girls.....	838
Total	1877	Total	1835

Number of Boys and Girls in Benton County

Boys	1914
Girls	1807
Total	3721

There is an average of 800 to 1000 of these boys and girls receiving instructions through the 4-H Club program each year. When the youth reach the age of 14 they seem to lose interest in the various youth programs and moral and delinquency problems increase. Data obtained from the County Judge's office show that problems occur more often in the junior high school age group, and in the rural youth that attend the city schools for the first time. It is with these facts in mind that the committee on Rural Youth made the following recommendations.

1. That more recreational oppor-

tunities be provided within the community. Communities should recognize that adequate recreational facilities are a requirement of prime importance and should take steps to provide them. Local community life must be socially satisfying if the youth are to remain in the community.

2. Organization of rural social clubs, with emphasis on family participation.

3. Provide more opportunities for young people to meet, work, and play together.

4. In order to implant an orderly readjustment to lower incomes, an educational program should be presented to reach both adults and youth through 4-H club work, Future Farmer programs, county organizations, and schools.

5. Senior club groups should be organized to assist youth with self-improvement and personality development and for preparing youth for leadership responsibilities through active participation in local programs.

6. More demonstrations be put on at Granges, Farmers Union meetings, service clubs, and other community organizations meetings, by 4-H club members and Future Farmer members: this is

to direct attention of the parents and other adults to the activities carried on by the rural youth and to present to them the things that the boys and girls are doing.

7. More public recognition for leaders: The merits and accomplishments of the local leaders, giving unselfishly of their time, could be published in the newspapers and discussed on the radio programs. Suitable awards of merit could be offered outstanding service rendered.

8. That civic and fraternal organizations be urged to appoint a committee to help enlist the aid of parents in leading 4-H clubs, and helping in other youth programs.

9. That a vocational education course be given in the college. It is the opinion of the committee that there is a need for a special course in vocational fields to help not only the returning veterans but other boys and girls who wish to prepare themselves for jobs, and yet are unable to, or are not interested in taking the full four years of college work.

10. That greater emphasis be placed on vocational education in the schools of Benton County, and suggest that this be carried out by putting into operation in the schools, courses in agriculture and home economics.

POULTRY COMMITTEE REPORT

The poultry industry of Benton County must be considered in relation to the status of the entire industry. Benton County produces commercial and hatching eggs principally. To succeed in the poultry industry in the future, all people interested can well afford to analyze the recommendations and views of the committee.

I. Trends in Poultry Production

1. United States . . . Increased 50 percent during the war.

2. Pacific Coast . . . Per capita production is below pre-war level. During the last 15 years the Pacific Coast has changed from a large exporting to an importing area. Expansion of the poultry industry on the Pacific Coast has not taken place the last few years.

3. Oregon . . . A 15 to 20 percent increase in laying hens occurred during the war.

4. Benton County . . . The number of laying hens a year ago was around 90,000; this figure dropped about 25 percent in 1945 because

of turkeys, labor, competition of crops, and animal industries.

II. Should Poultry Production in Benton County Be Increased or Decreased?

1. It is believed Benton County poultry population should be some place between the present number and the pre-war level of 100,000 hens.

2. Even to maintain present levels of production, improvement in quality and management will need to be continued.

III. Trend in Size of Flock

The proper adjustment of the size of the flock is an important factor in obtaining economical production. Poultry units should consist of a commercial flock, side line flock, or a small family flock.

1. A farm that expects to derive its major source of income from poultry should develop a business unit of around 2000 laying hens.

2. A side line cash income from

poultry should have a unit of 500 laying hens.

3. The family flock size for meat and eggs is 25 to 30 hens.

IV. Popular Breeds of Chickens in Oregon and Benton County

1. During the past ten years a shift from White Leghorns to heavy breeds, largely New Hampshires, has taken place.

2. The chickens raised in Oregon in 1943 were 46 percent White Leghorns; 34 percent New Hampshires; 7 percent Rhode Island Reds and 2 percent Barred Plymouth Rocks.

3. Benton County has around 40 percent New Hampshires; most of the balance is White Leghorns except for a minor percentage of other breeds.

4. The breeds that appear to be the most promising for long time income are preferable for the county. The best breeds at present seem to be White Leghorns for commercial egg production and New Hampshires for the export hatching egg market.

V. Trends and Possibilities for Meat Type Chickens in Benton County

1. Increase in New Hampshires has been the result of a large demand for hatching eggs and some increase in fryer production.

2. Demands for hatching eggs will continue if improvements are made on conformation of the meat type chicken and at the same time improve egg production, hatchability, rate of growth, and rate of feathering.

3. Broiler and fryer production is practical for a few producers on a large scale near large centers of population. Benton County does not come in that classification.

VI. Land and Capital Required to Develop a Commercial Poultry Unit

1. More capital is desired than the amateur anticipates.

2. Exclusive of land and home it will require an investment of about \$5.00 per bird to build and equip a brooder house and laying house under present conditions.

3. About four acres of range land should be provided for every 500 pullets to be raised.

VII. Factors to Consider in Purchasing Baby Chicks

1. Caution should be observed.

2. Buy chicks from stock bred to live and lay that are disease free.

3. Chicks from large grade A eggs, preferably from yearling and two year old hens, are very desirable.

4. It is a dangerous practice to buy started chicks because of disease hazards.

5. Low priced chicks are usually the most expensive in the long run.

VIII. Recommendations on Brooding and Rearing Chicks

1. Have brooding operations entirely isolated from laying flock; this practice reduces chances for spreading of diseases.

2. The maximum number of chicks in one group should be 500.

3. In addition to the wire porch, 50 square feet of floor space is required for each 100 chicks.

4. A permanent brooder house equipped with a wire or slat porch is the most satisfactory system of brooding.

5. Raising pullets in confinement is satisfactory if adequate range is not available.

6. Provide green feed, if possible, and feed the pullets liberally under both methods of raising.

7. Two acres will range 500 pul-

lets during the growin gseason. Keep another two acres for rotation.

8. It is essential for range equipment to be portable, so it can be moved to control diseases and avoid contamination and killing of range plants.

IX. General Recommendations for Managing the Laying Flock

1. Replace 50 to 100 percent of commercial laying flocks each year with pullets. A laying hen decreases from 20 to 25 percent in production each year.

2. Breeders prefer to cull heavy and carry over high producing birds. Hatcheries prefer eggs from yearlings and two year old hens.

3. Due to disease spreading and fighting pullets should never be placed in the same pen with older birds.

4. Proper feeding of breeder and commercial egg flocks is very important.

5. Gathering hatching eggs three and four times daily, cooling immediately and holding at a 45 to 60 dgree temperature with relative humidity of 90 percent maintains hatchability and fertility.

X. Factors to Consider in a Long Time Breeding Program

1. These factors include: Egg quality, more desirable meat type conformation, livability, hatchability, fertility, rate of growth, rate of gain, rapid feathering, early maturity, free from winter pause in production, consistency and intensive production.

2. To a large extent egg quality governed by handling is a factor which all producers can improve in a short time with little additional capital outlay.

Good sanitation methods with equipment for poultry use are very important; they should be practiced at all times.

RURAL HOME AND FARM LIFE

I. Housing

Because of a long period of depression followed by four years of war with manpower and material shortages, a large percentage of Benton County rural homes are in need of repair and modernizing.

According to the 1940 census, over 50 percent of the Benton County rural homes were 25 years of age or older. Benton County in 1945 had 1292 farm homes but in 1940 there were 1507, indicating a loss of 213 farm homes.

Based on the 1940 figures 65 percent did not have inside sanitary facilities. However, about 66 percent had running water which could care for; these facilities, as electricity is also generally available.

Electricity providing lights and radios is in general use, but equipment such as refrigerators and cooking units are found in only a minority of the homes.

Heating stoves are used almost exclusively.

The total value of farm products sold, traded, or used by farm households in 1939 was \$372.05, and this was the farm income from 35 percent of Benton County farms. The value of farm products used by farm households was an average of \$221.47 per farm. The total value of farm furnished living was 5.5 percent.

Gross income of farm families in Benton County has been materially higher during the war period, and the outlook for the next

year or so will be only slightly lower than the peak year of 1944. Even so, it means that farm families will have to plan carefully for house improvement and will need to exchange labor. It is estimated nationally that the average amount available for new construction will be \$1,900 per dwelling.

Building costs have increased about 50 percent over the pre-war period. In the light of these facts on the rural housing situation of Benton County we recommend the following:

1. Farm families be given help in developing a sound financial plan.

2. Farm families plan carefully new construction or modernization to meet the family needs within the family finances.

3. Improvement in sanitation including hot and cold running water in the homes, and inside sanitary facilities should be given major emphasis in modernizing rural homes.

4. That since the use of electricity in the home is one of the greatest benefits to efficient living, we suggest the following:

- a. Proper method of wiring and materials be used as a safety measure according to electrical codes.

- b. Information be made available on proper home lighting to insure better visual health.

- c. Reliable information on the buying, care and repair, and the correct use of electrical equipment and appliances to be made available.

- d. Plans for an information on home-constructed home freezing units should be made available from our experiment stations.

5. That newer methods of heating homes be given consideration in modernization.

II. Home Ground Improvement

In planning or maintaining a farm home grounds there should be a definite plan to follow. The farm should be made a pleasant place on which to live. It should have a pleasing appearance to passers by. It shows the degree of success by the way in which it is maintained. The farm homes on a county wide basis are now in a run-down condition, probably due to war conditions with the shortage of labor, or the lack of owner pride. As a result of these conditions we make the following views and recommendations:

1. Farms should be cleaned by removing the brush from the fence rows, hauling away waste materials, burning the brush piles, removing old machinery to less conspicuous places, and removing other distracting influences.

2. Buildings should have the needed repairs to give them a well kept appearance. Fence repairs should be made and new ones constructed where needed, especially around the home to keep the stock away, so that an attractive yard can be maintained. Old and outmoded buildings should be replaced with new durable construction wherever and whenever possible.

3. Buildings should be painted at regular intervals for protection and appearance.

4. The home should be landscaped at least with a few well chosen shrubs, an proper care given to them. Wind-breaks are recommended both for protection and beautification. The use of fruit trees as shade trees, if orchards are not available, are advisable. A well kept lawn is helpful.

5. Home improvement contests should again be sponsored to create a greater desire to make needed improvement.

6. If it is discovered that there is enough need for help in regard to the above material, some method of getting this information to the rural home should be available. Methods in applying the information will also be necessary.

7. We encourage the use of the local extension office, the experiment station, and the extension department at Oregon State College for aid in answering problems that arise from time to time.

III. Schools

A new approach to rural education is needed, not in superficial things, but in fundamentals. Our schools have a tremendous task in preparing children for this complex modern world. In its essence, the function of the school today is just the same as it has always been. To prepare young people for happy and successful living in the communities of which they are a part. Education is not simply the covering of a series of specified topics. We should try to build our curriculum upon the needs of our children and of the society in which they live.

Mr. E. H. Castle, County Superintendent of Schools in Benton

County, furnishes these statistics:

Number of districts	47
Number of Union High Schools	2
TOTAL	49
Number of teachers:	
Elementary	90
Junior High School	15
Senior High School	41
TOTAL	146
Enrollment:	
Elementary	2685
Junior High School	488
Senior High School	836
TOTAL	4009
School Census	
Inside Corvallis	2603
Outside Corvallis	2663
TOTAL	5266

Valuation supporting each census child (approximately):	\$2867
Valuation supporting each enrolled child (approximately):	\$3750

It must be kept in mind that outside of Corvallis the most populous districts have relatively low assessed valuations. This naturally creates a higher tax problem for those districts which would be eliminated by greater state support. The problem of bus service in the county has not been adequately solved and needs further adjustment.

The majority of school buildings outside of Corvallis would not meet present day standards. Out of forty-seven districts only sixteen have fairly good buildings. The equipment in all districts needs replacements and additions. The grounds in most instances are sufficient but poorly kept.

Regarding consolidation, except in remote and inaccessible areas, the one teacher rural school is on the way out. The consolidated school is rapidly becoming the school. It has the following in its favor:

1. Larger taxing unit.
2. Better buildings and more adequate equipment.
3. Makes possible a less number of grades per teacher.
4. Attracts better teachers.
5. Permits a larger scope of curriculum.
6. Insures more adequate supervision of school activities.
7. Gives better opportunities for vocational education thereby becoming a natural community center for both adults and children.
8. Makes possible facilities for visual education.

Benton County now has six consolidated districts and three more contemplated. Other areas could profit by consolidation. The State

Superintendent, Rex Putnam, has this information on costs:

"In general there is no saving in over-all cost between individual rural schools and a consolidated school because of the added cost of transportation and usually a more modern building. The main advantage is an educational one."

The cost of operating the schools of the county varies widely in each district. The range is from \$92 to \$150 per year, per enrolled child. Consolidations will help to reduce this wide range in costs. A large state support of our schools will do wonders toward meeting the educational needs of our boys and girls.

In view of the above facts, the committee makes the following recommendations on schools:

1. Wherever possible we encourage consolidations.
2. Improvement on buildings, equipment, and up-keep of school grounds.
3. School bus service be adjusted to meet the needs of the various age groups.
4. Greater state financial support.

IV. Family Life

In planning the family life of the rural home there must be recreational advantages. At the present time there is a definite need for recreational programs for both old and young. This program should also include adult education on a part-time basis. There is need for spiritual development, both in the home and churches.

According to the figures obtained from the County School Superintendent's office, Benton County has 1,324 boys and girls in the Junior and Senior high schools. From information secured from Cliff Lilly, Manager of the Corvallis Youth Center, there are only

three youth centers in Benton County. These are in Corvallis, Philomath, and Monroe. A fourth one is being organized at Alsea. There is still a need for more youth centers to be organized.

1. There should be an opportunity for all youngsters to belong to some educational organization such as 4-H Clubs, Future Farmers, scouting, and others.

2. The family as a whole should be encouraged to do more planning, more working, and more playing together. The entire community should be so organized to include neighborly visits and community meetings. Emphasis should be placed on the welcoming of new families into the community.

Therefore, the Family Life Committee has the following recommendations:

1. Each community should have its own center such as a grange hall, school house, or other suitable buildings.
2. Youth should be encouraged to plan and run their own recreational programs with assistance from adults when needed.
3. A youth center should be organized in each community.
4. More emphasis be placed on organization of 4-H Clubs, Future Farmers, scouting, and similar clubs.
5. Assistance be offered in various programs to aid families in planning, working, and playing as a unit.
6. That membership in farmers' organizations be emphasized.
7. Rural people take advantage of adult educational programs.
8. Spiritual opportunities should be stressed.

V. Health

In a recent study of Vitamin C in some of the rural areas of Oregon 62 percent of grade pupils and

70 percent of high school pupils were below the lowest level recognized as adequate, by the committee on vitamins of the American Academy of Pediatrics.

During the war, as a health measure all millers were forced to enrich white flour. At the present time, some flours offered in local markets are not branded as "vitamin enriched."

A study made in 1940 on 1,470 Benton County farms showed the farm income as increased by 59.5 per cent by the family raising their own food supply.

In Benton County the water supply is good, but in districts along major streams, the County Health Department has found the bacteria count to be high.

As a result of the study, the health committee recommends the following:

1. Rural people should be informed how to preserve Vitamin C by the correct method of cooking and storage of fruits and vegetables.

2. Families be encouraged to demand enriched flour, and be ready to help in promoting another enrichment bill this legislature.

3. Rural people should be encouraged to produce farm products, because it has been proven rural families have enjoyed better health when using products from their own farms.

4. All families should be encouraged to have their drinking water tested. Those living along streams should have the water tested periodically by the State Health Department in Portland.

5. Encouragement is recommended for 4-H Garden Clubs and Health Clubs.