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GREAT DIVERSIFICATION IS THE KEYSTONE OF UMATILLA COUNTY

1947 Report of  
Umatilla County's

EXTENSION  
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# AGRICULTURAL PLANNING CONFERENCE

Containing Committee Reports Approved by  
Conference Held in Pendleton January 23, 1947

FADR-XVII  
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## FOREWORD

Agricultural progress in Umatilla County has largely been based on sound planning by farmers. The Umatilla County Agricultural Program Planning Conference of 1947 was a continuation of this desirable process. Earlier planning conferences that contributed to this development were held at Hermiston, February 15 and 16, 1926; Weston district, March 11 and 12, 1929; Milton-Freewater, November 19 and 20, 1936; and at Pendleton in 1938.

In October of 1946, members of the Umatilla County Agricultural Planning Committee met and asked the O.S.C. Extension Service to cooperate with farmers of the county in reviewing agricultural conditions and outlook in view of possible post war adjustments. Purposes of the conference included assembling accurate detailed information on county, state, and national phases of agriculture and farm home and rural life, presenting this information in concise form, and making recommendations based on information assembled by the nine committees making up the County Agricultural Program Planning Conference.

These nine committees each met at least three times prior to the final all-day conference, which was attended by approximately 150 farmers and homemakers. The recommendations of the conference, therefore, represent the best thinking of committees composed of practical farmers and people in the county closely associated with rural home life.

Members of the county Extension staff who assisted with the conference are Victor W. Johnson, county agricultural agent; Jennie Marie Warren, home demonstration agent; Zaneta Reiner, acting home demonstration agent; Le Roy E. Fuller, assistant county agent at Hermiston; and Earl Dudley, farm labor assistant. Harry Cline, former assistant county agent and now production manager for Blue Mountain Prune Growers Ass'n., assisted by functioning as secretary of the Horticultural Committee.

Cooperation of all agencies servicing agriculture in the county was also sought. The committee appreciates this assistance. The reports adopted at the conference are presented in full in this pamphlet. It is the hope of the committees that these reports may serve as a guide, as they represent the best judgment of active farmers and farm leaders counseling with Extension specialists in the different fields. It is believed that the value of this material will come from intelligent use of the findings by individual farmers, ranchers, agencies and organizations throughout the county.

Funds necessary for the publication of this report by the East Oregonian have been furnished by the following business firms:

Farmers Mutual Warehouse Co., Helix  
Kerns Company of Oregon, Ltd.  
Pendleton Chamber of Commerce  
Pendleton Grain Growers, Inc.  
Wm. Roesch Brewing Co.  
Rogers Canning Co.  
Braden Tractor & Equipment Co.  
Eastern Oregon Motor Co.  
First National Bank of Portland, Pendleton Branch  
Hermiston Chamber of Commerce  
Rogers & Goodman, Athena  
Pendleton Woolen Mills  
The United States National Bank of Portland, Pendleton Branch  
Blue Mountain Prune Growers Coop.  
Carroll Equipment Co.  
Hamley & Co.  
Hermiston Grain & Feed Co.  
Hermiston Livestock Comm. Co.

A publishing committee made up of D. R. "Sam" Cook, L. A. McClintock, James Hill, Sr., and Le Roy Penland arranged for the publication of this report by contacting the foregoing firms.

JENS TERJESON, General Chairman  
VICTOR W. JOHNSON, County Agent,  
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# Conference Program Committees

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## LAND USE COMMITTEE REPORT

### GENERAL SITUATION

The Umatilla County Land Use Committee views with growing concern the loss of top soil from water and wind erosion. The public in general has an acute interest in the question of land use. This committee feels that every community and every farmer is responsible for the protection of these natural resources. Other problems considered by the committee included forestry, possible additional irrigable acres, flood control, farm marketings, taxation and legislation.

The total land area of Umatilla county is 3,231 square miles (2,067,840 acres). It is located in northeastern Oregon and ranks 8th in size among the counties of the state. The county is bounded on the north by the Columbia river and the state of Washington and on the east by the Blue Mountains. It was created from Wasco county on September 27, 1862, and named for the Umatilla river. Umatilla is an Indian word, which means "water rippling over sand."

Lowlands in the northwestern part of the county where the Columbia river has an elevation of 300 feet are made up of gently undulating plains. These change to rolling hills in the north-central

part. The eastern part with elevations rising to 6,600 feet is rugged and mountainous with a spur of the Blue Mountains extending from east to west.

The soils of the county vary from the comparatively non-productive Ephrata and Rupert sands in some of the northwest portions to the highly productive Walla Walla and Palouse silt loams in the central and north-eastern portions of the county.

Annual average precipitation for a 53 year period at Umatilla, in the northwestern corner of the county, was 8 inches. Precipitation averages vary from that low point, increasing approximately one inch every 10 miles as one travels east, until the average reaches approximately 40 inches in the forested mountain area near Tollgate.

Of the 2,067,840 acres comprising the county, 1,562,669 acres are in farms, including 616,046 acres in cropland, according to the U. S. Census for 1945. The county had 2,105 farms that year averaging 742.5 acres. This compares with 2,312 farms averaging 696 acres each, based on the 1940 U. S. Census. For trends of major land uses, cropland trends and farm numbers and acreages in the county, note—Tables 1, 2, and 3 on the following pages.

**LAND USE: Trends by major uses in Umatilla County, Oregon.**  
Census

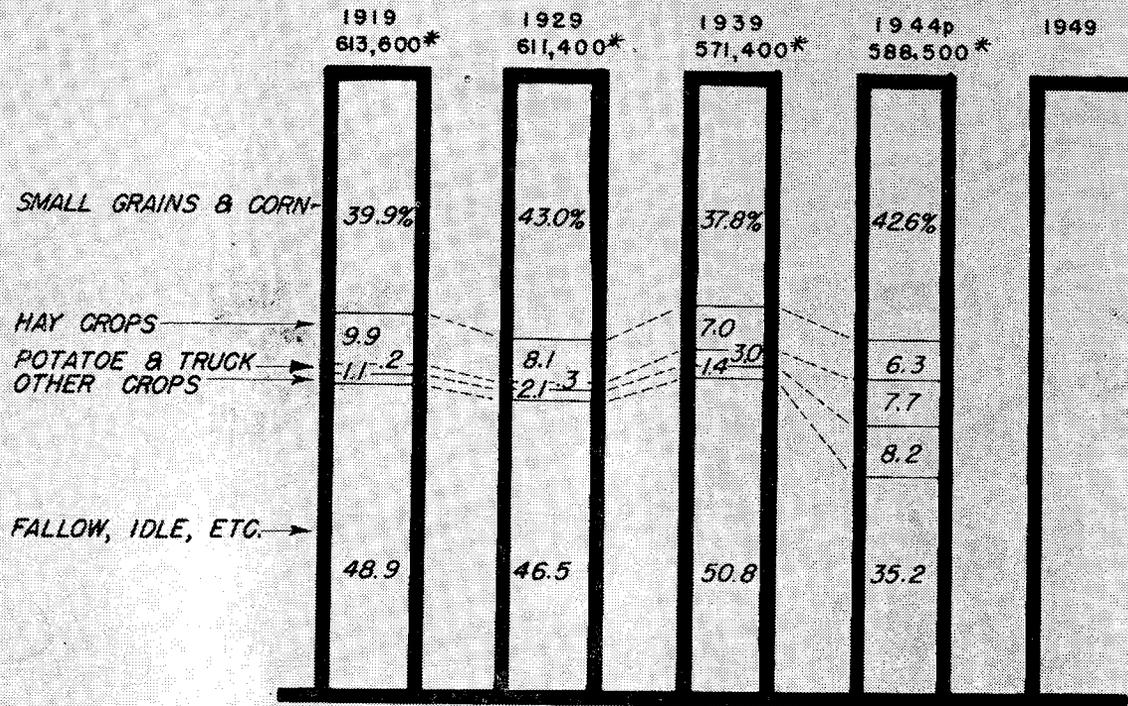
Item	1925	1930	1935	1940	1945**
1. Total Land Area .....	2,067,840	2,067,840	2,067,840	2,067,840	2,067,840
2. Land not in Farms .....	831,747	690,356	661,901	458,660	**505,171
3. Total Land in Farms ..	1,236,093	1,377,484	1,405,939	1,609,180	1,562,669
3a. Crop Land .....	614,740	611,361	567,385	458,410	
3b. Pasture Land * .....	558,786	710,530	794,721		
3c. Woodland not Pasture ..	4,254	5,291	10,283	1,060,770	
3d. Other Land in Farms ..	58,313	50,302	33,550		

\*Includes plowable pasture land.

\*\*Figures preliminary and subject to change.

Source: Tabulated from U. S. Census reports by Oregon State College Extension Service, Agricultural Economics Section.

# UMATILLA COUNTY GROPLAND TRENDS



\* APPROX. ACREAGE OF GROPLAND, HARVESTED, IDLE, FALLOW, AND FAILURE

O.S.C. EXTENSION SERVICE SEPT. 1946 LRB/OR

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**FARM NUMBERS AND ACREAGES: Trends in Umatilla County, Oregon.**

Census of	All land in farms		Number of Farms	Average Improved land in Farms		Acres per Farm	
	Acres	Per Cent		Size of Farms Acres	Acres		Per Cent
1880							
1890	526,082	25.9	1,372	383.4	384,229	73.0	280.0
1900	703,852	34.7	1,593	441.8	382,763	54.4	240.3
1910	1,050,258	51.7	2,005	523.8	544,513	51.8	271.1
1920	1,075,400	52.0	2,353	457.0	621,660	57.8	264.2
1925	1,236,093	59.8	2,484	497.6	637,982	51.6	256.8
1930	1,377,484	66.6	2,265	608.2	653,881	46.5	288.7
1935	1,405,939	68.0	2,602	540.3	593,334	42.2	228.0
1940	1,609,180	77.8	2,312	696.0	648,132	40.3	280.3
*1945	1,562,669	75.6	2,105	742.4			

Note—Part of Umatilla taken with part of Wasco to form Gilliam in 1885 and part of Umatilla taken to form Morrow in 1885. Total area of county for census years 1890-1910 given as 2,030,720 and given in the 1940 Census of Agriculture as 2,067,840 acres.

Source—U. S. Census of Agriculture, retabulated by O. S. C. Extension Service.

\*Figures preliminary and subject to change.

**UMATILLA COUNTY FARM MARKETINGS**

The major shift in agricultural income in the county has been from grain and hay to truck crops, that is from wheat to green peas for processing. For the period 1926-1930, 58.6 per cent of the income was from grain and hay. By 1942, this had dropped almost 29 per cent so that in that year farm marketings of grain and hay represented 30 per cent of the total, and potatoes and truck crops had risen from 1.9 per cent to 23.4 per cent. The major portion of this rise can be attributed to the increase in the acreage and production of green peas for processing. (See Table 4.)

The committee reviewed and studied the Umatilla County Land Use Map. A sub-committee made some detailed surveys.

**On the Land Use Map—**

Symbol A, color brown—represents the best farming areas. The cross-hatched brown color differentiates between range-live-

stock farms and farms where at least 50 per cent of the income is derived from production of crops.

Symbol B, color yellow—represents areas now in farms and suited to farming but in which important changes in types of farming or size of farms are desirable.

Symbol C, color orange—represents areas not now in farms but suitable to farming and in which development depends upon the availability of irrigation facilities.

Symbol D, color red—represents areas in which it is not certain that farming can be maintained, although this land might be used by farmers who are specializing in turkey feeding or commercial egg production and not crop production.

Symbol E, color blue—represents areas which now contain farms but which are not fit to farm and should be put to some other use. A large portion of this area is now owned by the county and the state, and it is the recommendation of the commit-

tee that it remain in their possession.

This is mostly forest land.

Symbol F, color green—represents areas not now in farms and which should stay out of farms.

This land use map may be seen at the office of your county agricultural agent.

**FORESTRY\***

Of the 2,067,840 acres in the county, 25.8 per cent or 533,840 acres are in forested lands. The ownership, area, operable volume, and total allowable annual cut under sustained yield management are carried in the following tables:

**Forest Ownership in Umatilla County**

	Acres
National Forest and other Federal .....	321,865
Indian .....	8,025
State .....	1,145
County .....	2,470
Private .....	200,335
<b>TOTAL .....</b>	<b>533,840</b>

<b>Operable Volume</b>		<b>Allowable Annual Cut</b>	
Ponderosa Pine .....	1,159 MM	Ponderosa Pine .....	17.6 MM
Other species .....	1,400 MM	Other species .....	21.3 MM
<b>Total operable volume</b>	<b>2,559 MM</b>	<b>All species</b> .....	<b>38.9 MM</b>

**Analysis of Timber Producing Land in Umatilla County**

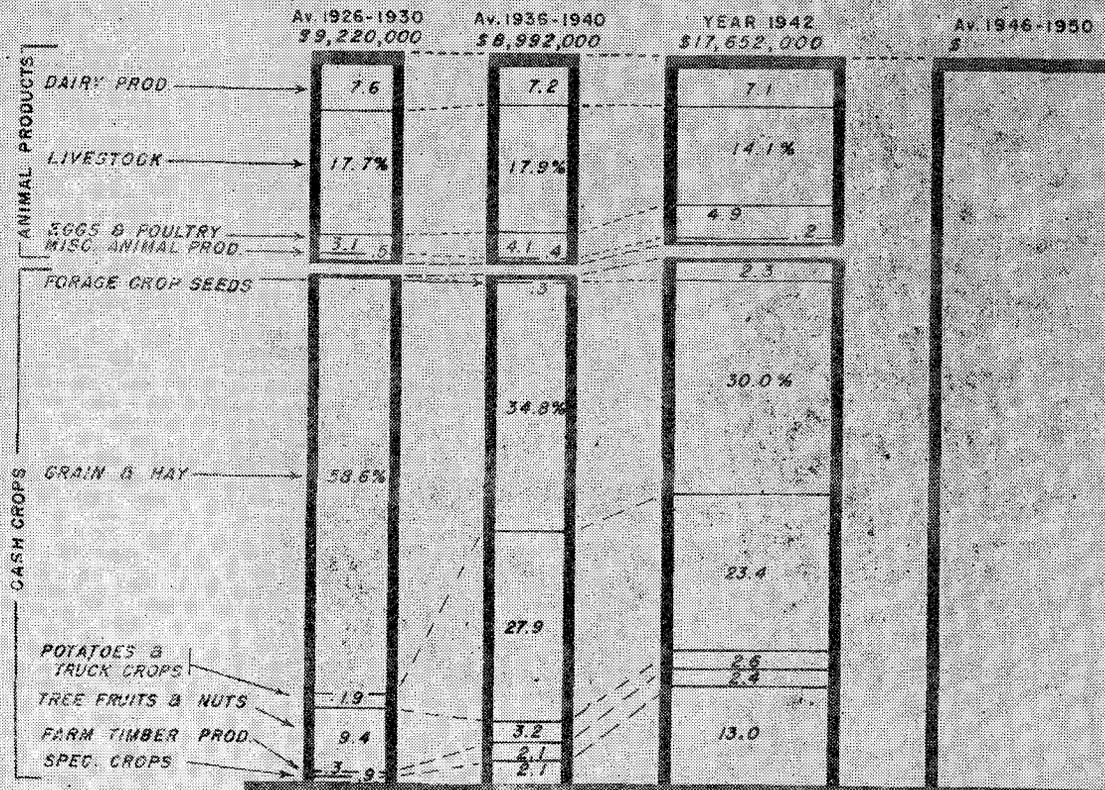
Ownership	Acres of Timber Land	Operable Volume	Operable Vol. Other	Sustained Ave. Ann.	Sustained Ave. Ann.
		Pine	Species	Pine Cut	Other Cuts
		MBM	MBM	MBM	MBM
National Forest and Other Federal ....	321,865	665,005	1,075,550	10,111	16,353
Indian .....	8,025	22,246	14,868	338	226
State .....	1,145	1,893	3,017	29	46
County .....	2,470	12,585	7,997	191	121
Private .....	200,335	457,156	298,939	6,951	4,545
<b>TOTAL .....</b>	<b>533,840</b>	<b>1,158,885</b>	<b>1,400,371</b>	<b>17,620</b>	<b>21,291</b>

**Total Allowable Annual Cut Under Sustained Yield Management**

Ponderosa Pine .....	17.6 MM
Other Species .....	21.3 MM
<b>Total .....</b>	<b>38.9 MM</b>

\*This section of the Committee's report has been furnished by a sub-committee headed by Carl Ewing, supervisor Umatilla National Forest, U. S. Forest Service, and C. Glen Jorgensen, forester, U. S. Forest Service.

# UMATILLA COUNTY FARM MARKETINGS



There are 14 active sawmills in Umatilla County. These are listed in the following table:

### LUMBER MILL SITUATION IN UMATILLA COUNTY

Name of Mill	Daily Capacity	Approx. Annual Cut
Harris Pine Mills .....	50,000	18,000,000
Pendleton Lumber Co. ....	50,000	9,000,000
Pilot Rock Lumber Co. ....	140,000	20,000,000
Pine Grove Lumber Co. ....	20,000	500,000
Brown & Hoxie .....	35,000	6,500,000
Frazier Mill .....	3,000	150,000
Benke Mill .....	2,000	100,000
Olinger-Lutje Mill .....	4,000	200,000
Jones & Ransom Mill .....	8,000	500,000
Brooks Mill .....	4,000	150,000
Faucett & Son Mill .....	4,000	150,000
Roy Adams Mill .....	2,000	75,000
Rock Creek Lumber Co. ....	3,000	125,000
Surface Mill .....	4,000	200,000

Total plant capacity located in county ..... 55,650,000

Although all of these mills are located in Umatilla County, some stumpage that supports them is produced in the North Fork John Day River area of Grant County. The cut from forest lands in Umatilla County alone is as follows:

#### Lumber Cut from Umatilla Lands in MM

	Pine	Other	Total
Average annual cut for past 10 years .....	26.0	4.9	30.9
1945 cut .....	36.5	6.8	43.3
1946 cut .....	34.1	7.6	41.7

A part of Umatilla County's forest land is tributary to La Grande in Union County. This area is a part of the Five Points block and supports a total mixed stand of 321 MM feet. Although it would be possible to log this timber to Umatilla County mills, it is more economical and feasible to log it to La Grande. The allowable annual cut on this area is approximately 4.8 MM.

#### PROBLEMS

1. The volume of timber taken from forest lands in Umatilla County during the past two years has exceeded the total sustained capacity of these lands by 4.8 millions board feet. There is no reason to believe that the amount cut will decrease in the immediate future. Several small mills

have recently been added and it is probable that production will increase as long as timber is available.

2. Milling facilities for the production of lumber in Umatilla County are greater in proportion than the volume of available timber. Some of the mills must surely go out of business in the next few years.

3. During the past 10 years 84 per cent of the volume cut has been ponderosa pine. This species represents only 45 per cent of the operable volume. The volume of pine cut in 1945 and 1946 has exceeded the sustained capacity of this species by 87 per cent.

4. Other species, Douglas fir, white fir, western larch, Engle-

man spruce and lodgepole pine make up 55 per cent of the total operable volume in the county. Only 16 per cent of the lumber produced in the past ten years has been cut from these species. During the past two years, the amounts of these species cut represent only about 50 per cent of their sustained annual yields.

5. In most cases cutting practice on private land is poor. Too many trees are being cut per acre and the trees left in the residual stand are not being selected with sufficient care. Rapid-growing immature trees are being harvested. These trees should be left to grow and insure larger future crops of timber. Unthrifty, beetle-susceptible trees in the residual stand increase the danger of beetle epidemics and later fires, and reduce the volume of growth.

6. Few persons realize the importance of recognizing beetle epidemics as they start, and of controlling them quickly. The ponderosa pine beetle has so far been more destructive in Umatilla County than those which attack and kill Douglas fir and lodgepole pine. Beetles annually cause the loss of more timber than does fire.

7. Care should be taken to keep fire out of our timber. Fire not only damages the crop of timber now ready for harvest, but will diminish or destroy the several future crops already growing upon the same land. Burned timber pays neither taxes nor wages.

8. Considerable lumber is being shipped for remanufacture elsewhere. The stability of our Umatilla County communities will increase in direct proportion to the volume of wood to which all possible secondary manufac-

turning processes are applied before it is shipped.

### CONCLUSIONS AND RECOMMENDATIONS

1. In order to be prepared to reasonably satisfy urgent demands for wood in its various forms and at the same time maintain maximum employment, in Umatilla County communities, the committee recommends the elimination of unnecessary breakage and waste in the woods. Greater care in felling the trees to be harvested will help. Many high stumps and long-butts are unnecessary. Frequently, too, much usable material is left behind in tops, dead trees, and other trees of poor form and low quality. The benefits of this proposal can be realized as soon as the need for timber thrift is recognized.

2. There is much unnecessary waste of usable material in the mills. In addition to the material burned for lack of a more profitable use locally, there is a great deal of high quality wood still being used for purposes for which the less valuable cuts or species would serve equally as well. Therefore, the committee recommends that every piece of wood be put to the highest use for which it is or can economically be made suitable.

3. The committee believes care should be taken in selecting trees for cutting, to see that forest lands are kept well stocked with thriftily-growing young trees. Large openings left by fires or logging, or unstocked for other reasons, are unprofitable unless of high forage value.

4. Much of Umatilla County's private timber land is located in the foothills where it is in great demand for spring-fall grazing use as a part of year-

long livestock operations of important economic significance. These lands will not be of maximum value to their owners or to the community until a type of management has been developed which will make possible full production of both forage and timber. An Extension Forester would be a good investment for Umatilla County.

5. The committee recommends that public and private agencies conduct research studies to develop sound markets for products from Douglas fir, western larch, white fir, Englemann spruce, and lodgepole pine.

6. Marginal forest lands that cannot be maintained in good growing condition in private ownership should be acquired for public ownership and management; county, state or federal.

7. Legislation should be enacted which will insure that forest lands in private ownership will be kept reasonably productive.

8. Most of the areas on our Land Use Map described as lands not suitable for farming are lands on which it is not possible for farmers to make a profitable living during normal years. There should be shifts from these areas to better lands.

9. The committee finds that there are some 15,000 acres, more or less, in the west part of the county that were broken up prior to and during World War I. These acres have produced wheat during cycles of good rainfall and prices. About 1930 this land was used for grazing. Then about 1940 it was again broken up and has been in wheat since that time. Because of these experiences and the fact that the committee believes that a livestock enterprise should be coupled with the operation of such lands, the committee recom-

mends that these lands be colored yellow on the Land Use Map.

10. The Land Use Committee recommends the application and establishment of soil conservation practices to the brown colored areas on the Land Use Map. These practices include trashy fallow, contour farming, drilling out field corners first, strip cropping and sodded waterways. The committee believes that these practices should be undertaken particularly on lands lying east of a line running north and south through the city of Pendleton. In furtherance of better land use throughout the county, your committee here advocates the close study and adoption of suggestions made by the Soil Conservation Committee in its report to this conference.

11. The committee is fully sympathetic to the needs of flood control on the Umatilla river. We strongly endorse the proposal to construct a flood control dam on this river and it is the judgment of the committee that such a dam or dams should be built as soon as possible. Based on our knowledge of present crop production, frost free periods, soil types and water requirements, we vigorously recommend that water be stored for irrigation in the dam or dams be used on soil in the area east and southeast of Hermiston, in the Paradise or Teal districts or other areas in the west end of Umatilla County. The committee does not recommend extensive irrigation in the north or south reservation districts. The committee wishes to point out that in the west end of the county, there are already constructed canals that could be expanded or extended so that water from a dam or dams on the Umatilla river or its tributaries

could be distributed largely through existing facilities.

12. Because the costs of state government in Oregon have increased seriously and taxpayers are faced with excessive tax levies on real property, the Land Use Committee recommends that the state adopt a general retail sales tax for the purpose of raising necessary funds for the educational measure recently approved by the voters of Oregon, and for the purpose of raising the additional money needed for public welfare and for offsetting the property tax.

13. The committee favors the enactment of legislation being sponsored by the Association of Oregon counties whereby the Federal government would pay in lieu of taxes, an amount sufficient to compensate for the loss in taxes of federally owned lands. We view with alarm the destruction of the tax base of local governmental units by federal acquisition of lands for one purpose or another.

14. The committee recommends that before a farm is pur-

chased the buyer, particularly if he is a war veteran or is inexperienced, consult the county agent at Pendleton, the assistant county agent at Hermiston, the assistant county agent at Milton, leading farmers or farmers' cooperative associations regarding the suitability of the place for the type of farming contemplated. One interested in the purchase of farm land in Umatilla County should study the land use map made by this committee and also the soils map of the county. Before buying—carefully investigate. Publications commended to prospective purchasers of farms, especially returning war veterans and others planning to start farming are:

U. S. D. A. Farmer's Bulletin No. 1961—Getting Started in Farming.

U. S. D. A. Circular No. 743—The Farm Real Estate Situation, 1944-45.

U. S. D. A. Farmer's Bulletin No. 1966—Part-Time Farming.

O. S. C. Extension Circular No. 444—The Evaluation of Farm Land.

## SOIL CONSERVATION COMMITTEE REPORT

### Introduction

Soil conservation is not merely an ideal concept. The elimination of soil erosion is as important as farming itself and farm practices should rightfully be considered as good or bad not only as they affect the short-time income but, equally, as they affect the life and continued productivity of the soil. The soil is our greatest resource and its maintenance and conservation are of major importance to present operators and future generations. All types of agriculture, whether livestock or crops, are

dependent on the soil and no branch of agriculture can last longer than the soil on which it is founded.

### DRY-LAND AREA

In reviewing Umatilla county as a whole, the subcommittee composed of dry-land farmers, recommend that over the next ten year period the following figures should represent goals which should be equaled or surpassed in the dry-land area:

I. There should be 5,850 acres seeded to grassed waterways. The use of grassed waterways

is important where erosion is so great that it is gradually becoming impossible to farm across the gully. It is a conservation method to prevent fields from being cut in two. Such care makes it possible for it to be farmed as one field instead of several smaller ones. These waterways are much more effective if the farmer has equipment with high lifts to permit farming across waterways. The committee recommends that a sod-forming grass and legume be used to establish such waterways.

**II. 200,000 acres of ground should be field-stripped across slope.**

**III. 200,000 acres of ground should be contour-stripped.** Contour stripping and field stripping are conservation practices that make it necessary to farm as nearly as possible on the contour and prevent serious run-off. At the present time not too many farms in the Columbia Basin have used these methods, but the committee believes that these practices will become more important.

**IV. 3,000 acres of steep slopes should be seeded to grass.** The committee recommends that slopes too steep to farm be seeded to adapted grasses for erosion control and to serve as sources of livestock feed.

**V. 5,000 acres of inter-tilled crops should be handled on the contour.** The Weston area where inter-tilled crops such as potatoes and grasses are grown should be planted on the contour to prevent erosion. This practice undoubtedly will require machinery development to fit the need but will help conserve the soil.

**VI. 230,000 acres of annual crops should be drilled on the contour.** Much erosion is caused by drilling up and down the slopes on the corners after the whole field

has been drilled. The furrows made by the drill serve as a natural ditch for the water to run off. This erosion can be greatly reduced by drilling out corners before drilling the rest of the field.

**VII. 215,300 acres summerfallow should be handled as "protected fallow."** Protected fallow has been practiced in the lower rainfall areas very satisfactorily and presents no serious machinery problem. The use of such practices in the higher rainfall areas of the county will depend on machinery development and the use of ammonium sulfate fertilizer.

Crop residues should be used for erosion control to the greatest extent possible. Successful use of such crop residues depends upon many factors, many of which cannot now be properly evaluated. If the foregoing goals are to be reached or even approached, much additional information is needed. To wait for the gradual evolution of economic methods of handling crop residues will certainly mean that by the time such information is available, irreparable damage to crop land will have been done. We, therefore, present to the conference the following resolution to be submitted to the 1947 legislature and urge that every practicable step be taken to aid our legislators in securing favorable action.

#### **TO THE 1947 STATE LEGISLATORS**

We recognize that soil erosion is not only a loss to the individual farmer, it is a threat to the entire state. A gradual accelerating reduction of agricultural income will be the inevitable consequence of continued erosion at present rates.

The use of crop residues to control both wind and water erosion

on Columbia Basin farm lands has been recommended each year by the land-use committees of the various Columbia Basin counties, by the Eastern Oregon Wheat League, by Farm Bureau and Grange committees. There is unanimity of opinion that erosion is an extremely serious and vitally immediate problem. Research work by the USDA and the State Experiment Station has brought the diverse conditions involved in the solution of the problem into sharp focus and has indicated the way to specific solutions. This preliminary work is of value only as it is followed up by extensive experimental work carried on under a wide variety of conditions.

The cost of the work should not be excessive, but a pinch-penny approach will not only waste money spent but lose money by delaying workable solutions. The loss of revenue to the state from reduced income from Columbia Basin farm lands is not a mere possibility; it is an absolute certainty unless successful answers to the problem of crop residue utilization for erosion control under our varying conditions can be supplied at a rate faster than individual farmers can supply them through their own efforts.

We, therefore, urge that the 1947 legislature appropriate additional monies to the Oregon Experiment Station to be used for determination of methods of using crop residues for erosion control in the Columbia Basin, with major emphasis on determination of machinery requirement. The problems involved are so diverse that the work should be conducted as far as practicable on farms which typify different conditions, to develop economic methods of handling crop

residues without prohibitive increases in costs. Funds should be adequate to permit employing an agricultural engineer, a soils man, seasonal labor and to provide and transport necessary equipment.

Our committee feels that information obtainable from the research work asked for in the above petition will enable farmers in different localities to answer for themselves the question of how to handle crop residues to control erosion, how to handle cross slope or contour strips, and how to supply commercial fertilizers and green manure crops to maintain soil fertility.

We cannot sufficiently emphasize what we feel to be the full importance of securing specific informational help in handling sloping land to avoid undue soil losses. The need for soil conservation is urgent. The desire to prevent erosion is general. Wishfully set goals will not save soil unless we can implement our willingness: It will cost some money to get this information. It will cost us and the entire state a great deal more if we do not get it.

### **SOIL CONSERVATION DISTRICT**

The soil conservation committee discussed the advisability of a soil conservation district in the dry-land area, and recommends that farmers become familiar with the State Soil Conservation District laws and decide the matter for themselves.

### **Irrigated Lands**

There are two principal sections of Umatilla county which are irrigated. They are the west end in the vicinity of Hermiston and the east end surrounding Milton-Freewater. The committee, after looking over estimates

made by P. M. A. last year in regard to soil conservation practices to be accomplished in this area, recommends that farmers equal or surpass the goals listed below in the next ten years. These are figures pertaining to land within present irrigation districts.

- 4,950 acres should be drained by ditches.
- 18,500 acres should be reorganized for irrigation.
- 16,950 acres should be leveled.
- 1,550 acres of raw land should be put under irrigation.
- 500 acres should be sub-soiled.
- 27,200 acres should be reseeded to permanent pasture or range.
- 12,100 acres of winter legumes should be seeded for cover crop or green manure.
- 6,500 acres should be seeded to clover for green manure.
- 21,500 acres should be seeded to summer legumes.
- 1,000 acres of perennial cover crops should be seeded in orchards.
- 1,700 acres should be strawed to prevent wind erosion.
- 2,000 acres alfalfa should be disked in orchards where there has been no utilization for hay or pasture.

The following soil conservation practices are sound and are recommended as necessary to improve the irrigated sections in Umatilla County:

**1. Drainage.** Drainage is necessary in both areas for the control of seepage water, to help improve livestock sanitation, and eliminate alkalinity in the soil.

**2. Fertilizer Applications.** The use of commercial fertilizers and green manure crops improves soil conditions and increases crops, hay and pasture yields. The application of barnyard manure on all

crops is to be encouraged. The committee recommends that fertilizer experiments be continued at the Umatilla Branch Experiment Station on the use of nitrogen, phosphate and sulfur on the various crops such as corn, potatoes and legumes.

**3. Pasture Improvements.** Care should be taken in the choice of improved species of grasses and legumes, and to use mixtures recommended by the Extension Service and the Soil Conservation Service. High yielding pastures depend upon the proper application of irrigation water, as well as a system of rotation grazing. Commercial fertilizers and the spreading of livestock droppings are recommended. Periodic clipping improves the quality of forage and discourages the invasion of troublesome weeds.

**5. Reorganization of Irrigation Systems on Farms.** Fields with an uneven or irregular surface should be leveled to provide a more uniform flow of irrigation water, and thus reduce the wastage of water, crop damage, and the possibility of seepage water on other lands. The length of run should be adjusted to soil type, per cent and length of slope, and the type of crop. Improvements are also needed in the proper application of irrigation water. Straw spreading is recommended as a conservation practice to help reduce moisture losses.

The Milton-Freewater area is especially adapted to pumps and sprinkler irrigation systems and the use of this kind of irrigation is recommended by the committee in that area.

**5. Reorganization of Irrigation Districts.** Included in the reorganization should be relocating canals and putting in addi-

tional canals. Where necessary the capacity of canals and laterals should be increased, as they are often too small to carry the demand. Adequate drainage and canal upkeep are irrigation district problems which also include the control and eradication of horsetail moss, algae, willows, and noxious weeds.

**6. Rodent Control.** Gophers, field mice and other rodents cause much damage to ditches and laterals and should be controlled by traps and poison.

**7. Practices for Specialty Crop.** The committee recommends growing cover crops and green manure crops in orchards, on truck land, in hop yards, and on other land where specialty crops are grown for processing. Cover crops are also essential in preventing loss of readily available plant food and in preventing erosion on land that is cultivated each year such as orchards and truck land.

The practice of adding liberal commercial nitrogen to orchards to help build up the organic matter is recommended by the committee. The cover crop tends to rob the tree of needed nitrogen in early spring. By adding commercial nitrogen this may be eliminated.

**8. Streambank Control.** To reduce the flood hazard, prevent the accumulation of sediment, and assist in the preservation of valuable agricultural land, control measures along the Umatilla and Walla Walla rivers and lesser streams are needed. This may be accomplished through the use of vegetation or mechanical devices involving construction, or both. We also recognize the need for proper maintenance of these installations after they have once been put in place.

**9. Supplemental Water.** The problems involved include enlarging canals to carry water and obtaining an increased water supply. There is a definite need for a dam in the Milton area to store supplemental water.

**10. Subsoiling.** As stated previously, there is need for subsoiling on the heavier soils, both in the east end and the west end. Where hardpan of iron concretions of aluminum silicates exists in the soil, subsoiling with suitable equipment is often the only method of shattering it. Alfalfa will usually break up a calcified hardpan.

**11. Wireworm Control.** Alfalfa is recommended in the crop rotation on irrigated lands following a row crop as wireworms do not thrive on alfalfa as they do on clovers. The committee recommends further experimental work by the Bureau of Entomology on the use of effective chemicals for wireworm control.

**12. Wind Erosion Control.** Crop rotation should be used, consisting of alfalfa or grass to build up the structure and fertility of the soil, which in turn helps control wind erosion when land is seeded in the spring for cash crops. The spreading and disking in lightly of straw is an effective measure in holding the sandier soils from blowing. This practice is needed especially in the west end and on newly leveled ground.

**13. Windbreaks.** More windbreaks and shelterbreaks should be planted where needed to assist in the control of wind erosion. Many established windbreaks need rehabilitation to make them more effective and to obtain usable wood production.

**14. Rotation.** Crop rotation as a means of building up the hu-

mus and organic matter is recommended by the committee where practical. On the irrigation projects the subdivisions of farms are becoming so prominent that it is becoming very difficult to follow a good crop rotation. However, these farmers with small acreages should make every effort to build up fertility through commercial fertilizer and legumes

and not deplete the soil further.

**15. Experimental Stations.** The committee recommends that the experiment station at Hermiston continue fertilizer plots on irrigated crops adapted to the area. If possible the station should develop experiments in the Milton-Freewater area to aid those farmers with their soil conservation problems.

## REPORT OF THE DAIRY, POULTRY AND TURKEY COMMITTEE

### Dairy Situation in Umatilla County

Dairying is one of the major enterprises in Umatilla county, especially in the Hermiston and Milton-Freewater areas. There are also several herds producing market milk in the Pendleton area. In 1940 there were 1,221 farms reporting \$435,623 of dairy products sold, while in 1945 there were 1,048 farms reporting \$727,235 in total sales. The dairy population, however, decreased approximately 1100 milking cows in that period, probably largely due to the war situation and the difficulty in obtaining help during this period.

The total dairy population of cows over two years old is approximately 10,000 and represents 22.5 per cent of the animal population in the county.

### Dairy Herd Improvement

Competition in the dairy industry is going to become more and more keen. The committee believes efficiency must play an important part if dairymen are to remain in business. The size of the farm, the feed supply, and the labor supply available are important factors when determining the number of animals to maintain. Larger herds have an advantage in efficiency of operation. A cost survey reported in

1933 indicated that herds under ten cows produced butterfat at \$0.39 per pound; ten to thirty cows, \$0.35; thirty to fifty cows, \$0.33; and over fifty cows \$0.31 a pound. These figures are based on coast region conditions and must be applied accordingly. Figures for the present time would be much higher, but would not be representative of normal times.

The average annual butterfat production per cow in the United States is about 189 pounds. The average in Oregon is about 248 pounds per cow. The average per cow in the Oregon Dairy Herd Improvement Association is 350 pounds. The average butterfat production in the Umatilla County Dairy Herd Improvement Association was 294 pounds in October 1946.

### General Recommendations

1. The committee recommends that better calves be raised to improve the dairy industry in Umatilla county.

2. If a farmer intends to go into dairying on a large scale it is recommended that dairy type animals be used, preferably Guernsey, Jersey or Holstein.

3. It is recommended that artificial insemination be set up in such a way as to give satisfactory service to every dairy-

man who desires it. The **best** bulls possible should be obtained for use in the organization.

4. The committee suggests that the operator plan his **freshening** dates so as to have an even **flow** of milk the year around.

5. It is recommended by the committee that the **Dairy Herd Improvement Association** be enlarged to include all of **Umatilla** county. It is through such an association that our **dairy animals** can be improved so as to warrant the use of an **artificial insemination** program.

6. It is recommended that breeds not be mixed, as **each** breed is developed to give the maximum production of a **product** whether it is milk, **cream** or meat.

### Quality of Products

The time is coming, and not for away, when dairy products will be sold strictly on a quality basis. The committee discussed this quite thoroughly making the following recommendations:

1. There should be a **definite** standard for selling **butterfat** for butter and that the **sediment** test be enforced in cream as it is in milk.

2. It is just as easy to **produce** clean milk and cream as it is to produce dirty milk. Therefore, a greater educational program should be undertaken by the **Extension Service** in the **production** of clean milk and cream.

3. In view of variations in price between milk and **butterfat**, the committee recommends that they be adjusted so that they are on par with each other.

### Feed and Pasture

Since there is a lot of **alfalfa** hay and grain produced in **Umatilla** county and shipped to **other** sections of the state the commit-

tee made the following recommendations:

1. It should be the policy of the farmer to feed as much hay **at home** as possible because for every ton of hay shipped out there is a \$10.00 value in **fertilizer** lost.

2. Grain is needed in the ration of the dairy animal. As to the dairyman growing his own grain, that should be left to his own discretion. On many farms the grain can be grown profitably while on others it cannot.

3. If a farmer has hay slightly off grade it could be fed to the young stock, but should not be fed to the producing cows if better hay can be obtained.

4. Dairymen can profitably improve their permanent pastures by following the recommended mixtures of the **Extension Service** and the **Soil Conservation Service**.

### Buildings

Dairy barns in Umatilla county generally are in very poor condition and lack capacity in many cases to handle the cows being milked. The committee after thoroughly discussing the situation recommends:

1. That better barns be constructed in Umatilla county regardless of whether a dairyman is producing Grade A or B milk.

2. That dairy buildings be arranged in such a way as to eliminate excess chores on the dairy farm.

3. That size of the milking unit be determined by the labor supply and the size of the farm.

4. That buildings should be constructed according to the regulations set forth by the State Department of Agriculture.

### Disease Control

Umatilla county has recently appointed Dr. R. L. Whitford,

Pendleton, and Dr. R. R. Fast, Hermiston, county veterinarians to test all dairy cattle for brucellosis and tuberculosis. It is estimated that certain areas in the county have as high as 8 to 10 per cent of the cows infected with brucellosis (Bang's disease). This disease has increased in the last five years. Previous to that time the county was relatively clean.

Another disease that is very common in the dairy industry is mastitis. Ways of combatting this disease are undergoing experiments in the United States. New treatments work satisfactorily with some animals while other animals may not respond to treatment at all. With these problems in mind, the committee makes the following recommendations:

1. That cows be watched in regard to mastitis. As soon as a swollen quarter of the udder is noticed have a veterinarian treat the cow. Instruct milkers to milk these infected cows last and dispose of the milk. The milk should not be fed to live-stock.
2. That any milking machine is satisfactory to use and doesn't cause mastitis as some dairymen are led to believe.
3. That more money should be appropriated by the county court to test for brucellosis and tuberculosis in order that indemnities can be paid on reactor animals.
4. That it be compulsory for beef men to test their herds for brucellosis and tuberculosis if it is fairly certain that these are present and that the herds are endangering nearby dairymen.
5. Since disease control is very important here in Umatilla county the committee recommends the following dairymen to serve on the disease control committee

in Umatilla county: John Estoup and Ray Edwards, Milton-Free-water; Olyn Hodge and Edwin Brosten, Hermiston. The committee also recommends that a member of the county court and the county veterinarian serve on the disease control committee.

6. That the value of the 4-H club program in the development and training of young people for a successful future in agriculture is recognized. It is suggested that wherever possible successful dairymen act as 4-H club leaders. It is further suggested that aid be given to 4-H club members by making available to them good quality calves.

## **POULTRY COMMITTEE REPORT**

### **CHICKENS**

#### **General Situation**

The general situation in Oregon last year indicated that there was a 50 per cent increase in the production of eggs with a 25 per cent increase in consumption. This left 25 per cent of the eggs to be exported. As to the situation in Umatilla county the committee felt that there is a possibility of a small expansion in production of hatching eggs, marketing eggs and broilers.

#### **Size of Poultry Unit**

When discussing the size of the poultry units the committee decided that a commercial flock needs to have 2,000 hens or more; a sideline unit, not less than 400 hens; and a farm flock, about 30 hens. A small farm flock is best replaced each year.

The sideline and commercial flocks should be replaced each year to at least 75 per cent of the flock by pullets. The replacement should be planned so as to

bring the pullets into production when eggs are highest in price, which would be in the months of July, August, September and October.

### Quality

Oregon has a state egg law, hence all eggs should be sold on grade, which means that eggs should be candled and sorted according to size and quality. The committee definitely recommends that the state egg grading law be enforced.

In the past Umatilla county has had a dozen different breeds of poultry, but at present the breeds are chiefly New Hampshire Reds and White Leghorns. The Hampshire has shown a very notable increase in the last few years because of the demand for a meat-type chicken. This shift might revert back to the Leghorn in a few years because the brown eggs are more difficult to grade than are the white.

### Land and Capital

In the discussion on how much land and capital are required to develop a commercial poultry unit the committee decided that each 250 birds requires two acres of alfalfa or legumes and that the cost would be between \$3 and \$5 a bird for house and equipment, depending on the availability of material on hand or to be purchased.

### Purchasing of Baby Chicks

In discussing the factors to be considered in purchasing baby chicks the committee agreed to the following:

1. In purchasing baby chicks the purchaser should be familiar with the type of business that the hatcheryman operates.

2. Growers buying chicks should make sure they are free

from pullorum disease and are from good breeding stock.

3. A beginner should consult an experienced poultryman before purchasing.

### Brooding and Rearing

The recommendations made by the committee in regards to brooding and rearing chicks are that growers keep the young stock separated from the old, avoid overcrowding, and feed a well balanced ration.

### Management

General recommendations made by the committee in the management of the laying flock and breeding flock are to feed plenty of green feed, avoid overcrowding, and if breeding birds are confined, feed a good breeder mash.

### 4-H Poultry Project

Inasmuch as the poultry industry is one of Oregon's leading agricultural enterprises the committee recommends an increase in poultry projects for 4-H clubs and Future Farmers of America.

### Summary

In summary, the following factors are emphasized:

1. The size of the flock should be adjusted to a small farm flock (25 to 30 hens), a sideline flock not less than 400 hens, or a commercial flock of not less than 2,000 hens.

2. With a farm flock all birds should be replaced each year, and for the sideline and commercial flock not less than 75 per cent needs to be replaced.

3. The production and maintenance of egg quality should be encouraged.

4. The conformation, rate of growth and rate of feathering should be improved with the

dual-purpose or meat type chicken.

5. More labor saving devices should be used in poultry management.

6. Stronger 4-H Club and FFA poultry programs are desired.

## TURKEYS

### General Situation

During the past fifteen years the turkey industry in the United States has made phenomenal growth. The number of turkeys raised on farms increased from about 17 million in 1931 to 44 million in 1945. The growth of Oregon's turkey industry has been even more spectacular. Turkey production in the state has changed from a sideline farm enterprise to a highly specialized mass-production farm business. In 1920 Oregon ranked 30th in turkey production in the United States; in 1930 it ranked 6th; and for the past few years the state has ranked 4th and 5th. It is surpassed only by Texas, Minnesota and California.

### Turkeys Grown in Oregon by Years

1930 .....	625,000
1935 .....	900,000
1940 .....	1,709,000
1945 .....	2,876,000

In Umatilla county the turkey industry has shown a steady increase from 10,000 birds in 1930 to near 100,000 in 1945. The 1946 crop showed a definite decrease of about 32 per cent to about 68,000 birds.

Since Umatilla county is adapted to the turkey industry, and especially so in the west end, the committee recommends that growers continue to maintain a production of 75,000 birds annually. Umatilla county numbers can

be moderately increased because of especially good climatic conditions.

### Hatching Eggs and Poults

The production of hatching eggs and poults has developed into a major part of the turkey industry in Oregon. In 1945 Oregon exported about 10,000,000 hatching eggs and 2½ million poults in addition to producing over 2½ million market birds in the state.

Oregon has developed a wide reputation for the production of large broad breasted turkeys that are free from pullorum disease. It seems that hatcheries and producers from various sections of the United States are coming more and more to Oregon to obtain hatching eggs, poults and breeding stock. Oregon has many natural advantages, such as, mild winters, early springs, cool summers and low altitude for the production of hatching eggs and poults. If the turkey growers will continue to improve the quality of the stock, fertility and hatchability, this export business of hatching eggs, poults and breeding stock, will continue, and may possibly surpass the marketing of birds. Although there has been a big demand for Oregon eggs and poults, producers must bear in mind that it can be easily over-expanded.

The number of hens kept for hatching eggs in Umatilla county in 1945 was approximately 4,500 and was less than 2,000 in 1946. The committee recommends that at least 5,000 hens should be kept each year in Umatilla county for hatching eggs and poults. The use of artificial lights during the breeding season is highly recommended by the committee. If a grower uses lights he can expect egg production in

three or four weeks after lights are turned on, or around Feb. 1. Without lights production will begin about March 1. From the time laying begins until the end of the breeding season of approximately 2½ months a grower may expect approximately 60 per cent lay of settable eggs or approximately 45 settable eggs per hen.

#### **Type of Breeders and Selection**

Since Oregon has a fine reputation for the Broad Breasted Bronze turkey, the committee recommends that we continue to use this type. However, for a specialty trade probably a smaller type bird can be kept. A disadvantage of the smaller type bird is that it requires slightly more feed per pound gain than does the larger type bird, hence the premium will have to be more than five cents per pound for the small type birds to compete. Some marketing authorities think that in the future the majority of turkeys will be eviscerated, quick frozen and many of the large toms will be cut in half and some quartered when sold to consumers.

The committee recommends that breeders should be selected before market time so the grower can determine which birds are making the earliest gain and earliest feathering. The poorest birds from the selected flock should then be culled at market time leaving the best birds to be used for breeding.

In selecting toms, the committee recommends toms hatched in late April or May because the earlier hatched toms will be too large at breeding time. The person doing the selecting should look for type and early maturity rather than size. The committee recommends one tom to eight hens in the breeding flock, when the flock is Broad Breasted

Bronze and from one to ten or twelve in the lighter weight breeds.

#### **Financing**

A large amount of capital is required to handle a commercial flock of turkeys. Some growers finance themselves. However, the majority borrow money or are carried by feed companies or processors. Most agencies, in financing turkeys, do not extend credit until the poults are through the brooding period and ready to go on the range. In other words, the grower should have all of his equipment and sufficient capital to purchase the poults and pay for cost of production to eight weeks of age.

Credit, when extended to the extent of providing brooder houses, brooders, fuel, poults, feed and groceries to beginners, is unfair competition against established growers. It results in exploiting the industry to the detriment of all.

Growers in Oregon have a choice of marketing their turkeys through independent packers or processors or through an established cooperative marketing association. Producers also may purchase feeds and supplies either from commercial feed companies or through cooperative channels.

If a farmer intends to go into the turkey industry the committee recommends that he have at least enough capital and equipment to carry birds through the first eight weeks and obtain financial backing for the rest. Due to the instability in the cost of feed and the price of turkeys the committee believes that every turkey grower will have to be very efficient in operation to remain in business.

Commercial turkey flocks

should not be less than 3,000 birds, and that number of birds should have at least 60 acres of land adapted to raising turkeys, or two acres for each one hundred birds. One acre will care for about 100 turkeys per year. However, sufficient range should be available to provide a two-year rotation. It will cost in the neighborhood of \$2.00 per bird for a first-year investment which would include a brooder house, brooding equipment, range shelters, roosts, feeders and watering devices. Under present conditions it will cost from \$5.50 to \$6.00 to mature a market bird, exclusive of the first year investment for equipment.

#### **Purchasing Poults**

The first essential in successful brooding is to obtain poults of good quality. Experienced growers either keep their own breeding stock or depend upon reliable breeders or hatcherymen for their poults. In purchasing poults the grower should be familiar with the type of business that the hatcheryman operates. Growers buying poults should make sure they are free from pullorum disease and are from a good source of breeding. A beginner should consult with an experienced operator. The committee recommends that a grower buy close to his operation to avoid shipping poults or eggs too far.

#### **Brooding and Rearing**

Every year many poults die from lack of feed and water. Poults have very poor eyesight while young. As a result adequate light, feeders and watering devices must be available. Poults that do not learn to eat and drink at an early age soon die. Other precautions to use to decrease mortality in young poults are

feeding bright colored feeds such as cracked wheat, rolled oats, and hard boiled eggs, mixed with the feed. Also, give the young poults a drink of luke warm water and make certain each poult swallows it.

A well planned program of feeding and management should be adhered to throughout the entire brooding and rearing period. The most widely accepted feeding system is that of keeping starting mash or pellets before the poults at all times. Starting the second week they should have, in addition, free access to cracked grains and grit. After the first week chopped succulent green feed should be fed liberally each day. For other suggestions on brooding and rearing we recommend the following Oregon State College Extension bulletins:

Extension Bulletin 602, Brooding and Rearing Turkeys.

Extension Bulletin 659, Green Feed, Sod and Pasture for Chickens and Turkeys.

#### **Disease**

The committee recommends good sanitary practices to help reduce disease in the turkey flocks. Care should be taken to see that poults being purchased are free from pullorum disease. As a sanitary measure and to help reduce disease, turkeys should be rotated to new ground each year.

The committee recommends that the grower vaccinate his flock for fowl pox for his own protection. If breeder hens are kept they should be vaccinated in the spring and again in the fall as the vaccine is only good for approximately six months in most cases. Fowl pox vaccine may be obtained from Oregon State College through the Extension Service at a small cost.

**LIVESTOCK COMMITTEE REPORT**

**BACKGROUND AND TRENDS**

The income to Umatilla county farmers from beef cattle, sheep, hogs, horses and miscellaneous animal products amounted to \$2,524,236 in 1942, representing 14.3 per cent of the entire income from county farm marketings for that year. This was 1.3 times the the income from specialty crops for that year. In the year 1939, based on the 1940 census, the income from livestock and livestock products sold (other than dairy and poultry) was \$1,896,290. For the year 1944 it was \$2,526,496. Because of higher prices the money value of livestock sold for 1946 may be somewhat above that of 1944. In the five year period 1940 to 1945, there was an increase in numbers of cattle of over 50 per cent while sheep numbers declined almost 58 per cent. It is the opinion of the committee that war conditions, and particularly the shortage of sheepherders, contributed to this severe decline.

Various factors enter into the feeding of livestock in Umatilla county. These are high and low altitudes; some sections warmer and more suited to feeding, as compared with others not so suitable; surplus of feeds in some localities. It is therefore difficult to set up one definite ration for range livestock including cattle and sheep that is suitable for all parts of the county.

The following tables reveal livestock population trends, freight rates and livestock shipped from the county:

**ALL CATTLE AND CALVES IN UMATILLA COUNTY**

Year	Numbers
1920	33,217 *
1925	29,212 *
1930	22,947 *
1935	33,648 *
1940	29,621 *
1945	45,438 *
1947	45,000

\* Bureau of the Census, U. S. Department of Commerce—as of January 1 of year indicated.

**SHEEP AND LAMBS IN UMATILLA COUNTY**

Year	Numbers
1920	166,649 (census)
1925	146,935 "
1930	159,046 "
1935	144,946 "
1940	125,275 "
1945	77,995 "
1947	50,000

**ALL HOGS AND PIGS IN UMATILLA COUNTY**

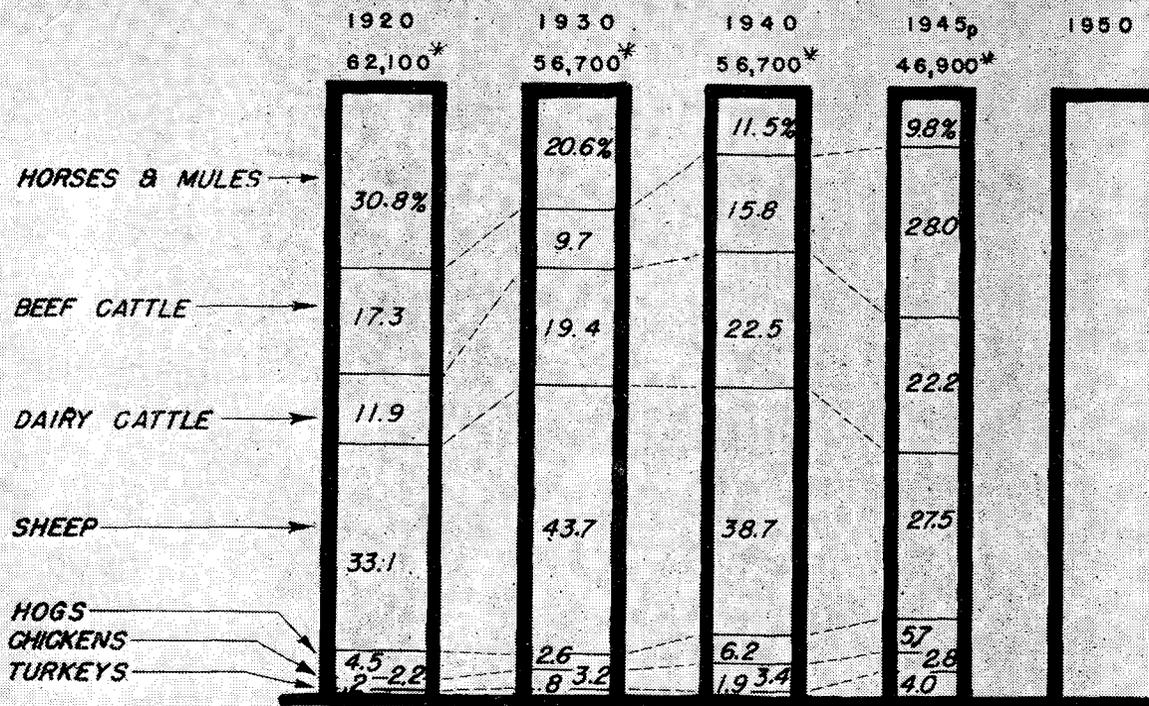
Year	Numbers
1920	12,505 (census)
1925	8,124 "
1930	5,904 "
1935	7,142 "
1940	8,246 *
1945	10,635 *
1947	7,500

**ALL HORSES AND COLTS IN UMATILLA COUNTY**

Year	Numbers
1920	18,181 (census)
1925	16,431 "
1930	10,265 "
1935	10,092 "
1940	7,261 *
1945	4,987 *
1947	5,000

\* U. S. Department of Commerce, Bureau of Census figures.

# UMATILLA COUNTY PRINCIPAL ANIMAL INDUSTRIES



\* INDICATED ANIMAL UNITS BASED ON ESTIMATED T.D.N. REQUIREMENTS

**Livestock Freight Rates**

**UMATILLA COUNTY TO NORTH PORTLAND**

	Pendleton	Rieth	Hermiston	Pilot Rock	Milton-Freewater
Cattle .....	35c	35c	33c	36c	37c
Calves .....	35c	35c	33c	36c	37c
Sheep .....	35c	35c	33c	36c	37c
Hogs .....	35c	35c	33c	36c	37c

\* Cattle rate on fat cattle; 24,000 pound minimum car.

Calves, sheep and hogs on double deck; 20,000 pound minimum car.

Sanding, \$1.17 per single deck.

**LIVESTOCK SHIPPED FROM UMATILLA COUNTY**

	1940	1945	1946
Cattle .....	975	6,470	9,492
Sheep .....	35,000	16,000	
Hogs .....		1,344	
Horses .....		4 cars	

**CATTLE**

Operators who have forage during the spring, summer and fall period will need for a 90 day winter feeding period 30 pounds of hay per day or its equivalent in other feeds, based on information secured from reliable sources including cow men, banks, and other loaning agencies such as the Production Credit Association.

To meet this requirement the operator would need 135 tons of hay or its equivalent for 100 head of range cattle for winter feeding. A survey conducted by the committee reveals that in the Echo, Stanfield, Hermiston area, cattlemen can pasture their meadows an average of six months each year.

It is noted that in 1938, our committee said that 27,000 head of beef cattle would be a desirable goal for Umatilla county.

The county veterinarian has found that our cattle are generally in good health but warns that Bangs disease is on the increase. Liverflukes are a problem in some sections of the coun-

ty and cattle lice and grubs occur more widely than many realize.

**SHEEP**

Availability of range is more of a limiting factor in the production of sheep than with any other type of livestock. There is a considerable range in Umatilla county that appears more suitable for sheep than cattle and could be utilized if the sheep population were greater. Surplus hay is also shipped out of the county. This could be used in feeding sheep. Substantial woolgrowers and loaning agencies have found that winter feed requirements for sheep are, for a 90 to 100 day feeding period, 3 to 4 pounds of hay per day supplemented by some grain.

To meet these requirements 135 to 150 tons of hay would be needed for a band of 1000 ewes. In addition, grain totaling 10 tons would be necessary to supplement the hay.

**HOGS**

Sows and gilts for spring farrowing totaled 1901 in 1940 with

a decline to 1519 in 1945, according to the U. S. Census. The committee believes that a further decline in numbers has occurred in the past two years because of OPA price regulations and a sharp increase in the cost of feed grains and the short supply of this commodity through 1946. Although there have been some excellent herds of well bred swine in the county a number of breeders have gone out of business because of adverse conditions.

### HORSES

While the trend in numbers of horses has been down, since the tractor has largely replaced the horse, your committee wishes to point out the tremendous increase in interest in saddle horses. The

organizations of saddle horse clubs in various sections of Umatilla county, and the development of improved riding stock is applauded. Such movements create an outlet for surplus feeds.

### RANGE LIVESTOCK

A large proportion of the livestock business of Umatilla county is dependent upon the use of uncultivated range lands, large acreages of which exist in the county. For purposes of this report these range lands, because of their varying elevation, type and use to which they are put, are divided into summer range and spring-fall range. Acreage and carrying capacity of the latter are as follows:

### SPRING-FALL RANGE IN UMATILLA COUNTY

Type	Acreage	Estimated Carrying Capacity in Annual Unit Months
Sagebrush .....	275,000	13,750
Grasslands .....	411,000	68,500
Stubble used as pasture ....	60,000	30,000
Irrigated pastures .....	32,000	10,600
<b>Total .....</b>	<b>778,000</b>	<b>122,800</b>

Summer range, that area of the county on its south and east borders, is often referred to as forest and mountain range. Timber is the dominant cover type, with areas of open grasslands, wet and dry meadows, mountain brushland, dry glades and open, bunchgrass slopes. For purposes of this report this is not divided into types but is as to ownership as follows:

### OWNERSHIP OF UMATILLA COUNTY SUMMER RANGE

	Acreage	Carrying Capacity in Annual Unit Months
Private .....	178,300	16,210
Indian Reservation .....	3,480	316
National Forest* .....	398,085	17,490
Other Public .....	7,800	709
<b>Total .....</b>	<b>587,665</b>	<b>34,725</b>

\* Of this total 26,000 acres are, for varying reasons, closed to grazing.

Calculating that range stock are fed for an average of three months during the year, as is brought out earlier in this report, and from our knowledge that summer range is used for an average of four months, we see that spring-fall range must supply feed for an average five-month period.

We have then a carrying capacity for this spring-fall period of 24,560 animal units. A summer range capacity exists for 8641 animal units. Comparing this with livestock numbers in the county, it will be seen that there is insufficient range to supply the demand. This situation is at present met by taking livestock out of the county for summer grazing and to some extent in the spring-fall season. However, it is apparent that some assurance must be had that this range outside the county will be steadily available. Furthermore, county ranges should be made to produce the optimum amount of feed if present numbers of stock are to be adequately cared for.

It is generally agreed, by all agencies dealing with range management that ranges are not now in optimum condition although there are some small areas that are good and even excellent.

#### RECOMMENDATIONS

1. The proportion of farm income in Umatilla county obtained from livestock production should remain about the same. For the last year of record (1944) it was \$2,526,496.

2. A slight decline in cattle numbers is indicated and the committee believes this is desirable. Beef cattle operators should make certain that their numbers of cattle are properly adjusted to range pasture and winter feed

and that the ranch and range used are not overstocked.

3. The poorer kinds of cattle should be culled from every operator's herd. We should raise better cattle rather than more cattle and use good purebred sires.

4. The committee believes that to make a satisfactory annual income, on the average, from a strictly cattle operation, that a man should figure on running a minimum of at least 100 breeding cows or 150 head of mixed cattle. The committee points out that to run that number of cattle, hay and range land of sufficient proportions for that number would necessarily have to be owned or leased. Generally, the committee feels that it would be better for those wishing to enter the cattle business at this time to refrain until prices are lower.

5. Cattle lice and cattle grubs should be controlled. Thorough spraying with a solution made up of eight pounds of 50 per cent wettable DDT will control cattle lice. The use of 5 per cent rotenone will control cattle grubs. Cooperative community treatment is desirable. Detailed information on control measures may be obtained from the county agent or assistant county agent.

6. Liverfluke in cattle and sheep can be controlled by eliminating the snail that is the intermediate host of the fluke. Eliminating marshy or springy areas through drainage will reduce snail population. Treating wet marshy areas with copper sulphate at the rate of 8 pounds per acre kills snails and is not hazardous to livestock or forage.

7. The committee recommends that the present state Bangs Law, Chapter 355 Oregon Laws 1945 section 8, be amended to require

vaccination of all female beef cattle between the ages of 5 and 10 months with Bangs vaccine approved by the U. S. Bureau of Animal Industry of the USDA.

8. We ask the Extension Entomologist at Oregon State College to investigate a cattle fly that appears in the Ukiah section in the month of May.

9. We commend the Pacific Coast Aberdeen-Angus Breeders Association on its annual show and sale held at Pendleton and its efforts toward improving the type and quality of cattle in this region. We ask the Pendleton Chamber of Commerce to go forward with existing plans to construct a sales ring at the Round-Up grounds.

10. We urge every shipper of livestock to have his freight bills audited. The Pacific Northwest Livestock Shippers Traffic League, Portland, is one agency that does this type of work.

11. The committee recommends that the following cowmen be appointed to the Umatilla County Livestock Disease Control Committee to represent cattlemen of the county: L. A. McClintock, Pendleton; Irvin Mann, Rt. 1, Adams; Ed Snapp, Helix.

12. An increase in sheep numbers appears advisable. Care should be taken, however, to keep numbers adjusted to the amount of forage available. Ewes should be provided plenty of good green leafy hay for winter feeding. A supply of high quality feed for the ewe during the winter is the first step in assuring a healthy lamb that will fatten quickly. There is a possibility that more lambs could be fattened in Umatilla county utilizing some of the surplus alfalfa hay that is now shipped out.

13. To obtain a satisfactory income from sheep as the only en-

terprise a minimum of 1200 head of ewes is recommended. Sixteen hundred head would be more desirable. Winter feed, spring, fall, and summer range on which to run properly this number are imperative.

14. The committee commends the Oregon Wool Growers Association for sponsoring the Oregon Ram Sale to make purebred sires available not only to Umatilla county, but to woolgrowers in this entire area, including adjacent states.

15. Although predatory animals have been reduced in numbers in Umatilla county, the committee recommends the continuance of a more aggressive predatory animal control program by the U. S. Fish and Wild Life Service in cooperation with the county court. It is the opinion of the committee that such an aggressive program is seriously needed. We also favor the continuation of a substantial appropriation each year from the county court for predatory animal control.

16. The committee believes there is opportunity in feeding out both cattle and sheep in certain sections of the county which are identified as follows:

**Butter Creek Section:** Estimated 3000 tons alfalfa shipped out. On the average excellent supplies of grain available. Ample water. Feed lots can be located on sandy ground thus eliminating muddy corrals.

**Umapine Section:** A surplus of hay and nearby grain available. Other feeds such as cull fruits, vegetables, beet tops, and pea ensilage accessible. Plenty of stock water.

**Other Sections:** There are other sections in the county where feed lots could be set up to advantage and pea crop residue utilized.

17. The committee recommends that measures be taken to increase the carrying capacity of the present ranges both private and public controlled. This can be accomplished through:

- (a) deferred and rotational use.
- (b) development of water.
- (c) conservative stocking.
- (d) proper seasonal use.
- (e) reseeding wherever practicable.

(f) control of St. Johnswort or goat weed.

(g) production of more forage for use as spring-fall pasture on wheat ranches. Full opportunity should be taken of the AAA range program adopting as many of the suggested practices as possible.

(h) Keeping numbers of elk and deer within available feed supplies—needs of livestock considered. Range management plans, recognizing the needs of livestock and a reasonable number of game animals, should be developed by stockmen, game commission and Forest Service.

18. Establishment of Alta Fescue grass, yellow sweet clover and strawberry clover pastures

in the Stanfield, Hermiston, Butter Creek areas of the county have been found profitable. Ranchers are urged to take advantage of the Triple A program in making pasture and range seedings.

19. Hogs might well be produced in sufficient numbers to use farm wastes or by-products including cull vegetables, fruits and skim milk. Straight grain should be supplemented with skim milk or tankage and, during the winter months, 10 per cent alfalfa hay, pea vines, or clover hay should be included in the ration to provide vitamins and proteins. Experiment station findings reveal that the cost of 650 pounds of grain provide for the overall cost of producing 100 pounds of pork. Based on the work conducted at the Union Experiment station, it was found that hogs will finish out on wheat and barley and go to market in as good condition as hogs from the corn belt areas.

20. The committee recommends an increase in the number of good saddle horses in Umatilla county. We wish to go on record as encouraging the breeding of good light horses.

21. We are opposed to the proposed increased freight rates.

## FARM LABOR COMMITTEE REPORT

### General Conditions

The farm labor committee met and reviewed the 1946 labor situation, discussed the 1947 farm labor prospects with Ralph Beck, farm labor specialist, Oregon State College, and developed recommendations and resolutions.

The canning pea industry along with dry peas present the biggest farm labor problem in Umatilla county. The acreage of

green peas has increased from 17,749 in 1939 to 47,542 acres in 1944 and to 53,300 acres harvested in 1946. The committee has found that the shortage of transient labor is a serious problem and that if nothing were done to provide labor there would be a shortage of 1200 men, resulting in one-half the peas not being harvested.

The wheat harvest hasn't pre-

sented near the problem of the peas because the overflow of labor from the pea harvest helps to relieve the situation quite satisfactorily. However, the wheat farmer does have quite a problem in training men to do the job, a problem increased during the war years. The committee is of the opinion that job training is essential as we have five years of replacements to train as a result of the war.

Statistics gathered from the four labor offices in Umatilla county show 20,000 placements of workers in 1945. This represents one-tenth of the placements in the state.

#### **Supervision and Finance**

There is a possibility that funds to carry on the Farm Labor Program through the Department of Agriculture will become extinct on June 30, 1947, because of existing legislation in Washington. Therefore, the farm labor committee makes these recommendations in the form of a resolution to be presented to the proper authorities.

**BE IT RESOLVED** that in view of the fact that the farm labor program may revert back to the Department of Labor, the farm labor committee of Umatilla county recommends that legislation be passed and more funds be appropriated to the Department of Agriculture to handle farm labor beyond June 30, 1947, through the Extension Service. The committee feels that the Department of Agriculture has done an excellent job in handling the farm labor program and that its staff members are closer to the problem than those of the Department of Labor, and

**BE IT FURTHER RESOLVED** that in view of the possibility that migrant workers will be-

come harder to obtain in the future, the committee recommends that the Extension Service extend every effort in obtaining transient labor to harvest the crops in the state, with special emphasis to be placed on the possibility of obtaining Latin Americans from Texas.

In the discussion it was brought out that seven western states plan to establish information stations on principal highways away from populated centers to direct migrant workers where they are needed for harvesting. The committee urges strong support of this program and recommends that these stations be set up to aid transient laborers in finding work. If additional funds are needed, legislation should be enacted to finance these stations.

#### **Wages**

As a means of stabilizing wage scales in Umatilla county, the farm labor committee recommends that each year the chairman call a meeting to recommend wage scales for all types of farm labor.

#### **Labor Camps and Farm Housing**

The committee has found that farmers who have good housing units for their farm workers have less trouble with labor problems than the farmers without units. Other points brought out in the discussion follow:

1. If a labor camp were built in the Athena area the cost would be about \$300,000 or approximately \$10.00 per acre to the farmer, but this is a problem that will have to be taken care of locally.

2. Housing isn't sufficient in the Milton area and should be increased by at least half.

3. Farmers should house and feed their workers on the farm where possible because better

work is obtained and people stay longer by this plan.

The drafting committee after reviewing the above problems adds a general resolution that labor camps and farm housing, are necessary in Umatilla county and that these camps and houses should be constructed as soon as possible. For the present time the committee suggests that the city of Pendleton be approached on a possible lease of its units at the air base to be used for housing of migrant workers.

#### **Labor Saving Devices**

In this machine age it is becoming more important that more research and study be directed toward the improvement of farm machinery in an effort to reduce farm labor requirements to a minimum.

The county farm labor committee, therefore, recommends that the Agricultural Engineering Department at Oregon State College be given additional funds by the State System of Higher Education to employ personnel to aid farmers in eastern Oregon in the development and improvement of labor saving machinery. Our committee directs the chairman and secretary of this conference to bring this request to the attention of Wm. A. Schoenfeld, dean of the school of agriculture, Dr. A. L. Strand, president Oregon State College, Dr. Paul C. Packer, chancellor state board of higher education, to our representatives on the state research and development committee and to our representatives in the state legislature.

## **REPORT OF THE FARM HOME AND RURAL LIFE COMMITTEE**

### **General Considerations**

Every rural family in Umatilla county should have the opportunity for a well balanced life, one that provides not only for the social needs for good family living, but also for the material necessities for comfortable living, which include adequate housing, clothing and food.

The success of rural living depends as much on a good home and well directed activities for its members as it does on technical skill in the operation of the farm.

Success and happiness on a farm can be the vital power to keep our young people in our rural areas.

The farm home and rural life committee has given careful consideration to these goals and to methods for achieving them.

The population of Umatilla

county has increased from 26,030 in 1940 to an estimated 32,000 in 1945 or 26 per cent. Total rural population is estimated at 19,000.

### **Housing and Home Management**

According to the 1940 census of 8,221 dwellings in Umatilla county, 70 per cent are rural homes. Seventy-three per cent of these rural homes were over 25 years of age and 27 per cent needed major repairs or replacements. Due to wartime conditions, there have been few major improvements made in housing since 1940.

Farm families as a whole had a high level of income during the war years, and many families accumulated savings, part of which they plan to use for improvements in housing and labor saving equipment for the home.

The committee believes that

because of these facts the improvement of rural homes will be one of the major projects of farm families within the next five years, or as soon as general building conditions are more favorable. After careful consideration of these facts the committee makes the following recommendations:

**1. Long Time Financial Plan**—That each rural family give careful consideration to working out a budget for a long time financial plan within their means for financing the building or remodeling of their homes.

**2. Farmstead Planning**—That each rural family set a goal and plan the farmstead as the family would like to have it when completed.

**3. Remodeling Houses** — To meet the needs of families planning to remodel their houses, it is recommended that up-to-date bulletins on modernizing the farm house be made available and that demonstration clinics or tours also be held.

**4. House Plans**—To aid families in planning new homes, we recommend that a program designed to give help and instructions on house planning be given for those interested.

House plans should be chosen with consideration given to the size of family, family activities, available labor, material and costs.

In making a plan to meet the needs of the family, we believe special consideration should be given to planning, size of house, adequate storage space, provision for recreation activities, convenient step saving kitchen, laundry or utility rooms, home freezer units, building materials, and adequate and convenient wiring.

We recommend that families take advantage of the "Handbook of House Plans for Farm Homes" available for loan from the county extension office. The plans may be purchased at a minimum cost from Oregon State College.

**5. Heating, Insulation and Ventilation**—According to the 1940 housing census, only 7 per cent of the rural homes in Umatilla county were equipped with furnaces or central heating.

The committee believes that a well heated, well insulated house adds to comfort and welfare of the family, therefore, we recommend that families give consideration to planning for adequate heating, insulation and ventilation of both remodeled and new homes.

**6. Electrification**—In 1940, 66 per cent of the rural homes were equipped with electricity. The 1945 census reveals that 77 per cent are now served with electricity.

The committee recommends, that every effort be made to have electric power extend to the South Reservation area and to other needed areas in the county. Electricity provides power for labor saving equipment and adds to the comfort of the farm family.

It is also recommended that assistance be given to rural families, on selection of electrical equipment, its use and care, and that information be made available and educational programs be developed on adequate home wiring and lighting.

**7. Water Systems**—In 1940, 62 per cent of the rural homes had running water, 41 per cent bathtubs or showers and 39 per cent flush toilets.

With the increase in electrification, there has no doubt been some improvement in this situation. The committee believes that there is still a need for much improvement, however.

It is recommended that each rural family work toward a goal of running water, complete bathroom units, and sanitation facilities as the first major improvement.

**8. Water Supply**—An impure water supply is a menace to the health of the family. Therefore, it is recommended that rural families have their drinking water tested at least twice a year. This service is free through the office of Mr. George Amundsen, county sanitation health officer.

**9. Septic Tanks**—To help relieve unsanitary conditions and possible contamination of wells, the installation of septic tanks and sewage disposal facilities is highly recommended.

We recommend that septic tanks be built according to regulations set up by the Oregon State Sanitary authority, which specifies a minimum capacity of 500 gallons.

To encourage the construction of septic tanks by rural families, we recommend that demonstrations be given in one or more centers on the construction and installation of septic tanks. We suggest that this be developed as a cooperative project by the county sanitation officer and the county home demonstration agent.

**10. Bulletin Service to Communities**—In order to interest rural families in the planning helps available, it is recommended that extension bulletins and USDA bulletins on housing be displayed once or twice a year at Grange, Farm Bureau and Extension Unit

meetings. We also recommend that a bulletin list be made available to each grange hall, community hall, Extension Unit and Farm Bureau for reference use.

**11. Home Beautification**—Since the majority of farm families are interested in the beautification of their home grounds, the committee recommends that information be made available and demonstrations set up on use of native shrubs and trees in landscaping the home grounds. Demonstrations should also include methods of improving dry lawns, as well as irrigated lawns. Painting of houses and other farm buildings should be included in the home beautification plan.

**12. Home Management**—In order to help the homemaker save time and energy in doing her ordinary household tasks, we recommend that demonstrations and clinics be given on use of work simplification methods in all phases of homemaking.

**13. Home Furnishings**—To aid homemakers in evaluating the quality, durability, use and care of the many new fabrics and finishes that are now on the market we recommend that an educational program on new fabrics for the home be made available to the homemakers of the county.

**14. Farm and Home Accounts**—In order that the farm income may be expended wisely so as to afford better living, as well as development of the farm itself, we recommend that rural families keep both farm and home accounts.

We also recommend that a budget be set up by all members of the family to insure the cooperation of everyone in carrying out the expenditure plan.

To assist farm families in selection of account books or forms, and in the keeping of these accounts, we recommend that a project be given on home and farm accounts.

## HEALTH AND NUTRITION

Good nutrition is essential to the growth and physical welfare of the family. The lack of good nutrition by American youth was called to our attention by the number of physical rejects from the armed services, many of which could be traced to poor nutrition early in life.

**1. Home Food Habits**—We believe one of the best ways in which to solve the problem of feeding our children and adolescents is by setting a good example of eating habits. Therefore, we recommend the following:

That each rural family adopt good eating habits as part of the daily routine.

That an educational program be developed with homemakers and especially groups of young homemakers to include ways of improving nutrition, food habits of the family, child feeding, planning and preparation of adequate meals, conserving food values, preparation of foods, and food conservation by canning and freezing.

Recent research in nutrition conducted in five Oregon counties among children of rural schools shows that the diets of these children included only about half enough vitamin C and milk. Their diets were also low in green and yellow vegetables, as well as the vitamin C foods, oranges, grapefruit, tomatoes and fresh vegetables.

Therefore, we recommend that

the nutritional program of the county emphasize the need for an increased consumption of tomatoes, citrus fruits, milk and green and yellow vegetables for both school children and adults.

**2. School Lunches**—There are 29 rural schools in Umatilla county, not including Pendleton, Hermiston, Milton and Freewater, 11 of these schools serve hot lunches. Of the 18 rural schools that do not serve hot lunches, nine are one-teacher schools; one is a two-teacher school; three are three-teacher schools, and five are four-teacher schools.

Since a good nutritious school lunch is essential to insure adequate nutrition of the school child we recommend that an educational program be developed in each community with the parents which would include the value of a hot lunch program and methods of organizing and financing school lunches.

We recommend that wherever possible the school provide the equipment to serve a type A school lunch in which there is a complete well balanced meal.

**3. Home Gardens**—Home produced garden vegetables are better in quality and higher in food value than vegetables purchased on the market because they can be used fresh from the garden. We believe families will use a larger quantity of vegetables if supplied by their own garden whenever possible. For these reasons, we recommend that all rural families be encouraged to have a home garden wherever possible.

We also recommend that information and demonstrations be given on production of early gardens and dry land gardens and that emphasis be placed on late

gardens that will be irrigated. We also recommend that late information be made available on pest control.

**4. Home Flocks**—We recommend that home poultry flocks be maintained to produce eggs and poultry for family use. Families having home flocks should avail themselves of educational help on proper housing and feeding for egg production and on culling the flock.

**5. Health**—In order to maintain a minimum standard of medical care and hospital care for the civilian population, the American Medical Association and U. S. Public Health Service recommend one physician is needed per 1,500 population and that 4.5 hospital beds are needed per 1,000 population.

Health and medical services in Umatilla county now available include the following:

**Physicians and Surgeons**

Pendleton .....	14
Athena .....	1
Milton .....	1
Freewater .....	1
Hermiston .....	2
Pilot Rock .....	1
	20

**Hospitals**

Location Name	No. of beds
Pendleton, St. Anthony .....	100
Pendleton, Riverside ..	3
Hermiston, General .....	12
	115

**Dentists**

Pendleton .....	9
Milton .....	1
Freewater .....	1
Hermiston .....	1
	12

It is estimated that about 34,500 persons reside in the area served by Umatilla County Medical Service, this includes about half the residents of Morrow county. To meet these minimum standards would require the services of 23 physicians and 150 hospital beds. This means that 3 additional physicians and surgeons and 50 hospital beds are needed in Umatilla county. In view of these facts, the committee makes the following recommendations:

That a County Health and Medical Service committee be set up to make further investigation of local health medical needs and to plan methods by which these needs may be met.

That under the direction of this committee an educational program be developed to acquaint the people in each community with this problem.

We believe that the financing of medical and hospital care is one of the major health problems of rural families, and that a study should be made by the county health and medical committee of the various types of plans of prepaid medical and hospital health insurance for families or individuals.

Although the number of persons X-rayed for tuberculosis increased this year and showed less needed care, all persons should be X-rayed periodically in order to prevent the development and spread of this communicable disease.

## 4-H CLUB AND OLDER YOUTH

In Umatilla County there are 5,691 boys and girls between the age of 9 and 18. Of this number, 4,095 are rural boys and girls to whom the club program is primarily extended. Of the remainder 1,596 reside within the limits of the city of Pendleton. Of the 4,095 boys and girls, 727 or 17 per cent belonged to one or more clubs in 1946.

The committee believes that the training received in club work in agriculture, home economics and in development of leadership is of undisputed value and that the percentage of boys and girls participating in the program should be increased.

**1. Opportunity for All Boys and Girls**—We recommend that opportunity for club work be made available to every rural youth and to as many city youth as desire it.

**2. Local Leaders**—One of the limiting factors in the expansion of the 4-H program is lack of local leaders to serve all clubs that may be organized. Therefore we recommend the following:

That every home extension unit in the county have an active 4-H Club committee to sponsor 4-H Club work, and to aid in securing leaders; also to aid in the general promotion of 4-H Club work in the community.

That local organizations such as the Grange, Farm Bureau, Wheat League, Grain Growers, Parent-Teacher Associations, and others interested in the welfare of our youth sponsor club work by appointing a 4-H Club committee to aid in securing leaders and to promote interest in club work among parents, boys and girls.

**3. Parent Participation**—Parent interest and support is essential for a 4-H Club member to do successful work and is an important factor in securing completion of club projects. The past year only 77 per cent of the club members enrolled completed their project.

We recommend that parents participate in the 4-H Club program by providing leadership, guidance to their own boys and girls and by assisting in developing community interest in the 4-H work.

**4. Training 4-H Leaders**—It is important that a club member develop skills in club work, and that a high quality of workmanship be maintained. To improve the quality as well as the quantity of 4-H Club work, we recommend that regular training meetings in subject matter be held for 4-H leaders.

**5. 4-H County Club Agent**—So that all boys and girls may have an opportunity to do 4-H Club work and so that the quality of work may be improved through full time supervision, it is recommended that a County 4-H Club Agent be obtained for Umatilla county.

**6. Ten Guide Posts**—The committee further recommends that the 4-H program follow insofar as possible the 10 guide posts set up by the National Committee on post war planning for 4-H Club work as follows:

Developing talents for greater usefulness.

Joining with friends for work, fun, and fellowship.

Learning to live in a changing world.

Choosing a way to earn a living.  
Producing food, and fiber for home market.

Creating better homes for better living.

Conserving nature's resources for security and happiness.

Building health for a strong America.

Sharing responsibilities for community improvements.

Serving as citizens in maintaining world peace.

**7. Older Youth**—A group of older 4-H Club members at 4-H Summer School last year, listed the following suggestions for developing an older youth program that they would like:

Prefer large groups, between 30 to 40 and on a county-wide basis.

Prefer not to have group divided into small age groups, but meet as a single unit.

Meetings held in evening more successful those those held in afternoons, and often twice-a-month and away from school.

Want mixed groups, boys and girls meeting together.

Kinds of recreation desired—square dances, hikes, music, dramatics, games, baseball, active games and sports.

Prefer to do their own program planning.

Widening circle of friends.

A place in post war planning, interested in world affairs and planning for the future.

Cooperation of the community.

Want wholesome recreation, and like a wide variety.

In Umatilla county, exclusive of Pendleton, there are approximately 750 boys and girls between the ages of 18 and 21, 2,500 between the ages of 21 and 30 who could participate in older

youth activities, therefore we recommend the following:

That a county committee of older youth be appointed by the county extension office to consider the possibilities of organizing older youth groups in Umatilla county. We suggest that districts be set up in east end, west end and center of the county and that the meeting places be located in rural areas.

That this committee assist these rural youth groups to organize and to plan a well balanced program to include some activities on education, recreation and community service.

That assistance be given youth clubs through training their leaders in agriculture, home economics and recreational phases of their program.

That a community recreational center be secured, such as a school gymnasium or other centrally located building, for this older youth group.

**8. Schools**—We recommend that the lighting facilities of rural schools be carefully studied and that steps be taken to install adequate lighting by local community committees and whenever needed.

We recommend that attention be given by parents and community groups to the beautification of school buildings and grounds.

## REPORT OF THE HORTICULTURAL COMMITTEE

### PRUNES Acreage and Production

The acreage of prunes the past fifteen years has remained around 2400 acres. The district reached a high mark in 1925 of 3400 acres.

The prunes have been produced for fresh market, except for the past few years. Car-lot shipments from the Walla Walla Valley since 1925 are shown in the following table.

Year*	Fresh Prune Shipments from Walla Walla Valley			
	Fresh Market*		Processed Market (1)	
	Cars (12.5 tons)	Tons Canned	Tons Frozen	
1925 .....	439			
1930 .....	884			
1935 .....	1043			
1940 .....	1248	1952		
1941 .....	1063	3483		
1942 .....	1325	1190		
1943 .....	919	none		
1944 .....	1227	81		200
1945 .....	1607	2328		824
1946 .....	966	5404		857

\*U. S. D. A.—P. M. A.—Fruits and Vegetables—1946.

(1) Figures from local processors and packing houses.

Fresh Prune Shipments from Competing Areas—Cars Shipped						
State	1925	1930	1935	1940	1943	1946
Calif. (July-Aug.) .....	2658	4969	2134	3802	4009	5296
Oregon (Aug-Sept) .....	594	1003	443	1092	788	876
Wash. (Aug-Sept) .....	505	868	596	574	718	664
Idaho (Sept-Oct) .....	1014	1602	1458	1512	591	1566
Totals .....	4771	8443	4631	6980	6106	8402

#### Marketing Agreement

The committee believes that the Federal marketing agreement, properly drafted by growers and administered by the industry, would be a good thing for the prune deal when economic conditions warrant the agreement.

In the agreement such controls as regulation of shipments and posting of prices and grade regulations should be included. Other controls could be incorporated as the industry sees fit.

The committee felt that shippers could improve service to growers by giving more information on market conditions prior

to and during the shipping season, and that the federal marketing agreement should include the prune growing districts of Washington and Idaho.

#### Packing and Grading

Too much expense is put into packing except for certain markets. The committee feels grades should be more uniform between Oregon and Washington. This needs immediate attention.

#### Processed Prunes

With the success of canning in the past few years, the committee recommends that the indus-

try should set aside a portion of the total production for that purpose. (25 per cent or more depending on the market outlook).

Processed prunes grown in the Milton-Freewater district should be so labelled.

Since canning and freezing is a new venture, the committee asks that Oregon State College conduct research on the proper maturity of prunes for processing.

Prune growers should get the local processors to put up more of the prunes so that they would not have to ship to plants outside the district for processing.

There appears to be a large enough volume of cull and low grade fruits and vegetables in our crop to justify an alcohol plant. The added revenue derived from such a source would materially reduce the cost of packing, thereby returning more to the growers for the better grades that are packed for fresh market or processed. If growers have such an outlet for this low grade produce, it would not be sent to the retail markets.

The committee, therefore, recommends that some study be given to the possibility of establishing an alcohol plant in this district to make use of low grade fruits and vegetables.

#### **Future Plantings**

Since a large portion of the present acreage consists of rather old trees, which will be removed when prune prices decline, the committee recommends increased plantings of Italian prunes. If the growers will support a processing program, the acreage can be increased considerably. The present run-down condition of the western Oregon prune acreage justifies additional acreage for Milton-Freewater

district for processing. The quality of the local prunes packed in heavy syrup has been reported superior to prunes packaged in other districts. The committee believes the district could and should support a processing program.

#### **Fertilizers for Prunes**

The building up of the supply of organic matter in the soil is the basic requirement in maintaining soil fertility. There is no other orchard district in Oregon that has access to such a supply of organic fertilizer as fruit growers of the Milton-Freewater district. There are thousands of tons of pea vines going to waste annually that would provide the basic requirements for maintaining soil fertility in local orchards.

The application of 10 tons of wet pea vines plus 400 to 600 pounds of superphosphate 18 per cent makes an ideal well-balanced fertilizer for orchards. Dry pea vines contain around 4 per cent nitrogen. A 5-ton truck load of vines will contain approximately 100 pounds nitrogen, 25 pounds phosphate and 100 pounds potash. Therefore, the addition of superphosphate is desirable.

A few prune growers are applying pea vines but more growers should use them. One grower began using vines in his 9-acre prune orchard five years ago and the yield was increased from 7 tons to 16.5 tons of prunes per acre. This orchard is over 25 years old.

Because of the need for more organic matter and fertility in the orchard soils, the committee suggests that growers use more pea vines.

The use of commercial fertilizers is recommended when pea vines cannot be acquired. The

Extension Service conducted demonstrations on old prune orchards in 1938 to 1940. The fertilizers were broadcast around the trees

and in the irrigation ditches early in the spring. The following table shows 3 years results:

**PRUNE FERTILIZER DEMONSTRATIONS**  
**Milton-Freewater District**  
**1938-1939-1940**

Fertilizer Material	Pounds Per Tree	Total 3-yr. yield (Tons)	Gross Return per acre	Total Cost Fertilizer	Net Return per acre	Return per acre due to Fertilizer
Sulphate of Ammonia....	6.0					
Superphosphate 43% ....	1.66	54.06	810.90	65.36	754.54	176.94
Sulphate of Ammonia....	6.0					
Murate of Potash .....	1.8	47.25	708.75	63.15	645.60	77.00
Superphosphate 43% ....	1.66					
Murate of Potash .....	1.8	42.93	643.95	29.31	614.64	46.04
Sulphate of Ammonia....	6.0					
Superphosphate 43% ....	1.66					
Murate of Potash .....	1.8	47.43	711.43	77.91	633.54	64.94
Sulphate of Ammonia....	6.0	45.84	638.00	32.40	650.60	82.00
Unfertilized—3 Plots ....		37.90	568.60		568.60	

Note: Price of fertilizers—Sulphate of Ammonia 2.5c per pound; superphosphate 43%, 2.75c per pound; Murate of Potash, 2.5c per pound.

### Cover Crops

The establishment of an alfalfa cover crop is recommended where there is ample moisture supply. Northern grown seed of the Lakad variety is recommended.

The seeding of Austrian winter peas in the early fall is recommended where moisture is not ample for an alfalfa cover crop. Seed 80 to 100 pounds of Austrian peas per acre. An application of 400 pounds superphosphate 18 per cent before planting is very beneficial to the pea cover crop. When the vines are disked down in May, it is recommended that a light application of sulphate of ammonia, (100 pounds to 200 pounds per acre) be applied to aid in decomposing the vines. Unless this is done the decomposing vines will take nitrogen from the soil for this process, thereby robbing the trees of needed nitro-

gen for a short time after the vines are disked under.

Cover crops mainly supply needed organic matter to the soils. The growing legume cover crops add nitrogen, as well as organic matter to the soil.

The committee recommends that the above fertilizer and cover crop practices be followed to build up and maintain the organic content of the soil, thereby maintaining soil fertility. It is recommended that the Extension Service continue fertilizer and cover crop demonstrations, since they definitely bring out the value of such practices.

### Pruning

The committee suggests that the Extension Service conduct pruning demonstrations. These demonstrations should be carried out on two or three orchards over a period of 5 years.

It has been proved that by proper pruning superior quality and increased yields can be obtained.

A pruning demonstration on shaping and forming young prune trees should be established. Such a demonstration would help grow-

ers planting new orchards. Too many prune orchards in the past have not been properly pruned during the early years.

Results of Extension Service demonstrations are shown in the following table:

**SUMMARY OF PRUNING DEMONSTRATIONS ON PRUNE TREES  
Milton-Freewater District  
1936-1939**

Unpruned			Pruned by Extension Service		
No. trees	Yield per tree	Yield per acre	No. trees	Yield per tree	Yield per acre
1936 ..... 16	241.9 lbs.	26,125.2 lbs.	18	275.6 lbs.	29,364.8 lbs.
1937 ..... 22	168.7 lbs.	18,219.6 lbs.	15	207.0 lbs.	22,356.0 lbs.
1938 ..... 8	128.5 lbs.	13,878.0 lbs.	8	198.0 lbs.	21,384.0 lbs.
Average	179.7 lbs.	19,407.6 lbs. 9.7 tons		226.3 lbs.	24,368.2 lbs. 12.18 tons

Note: These trees 20 to 30 years old. Only small devitalized twigs were pruned from under side of limbs. No large cuts made and no branches taken from tops of trees.

**Insect and Disease Control**

The prune growers are confronted with added insect and disease problems. The longer prunes are produced in the area, the more attention growers need give their spray program. Good spray programs must be followed if growers are to produce top quality prunes. The introduction of new insecticides and fungicides makes for a more confused spray program.

The committee firmly believes the Oregon State College can render a great service to the fruit growers of the Milton-Freewater district by carrying on research work in the district. The insect and disease control problem is so varied that recommendations in many cases by the Experiment Station are not applicable for this district. In other words, recommendations based on Willamette Valley conditions, do not apply to the local district. The committee would go so far as to recommend that the Oregon State College seriously consider establishing a branch Experiment Station in this district.

**ACREAGE AND OUTLOOK**

The apple acreage in Umatilla county has decreased from 3745 acres in 1920 to 450 acres in 1945. The acreage has remained around 500 acres for the district for the past five years. Most of the present acreage is located in the Walla Walla River district.

Apple growers will probably find increasing competition from

eastern apple sections in the large centers of population. The tremendously increased production of citrus fruits in California, Texas and Florida will compete with apples. The per capita consumption of apples has steadily declined from 41.9 in 1931 to 26.5 pounds in 1944, while citrus consumption has increased from 31

pounds in 1930 to 68 pounds in 1944. The committee recommends that future apple plantings should only be made to complete a farming unit. The committee is of the opinion that there is a future for growers who produce quality apples. Growers planting new trees should consider the popular varieties such as Red Delicious, Golden Delicious, Red Romes and Winesaps.

### Marketing

Shippers and handlers should be urged to obtain more distribution throughout the mid-west and south. Apples can be packed in an inexpensive manner for the farm type markets, thereby reducing costs.

### Fertilization and Cover Crops

Practically all apple orchard soils of the district are in need of organic matter. Lead spray has been applied so long that it is very difficult, if not impossible, to establish cover crops. It would require the addition of organic material, like pea vines or barnyard manure to establish cover crops of alfalfa or Austrian peas. Apple growers might well establish alfalfa cover crops in the orchards to eliminate the "Little Leaf" disease that is increasing in the apple trees.

Superphosphate and boron should be applied with the organic fertilizers, pea vines, barnyard manure, legume cover crops, etc., to make for a balanced fertilizer program. The soils of the district are definitely lacking in boron and phosphate.

The committee would like to see fertilizer trials conducted to determine effects on color, yield, quality and resistance to disease.

### Insect Pests and Disease

The committee believes the DDT

spray material will replace the use of lead arsenate spray for codling moth control. Growers using DDT will need to be prepared to combat red spiders and aphids. The insecticide companies will, no doubt, have materials to successfully control red spiders and aphids.

With the development of new type spray equipment and new spray materials, growers will be able to produce better quality apples.

Mildew fungus disease is becoming very serious in some apple orchards and growers need to give this disease special attention by applying pre-blossom sprays of lime-sulphur. The varieties most affected are: Red June, Yellow Transparent, Jonathan, Gravenstein, Rome, and to some extent, Delicious.

### CHERRIES

The cherry acreage has remained around 600 acres during the past 15 years. There have been relatively no new plantings in recent years. The production has fluctuated from 30 to 75 cars annually because of June rains in some years.

Many of the present trees are too old and infected with virus diseases and should be replaced with new plantings. The committee believes the present acreage should be maintained with no increased plantings unless the processors can use cherries for canning or freezing. The processing of cherries would conflict with canning and freezing of peas.

### Need for Improved Cultural Practices

Cherry growers have neglected trees because of crop failures due to rain, frosts, poor pollination and low returns. Therefore, it

has been the tendency for the cherry trees to be neglected as to pruning, fertilizing and irrigation.

The committee suggests that fertilizer trials be established and followed up for several years to see which fertilizers are of benefit in increasing yields of better quality cherries.

#### **Insect Pests and Diseases**

As the Oregon side of the Walla Walla valley is free from the cherry fruit fly, growers and shippers should cooperate in every way possible to keep the fly out of the district. This can be done effectively by following the recommendations of the Oregon

State Experiment Station. Oregon growers should insist that the Washington State Department of Agriculture clean up the infestation found during the 1946 season.

Probably the most serious troubles facing cherry growers are the virus diseases infecting cherry trees, which cause low yields of poor quality cherries. The committee urges strongly that the Oregon State College make a survey of the cherry trees in the district to determine the extent of the infected trees and conduct grower meetings to discuss virus disease troubles. This project should be started immediately.

### **GENERAL RECOMMENDATIONS**

#### **Horticultural Experiment Station**

The committee requested the establishment of an experiment station in this district for the following reasons:

1. Horticultural crops return approximately one-fourth (\$5,000,000.00, 1945 census) of the total income from all agriculture in Umatilla county.

2. New insect pests and virus diseases are increasing the annual loss of returns to over half the farm families of the county.

3. Other types of agriculture such as wheat and livestock have experiment stations in Umatilla county or eastern Oregon to work out more efficient management practices and insect and disease control. Horticulture does not.

4. Recommendations of the Oregon State Experiment station for control of certain insects and diseases are often based on climatic and soil conditions of western Oregon, therefore, do not apply to conditions in Umatilla county.

#### **4-H Club Agent**

The committee is of the opinion that the Extension Service staff should be increased to include a full time 4-H Club agent for Umatilla county. This would relieve the assistant county agent of many 4-H Club responsibilities and leave him more time for horticultural work.

#### **Marketing Fruits and Vegetables**

Crop information should be dispatched from one government agency. With the present reporting, no two agree on facts and figures pertaining to production and marketing of fruits and vegetables. State lines should be disregarded in reporting on horticultural crops when an area happens to be located in two states.

The committee requests that Oregon State College conduct a survey of processing firms to determine whether it is advisable to have an alcohol plant to take care of the low grade fruits and vegetables.

## FARM CROPS COMMITTEE REPORT

### General Situation

Farm crops continue to provide the largest source of income to Umatilla county farmers from any agricultural activity, accounting for 73.7 per cent of the total in 1942, the last year for which estimates are available. In that year the income was over \$13,000,000. The last decade has seen a big shift in acreage in fallow to acreage in peas for processing. The huge increase in the acreage of miscellaneous specialty

crops from 1929 to 1944 was mostly in the production of dry edible peas. Because a separate committee is giving consideration to canning peas and processing crops, these commodities will not be dealt with here.

The acreages in the following table are taken from county agricultural data compiled by O. S. C. Extension service, September, 1946. It includes acreage duplicated when land is used for both grain and seed or hay and seed.

### ACREAGE OF FARM CROPS IN UMATILLA COUNTY

Crop	Acres			
	1919	1929	1939	1944
Small grains .....			*281,143	*365,791
Corn .....	243,397	262,151	214,550	249,200
Hay Crops .....	1,062	623	1,350	1,100
Other forage crops and uses such as plowable pasture .....	60,769	49,526	40,000	37,200
Fallow, idle, failure, etc. ....	260	42,874	44,900	48,515
Forage seed crops .....		284,007	287,000	204,000
Misc. Specialty crops .....		103	1,490	2,217
Tree fruits and nuts .....	46	6,895	2,185	42,515
Small fruit crops .....	4,642	5,478	4,051	3,806
Truck crops and potatoes .....	224	123	264	231
Specialty Horticultural and Greenhouse crops .....	1,248	1,766	17,308	45,527
			352	175

\* Land from which crops were harvested, hay cut, or in orchards. U. S. Census figures.

### Wheat

Wheat remains king of all crops in Umatilla county and constitutes the largest single source of farm income, with the average crop amounting to about 6½ million bushels. The U. S. Census showed 252,397 acres of wheat in 1929, with a decrease to 228,822 acres in 1944.

The committee believes that a desirable average long time goal for the wheat acreage in the county should be about 220,000 acres. The committee feels that proper soil conservation and the

looming surplus problem justifies this position.

### Wheat Harvested for Grain in Umatilla County

Year	Acreage
1919 .....	224,611
1924 .....	221,771
1929 .....	252,397
1934 .....	211,185
1939 .....	191,279
1944 .....	228,822

Wheat yields over the past ten years have ranged from 25 to 35 bushels per acre as indicated in the following table:

**Average Wheat Yields in Umatilla County\***

Year	Bu. per acre
1936	25.3
1937	26.2
1938	28.8
1939	25.6
1940	25.9
1941	35.7
1942	33.7
1943	32.2
1944	29.0
1945	28.0

\* From County AAA records, supplied by Umatilla County Agricultural Conservation Ass'n.

To maintain yields the committee recommends that:

1. Farmers conserve soil. For detailed suggestions see the report of the Soil Conservation Committee of this County Agricultural Program Planning Conference.

2. Weeds be controlled. See weed control section of this committee's report.

3. Good growers should develop the certified seed wheat business in order that an adequate supply of good clean seed be available so that admixtures will be eliminated. Growers and dealers should do their part in eliminating mixtures from the county. Information developed at our experiment stations reveals that it is not necessary to send off to a different place for new seed wheat as long as the seed wheat used is true to variety and pure.

4. Smut be controlled by treating smut susceptible varieties with one ounce of New Improved Ceresan per bushel.

**Wheat Prices**

In the 36 year period from 1909 through 1944 the price of "all wheat" in Oregon has fluctuated from a low of 38c to a high of

\$2.05 per bushel. Our subcommittee, assigned the job of assembling wheat price data for Umatilla county, found that the average price of "all wheat" for the state was also applicable for the county. The committee said that while prices paid in the county might not have been identical with these state averages that the committee believed prices were close enough for all practical purposes.

**Seasonal Average Price—All Wheat—Oregon\***

Year	Per Bu.
1909	\$0.93
1910	.88
1911	.76
1912	.74
1913	.74
1914	.88
1915	.86
1916	1.18
1917	1.97
1918	2.05
1919	2.05
1920	1.94
1921	.94
1922	1.00
1923	.88
1924	1.26
1925	1.34
1926	1.21
1927	1.17
1928	1.04
1929	1.10
1930	.74
1931	.38
1932	.42
1933	.65
1934	.74
1935	.72
1936	.90
1937	.77
1938	.45
1939	.71
1940	.66
1941	.92
1942	1.07
1943	1.29
1944	preliminary 1.38

\* Taken from OSC Extension Bulletin 660, "Oregon Farm Price Data."

The income from wheat for the county is estimated at \$9,482,643 for the year 1944.

#### Wheat Varieties

A study by a subcommittee revealed that the various varieties of wheat grown in the county occupy the following percentages of the acreage:

Rex .....	40%
Federation .....	30%
Alicel .....	20%
Elgin .....	5%
Other Varieties .....	5%

The committee recommends that only known and recommended varieties be planted. New varieties should not be introduced until they have received thorough experimental tests for yield and baking quality to determine their value in a specified locality. Each year money is lost through planting some variety said to be a wonder in some other locality.

#### Smut Control

Smut in wheat is an increasing problem. For the crop year 1946, 6.77% of all samples graded "smutty." The following table gives details for the county:

#### WHEAT GRADING SMUTTY IN UMATILLA COUNTY—1946

(Figures Represent Number of Samples Grading Smutty)

District	Percentages							Total
	0.5%	1.0%	1.5%	2.0%	2.5%	3.5%	6.5%	
Adams .....	0							
Athena .....	3	1	2					
Blakeley .....	0							
Downing .....	0							
Duroc .....	0							
Echo .....	0							
Fulton .....	9	3						
Havana .....	0							
Helix .....	6	1						
Holdman .....	1							
Mission .....	2							
Myrick .....	1	1	1	1				
Pendleton .....		1	1					
Pilot Rock .....	10	4	1		1	1	1	
Rieth .....	0							
Sparks .....	0							
Stanton .....	8		1					
Umatilla .....	1	1	1					
Van Sycle .....	1	1						
Waterman .....	0							
Wayland .....	1	1						
Weston .....	0							
<b>Smutty Samples .....</b>	<b>43</b>	<b>14</b>	<b>7</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>1</b>	<b>68</b>

Total samples 974—in public warehouses in Umatilla County—1946 crop.

0.5%—4.42% of total.

1.0%—1.43% of total.

1.5%—0.72% of total.

6.77% of total samples graded smutty.

Smut not only reduces the yield of wheat but also makes the wheat worth less to the buyer. For example, wheat grading  $\frac{1}{2}\%$  smut has charged against it, a deduction of  $\frac{1}{2}$  of 1% of the total weight plus 50c a ton smutting charges. These charges therefore total about  $2\frac{1}{2}$ c per bushel with wheat valued at about \$1.88 per bushel Portland.

Wheat grading  $\frac{1}{2}\%$  smut commonly described as "line samples" penalizes the grower excessively under present discounts. Therefore, the committee recommends that the Division of Cereal Inspection, Grain Branch of the Production and Marketing Administration review this condition with a view to relaxing such stringent grading practices.

If the lot of wheat grades 1% or more smut, the deductions are twice those made for wheat grading  $\frac{1}{2}\%$  smutty. While the committee recognizes that the present smut losses are not large in comparison with 20 years ago, the losses are increasing and this upward climb should be checked.

As indicated in the varietal acreage study of this report there are large acreages of soft white and white club wheats grown in the county which have no resistance to smut. The committee recommends that these varieties be thoroughly treated with one ounce of New Improved Ceresan per bushel. Growers should be sure that this recommendation is followed carefully. All other varieties which have smut resistance should be treated with one-half ounce per bushel of New Improved Ceresan.

#### Wheat Marketing

Umatilla county wheat cannot be separated from Oregon wheat nor from Pacific Northwest wheat. It is naturally all one

pile, of which Umatilla county furnishes about 7%.

Favorable factors in marketing include:

1. A growing Pacific Coast population.
2. Increasing use, nation-wide, of pastry type flours. The Northwest Millers Ass'n reports that the production of pastry flours has doubled in the past 10 years.
3. Location of mid-west mills in this area.
4. New and better pastry type wheats. The variety Elgin is an example.

Unfavorable factors include:

1. The nation is producing billion bushel wheat crops and consuming less than 70% of its production—about a third going abroad.
2. The same condition now prevails as before the war, namely, we are exporting more products than we import, while we have most of the gold, leaving no way for foreign nations to pay for our wheat and other products.
3. At present we are giving the wheat away. We do not know how long the nation will continue this policy. As soon as it stops, wheat growers will be in trouble, along with growers of cotton and a few other crops.

Wheat growers, therefore, have only a few alternatives:

1. Acreage reduction through acreage control.
2. Continued subsidization of exports.
3. Full production, but use of wheat in industry on a scale necessary to use up surpluses.

#### Wheat Surplus Disposal

There do not seem to be any other plans. We believe that (3) above offers the best hope. Acre-

age reduction only shifts wheat land into other crops and makes trouble for other farmers. It was the consensus of the committee members that wheat acreage control is not the answer to the wheat surplus problem but that we should promote additional uses for wheat. Continuous exports by giving away the wheat will eventually run into bitter objections from other wheat exporting nations and precipitate trade wars. Use of wheat in industry, for alcohol, glucose, and other products seems the most constructive course.

This committee, therefore, recommends that wheat farmers support the movement approved by the Eastern Oregon Wheat League to form a State Wheat Commission, financed by a tax of  $\frac{1}{2}$  cent per bushel, to work toward better markets for Oregon wheat and to study industrial uses.

Most of the white wheat grown in Umatilla county is low in protein and appears to be of superior quality for certain specialty flours. In all other major wheat growing areas of the United States quality laboratories have been established to study the special qualities of wheats produced in that particular region and to determine their best usage. Recognizing that very little comparable information is available on the white wheats produced in this area, the committee recommends the endorsement of the efforts of Oregon, Washington, and Idaho Experiment Stations and the Bureau of Plant Industry, USDA, to obtain Hope-Flanagan funds for the operation of a regional cereal laboratory at Pullman, Washington. These are federal funds made available by the U. S. congress.

The committee believes that farmers should not lose sight of the fact that the value of wheat in fattening livestock is unsurpassed. Feeding out livestock locally with home grown grains instead of expensive imported feeds should be encouraged by all grain growers. Extensive wheat feeding trials have been carried on at the Union Branch Experiment Station. Published results of these experiments can be obtained at the office of the county agent or assistant county agent.

### Barley

Generally, seed of beardless barley has been uniformly high in price throughout the county and quite a volume has been shipped in each year. The committee, therefore, recommends that there be some increase in the acreage of Meloy barley on dry land and Union beardless barley on irrigated land for seed purposes to meet this demand. Soil and climatic conditions are not suitable for the production of malting type barleys.

### Barley Acreage in Umatilla County

Year	Acreage Threshed or Combined
1939 .....	16,514 (census)
1940 .....	32,500
1941 .....	23,500
1942 .....	52,500
1943 .....	33,000
1944 .....	15,178 (census)
1945 .....	12,500

### Oats

Oats mature too late for good hay strips around wheat fields. When it is necessary to grow a feed grain on irrigated land in the crop rotation, barley can be depended upon to give higher

yields than oats. However, when oats are grown, Markton, a smut-proof variety, should be seeded.

**Corn**

The committee recommends that the corn acreage be increased to 7000 acres. The present crop totals about 1100 acres. This increase should largely occur in the irrigated sections in order to supply the demand for corn which is now shipped into the county from out-of-state. Growers are producing 36 to 42 bushels per acre according to the 1940 and 1945 U. S. Census. Under proper management and the use of new corn varieties such as U. S. No. 13, Oregon 101, Iowearth and Iowa 939, in the irrigated sections of the county the committee believes that these yields could be increased to 70 to 80 bushels per acre. Corn grown on irrigated land should be fertilized.

**Corn Acreage in Umatilla County**

(For Livestock Feed)

Year	Acres
1939 .....	1,350
1940 .....	1,300
1941 .....	1,450
1942 .....	1,400
1943 .....	1,350
1944 .....	1,010 (Census)
1945 .....	1,000

**Flax for Seed**

Although flax for seed does not do well at the Pendleton Field Experiment Station or in most localities in the county, because of heat canker, this crop is reported to have yielded satisfactorily east of Milton in the higher elevation and rainfall areas.

**Mustard**

In the past mustard has yielded only 200 to 700 pounds of clean seed per acre, therefore, the committee does not recommend growing this crop.

**Dixie Wonder Austrian Peas**

This strain of Austrian winter field peas has done particularly well on the Carl Engdahl and the Alex McKenzie ranches. The committee believes that this crop might well be grown on 8,000 acres.

**Seed Crops**

Since 1939 the production of small seeds has been going down in Umatilla county. Probably this trend has largely been due to World War II and the emphasis on producing wheat and peas for human consumption. The committee believes we are going into an adjustment period in which the demand for wheat may be less than it has been the last five years, and suggests that alternative crops in some places might well be small seeds. With the the agricultural conservation program applied to farms and ranges of the United States, it seems desirable that Umatilla county growers expand the acreage of grass and legume seed crops to offset the imports of such seed. On the higher producing lands such grass seed crops as Alta Fescue, Tall Meadow Oat grass, Braage Orchard grass, Smooth Brome grass, Chewings Fescue and Creeping Red Fescue produce a reasonable income per acre under price conditions prevailing the last five years.

**FORAGE SEED CROP ACREAGE IN UMATILLA COUNTY**

Year	Alfalfa	Red Clover	Sweet Clover	Strawberry Clover	Crested Wheat Grass	Alta Fescue	Other Grasses	Totals
1919								
1929	102							102
1939	350			250	885			1485
1940	125	125		80	900		272	1502
1941	120	75	5	35	800		85	1120
1942	225	10	100		350	65	70	820
1943	70	20	150	5	125	65	70	505
1944	102	20	5		50	35	20	232
1945	200	20	5		35	35	20	315

Red, Sweet, Ladino and Strawberry Clover and Ranger, Ladak, Grimm, Creeping and common Alfalfa grow and produce seed in Umatilla county. For the most part these are produced in the irrigated sections of the east and west end. However, seed has also been produced along the Umatilla river and on Weston, Basket, Reed and Hawley mountains. The committee believes that the acreage of small seeds might well be increased to 2000 acres.

The following seed crops have also been produced in the past five years:

**PEA AND MISCELLANEOUS ACREAGE IN UMATILLA COUNTY**

Year	Austrian Peas	Hairy Vetch	Dry Edible Peas	Mustard	Garden Peas
1919					
1929					
1939			700		800
1940				2,250	700
1941		25	7,400	3,185	300
1942	9,000	80	*21,100	800	1,000
1943	10,000	75	*35,200	20	2,300
1944	2,000		*34,000	1,500	6,000
1945	2,100		*23,500	400	4,000

The county has also always produced a few miscellaneous things such as vegetable seeds, beans, drug plants, etc.

\*Part of these were planted for threshing, part are canning peas that got too ripe and had to be threshed, does not include wrinkled types not used for human food.

**Fertilizers**

The committee wishes to draw the attention of farmers in the sections of the county having 16 inches or more annual rainfall to the possibilities of raising crop yields with applications of commercial nitrogen fertilizer.

The Pendleton Experiment Station results show little response to any fertilizing element

except nitrogen. Barnyard manure and pea vines are excellent sources of nitrogen, but manure is not available in large quantities and pea vines have been cumbersome to handle. Where annual rainfall exceeds 16 inches, the application of at least 100 pounds of commercial nitrogen fertilizer can be expected to give good returns for the extra cost.

**FORAGE CROPS**

**Hay**

The acreage of "All Hay Crops" and the acreage of "Alfalfa Hay" in the county has

decreased from 60,000 to 36,000 and from 29,000 to 22,000 acres, respectively, since 1919, as shown by the following table:

**HAY GROWN IN UMATILLA COUNTY**

Year	All Hay in County—Acres	Alfalfa Hay—Acres
1919	60,769	29,483
1924	68,496	32,868
1929	45,526	25,349
1934	53,260	20,762
1939	40,000	24,000
1940	42,900	26,300
1941	39,150	27,000
1942	36,265	24,000
1943	38,265	24,000
1944	*34,733	*21,802
1945	36,905	22,000

\*—U. S. Census.

In 1925, 12,915 tons of hay or 46.5 per cent of the total production was shipped out. Today, because of the increase in the number of cattle, the committee does not think that more than one-half that amount is shipped out. Most of the hay shipped is alfalfa. The only other important kind of hay is grain hay which fell from 33,483 acres in 1924 to 12,200 acres in 1945. This decrease is almost all due to the disappearance of horses which decreased in those years from 22,475 to 5,400. Some of this decrease in acreage is also due to the reduction in sheep.

Based on numbers of sheep, cattle and horses in Umatilla county in 1920 compared with the number on hand in 1945, there has been a net loss of 21,330 head of hay consuming animals. With a loss of about 21,000 head of stock and a decrease of about 24,000 acres in hay, the situation is probably about right—provided the hay yields are as good now as they were in 1920. Up to 1924 alfalfa

in the west end yielded an average of about 3½ tons per acre. In 1925 due to water shortage and an unusual freeze the crop averaged 2.6 tons per acre on the Hermiston project. Alfalfa hay in the Milton-Freewater area yielded an average of 2.6 tons per acre in 1934 according to the U. S. Census for 1935.

For the county the census figures for two recent years on hay yields are presented in the following:

**Average Yield Per Acre in Tons**

	1945	1946
Grain Hay	1.4 tons	1.3 tons
Wild Hay	.9 tons	1.0 tons
Alfalfa	2.6 tons	2.7 tons

The committee recommends that farmers making new plantings of alfalfa, seed wilt resistant varieties such as Ranger and Ladak, and study the effect of fertilizers, especially sulphur and phosphate.

### Pasture

Rundown alfalfa fields, turned into pastures, usually are almost straight blue grass which has the unfortunate habit of becoming almost dormant during the hot summer months. Therefore many pastures in the county are returning only a fraction of what they should. Results on both farms and experimental stations show that either white sweet clover or good mixed grass pastures yield as many dollars on the average as one can expect from alfalfa or grain. Census returns for the county show that blue grass pastures are not producing this much and frequently only return \$5 to \$10 per acre per year. Pastures which should return 200 pounds of butterfat per acre are only returning 40 to 50 in many cases.

### Types of Pastures

Mixed grasses are recommended for Butter creek and for the Umatilla River Meadows, because soils there hold moisture well. On the coarser soil types, white sweet clover is likely to yield more and will certainly require less water than the more shallow rooted grasses.

For dry land areas crested wheat grass has established itself as the leading kind, while in the districts of heavier rainfall such as the foothills and mountain areas, growers should use singly or in mixtures such grasses as Alta Fescue, Smooth Brome, Orchard Grass and Tall Meadow Oat grass.

The committee recommends the following mixtures for the different rainfall areas in Umatilla county:

### Grass and Legume Mixtures for Umatilla County

#### IRRIGATED PASTURE

Kind	Per acre rate of seeding
Smooth brome grass	6
Orchard grass	4
Meadow or Alta Fescue	6
Ladino clover	2
Total pounds per acre	18

Kind	Per acre rate
Smooth Brome grass	6
Meadow Foxtail	4
Alta Fescue grass	6
White Dutch or Alsike	2
Total pounds per acre	18

#### IRRIGATED HAY

Alfalfa	8
Smooth brome grass	6
Alta Fescue or Tualatin Oat grass	4
Total pounds per acre	18

#### 18 to 20 INCHES ANNUAL PRECIPITATION DRYLAND HAY OR PASTURE OR SHORT-WATER IRRIGATED AREAS

Alfalfa	5
Smooth brome	6
Fairway Crested Wheat grass	4
Total pounds per acre	15

#### 15 to 18 IN. ANNUAL PRECIPITATION

Alfalfa	5
Crested Wheat	4
Total pounds per acre	9

#### 12 to 15 IN. ANNUAL PRECIPITATION DRYLAND HAY

Alfalfa	3
Crested Wheat grass or Pubescent wheat grass	5
Total pounds per acre	8
(Seed in spring in alternate rows.)	

#### 8 to 12 IN. ANNUAL PRECIPITATION DRYLAND PASTURE

Crested Wheat Grass	5
Bulbous bluegrass	2
Ladak alfalfa	1
Total pounds per acre	8

Big Blue grass	6
Alfalfa (Ladak)	1
Total pounds per acre	7
(Two years are required for Big Blue grass to become established.)	

**17 to 20 IN. ANNUAL PRECIPITATION  
DRYLAND OR IRRIGATED GREEN  
MANURE AND PASTURE**

Sweet clover .....	5
Mountain Bromegrass variety —Bromar .....	10
<hr/>	
Total pounds per acre .....	15
(For green manure crop grow two seasons and then turn under.)	

**14 to 17 IN. ANNUAL PRECIPITATION  
DRYLAND PASTURE AND GREEN  
MANURE CROP**

Yellow sweet clover .....	3
Crested Wheat Grass .....	5
<hr/>	
Total pounds per acre .....	8
This mixture may be used for a short rotation.	

Results at the Pendleton Branch Field Experiment Station reveal that one cannot get pasture plus a green manure crop.

**WEED CONTROL**

The acreage of perennial noxious weeds is increasing in Umatilla county. Weeds are reducing crop yields and quality, also land productivity and values.

We have a good state weed law, adequate to meet all situations but laws do not kill weeds nor does talk. Active and aggressive individual weed consciousness is required. Anyone waiting for a public agency to come on his farm and clean up his weeds for him may wake up some morning to find it is too late. Large scale weed control on private land may best be effected today through private ownership of necessary equipment or custom operators.

Although not all the answers to weed problems are in, nor ever will be, there is plenty of information available on several control methods by which farm operators may proceed immediately to clean up weed infestations economically and rapidly.

The committee recommends that the county agent and his assistants conduct a two-day farmer's weed school at Pendle-

ton, Hermiston and Milton-Free-water. At these schools the latest information on weed control materials and their use can be presented along with new developments in weed treating equipment.

The committee wishes to commend the county court on the work done by the weed control crew in 1946 in treating 8189 square rods of perennial noxious weeds. Following meetings of our subcommittees and the members of the county weed council your committee recommends that the county court and budget committee appropriate sufficient funds so that two additional mounted mobile weed spray units can be purchased and put into operation as soon as possible. To cope with the perennial noxious weeds along our county roads in an adequate manner, the committee recommends that one mobile spray unit be stationed with a crew at Pendleton; one at Hermiston; and a similar unit and crew at Milton. Sufficient money should be provided to employ a full-time weed supervisor who, in collaboration with the county agent, would conduct trials and treat weeds on county owned land.

In 1946, 228 Umatilla county farmers obtained 284,479 pounds of sodium chlorate by pooling orders through the county agent's office, purchasing the material at cost. The county weed control crew, under the immediate supervision of the county weed inspector, treated 8189 square rods in the seven months that the control crew worked. The following table summarizes this project for the year.

### Volume of Weed Control Work in Umatilla County—1946

Days worked by County Weed Inspector	257
Other man days (Labor employed by weed crew)	281
Miles traveled by County Weed Inspector	6,471
Pounds 2,4-D Salt	302
Pounds Salt (NA Cl)	10,700
Sinox, pounds	5
Dieseline, gallons	5
Dow Contact Herbicide, gallons	75
"Tu For 40", gallons	64

#### NOXIOUS WEEDS TREATED

	Sq. Rods
Russian Knapweed	528
White Top	995
Wild Morning Glory	6483
Canada Thistle	15
Blue Flowering Lettuce	20
Australian Pea Weed	14
Puncture Vine	134
*Number of trial plots	62

\* These were established by the county weed inspector, Carl Hopper, under the direction of the county agent and W. G. Nibler of Oregon State College; the county agent and John Clouston; and by assistant county agent, Le Roy Fuller, Hermiston.

Some of the worst eroded and weed infested land in Oregon is to be found on the Umatilla Indian Reservation. The U. S. Indian Service, in allowing this situation to exist without taking adequate corrective measures, is failing in its responsibilities and should take remedial action at once. The committee also points out that Indian horses running loose up and down the roads are responsible for spreading weed seeds.

With present knowledge of selective weed treatment and present wheat prices, most farmers can effectively and economically control annual weeds in wheat, thereby increasing yield, quality and net cash returns while at the same time preventing reseeding of the ground to weed pests. Where land is infested with wild morning glory beyond the point

where spot treatment with sodium chlorate will efficiently cope with the situation, the committee recommends that the operator adopt the clean cultivation control program. This program once adopted should be closely adhered to. Detailed instructions are carried in Oregon Experiment Station Circular of Information No. 336 entitled "Control of Wild Morning Glory or Bindweed by Cultural Methods."

The committee recommends that county roadsides and sides of state highways be planted to crested wheat grass to retard the spread of wild morning glory. We ask all railroad companies operating in Umatilla county to control weeds, especially wild morning glory, along their rights of way. The practice of selling for seed, wheat that contains wild morning glory seed, is condemned by the committee. The committee urges all farmers to take every precaution against seeding wheat that contains wild morning glory or other perennial noxious weed seeds.

#### Farm Machinery

Development of new farm machinery has been at a standstill during the period 1941-1946, because all factories and manpower were needed for war production except for a few implement manufacturers who were allowed a percentage of their 1941 production to take care of emergency needs. There is need for improvement and modernization of all farm equipment, particularly cultivating and harvesting machinery.

Use of trashy fallow as a soil conservation measure is recognized as a necessary step in a desirable long-time farming program, but the difficulty encoun-

tered in cultivating through the straw mulch has kept many farmers from adopting this program. This problem is especially acute in the eastern portion of Umatilla county where water erosion is prevalent, and the cultivation of trashy fallow is difficult due to the heavy soil formations and rank growths of straw.

New types of farm machinery are needed especially for initial tillage and seeding operations.

Dealers report that generally there will be an adequate supply

of farm machinery parts with the possible exception of a few items. They report that new farm machinery will be in short supply for at least one year.

New types of machinery badly needed include: weed control machines for trashy fallow, drills that will work in trashy fallow, traveling or combine type pea-viners, better and cheaper hay driers so that pea vines can be dried and used, and sprayers and dusters adapted to field use for weed control.

## CANNING PEAS AND PROCESSING CROPS COMMITTEE REPORT

### SITUATION AND OUTLOOK

Based on the U. S. Census for 1945, 288 Umatilla county farmers sold vegetables valued at \$3,408,554, or 21.4% of the value received by farmers for all crops sold. The greater portion of this 3-million-dollar income was derived from peas for processing. The following table indicates the vegetables harvested for sale in 1939 and 1944 based on U. S. Census figures.

### VEGETABLES HARVESTED IN UMATILLA COUNTY

Vegetable	Acres, 1939	Acres, 1944
Fresh Beans .....	30	42
Cabbage .....	14	20
Sweet Corn .....	52	63
Tomatoes .....	348	297
Green Peas .....	17,749	47,542
All other vegetables and melons (does not include potatoes) .....	472	732
<b>Total .....</b>	<b>18,665</b>	<b>48,696</b>

It will be noted from the foregoing that the acreage in vegetable crops increased 160 per cent from 1939 to 1944. This chiefly reflects the heavy increase in green peas for processing.

Indications from the U. S. Department of Commerce reveal that the prospective carry-over of canned fruits and vegetables will be 43 per cent above last year, a large surplus to start the 1947 production season. This condition is due to a greater canned food production than the demand

called for. The 1946-47 estimated supply of canned peas shows 46,236,000 cases on the tally as weighed against 42,621,000 cases produced in 1945-46. Washington and Oregon contributed 7,896,512 cases of peas in 1946, a 44 per cent increase above the 1945 figure. Reports from retailers and wholesalers throughout the country show large stocks on hand with demand primarily for Fancy peas with Standard stock moving very slowly. The Weekly Digest "Food Markets" published

in New York indicates prospective carryovers of 10,000,000 cases at the start of the 1947 seasonal pack which is a 91 per cent increase over the 5,236,000 cases in 1946. In view of this situation the United States Department of Agriculture is recommending that pea acreage be reduced 20 per cent in 1947 from the 1946 figure, considering this necessary

to keep the industry in a safe position.

In Table I below the state and county figures for 1942 through 1946 are presented. These were furnished by Niels I. Nielsen, Agricultural Statistician in Charge, Bureau of Agricultural Economics, U. S. D. A. stationed at Portland.

TABLE I  
OREGON—PEAS FOR PROCESSING

Year	Acres Planted	Acres Harvested	Yields Per	
			Acres—Pounds	Production—Tons
1942 .....	42,500	21,200	3,800	40,280
1943 .....	49,300	36,200	2,890	52,310
1944 .....	52,400	48,400	1,910	46,220
1945 .....	56,800	44,300	1,860	41,200
1946 (Prel.) .....	58,500	57,000	1,950	55,560

TABLE II  
UMATILLA CO.—PEAS FOR PROCESSING  
Indicated Acreage Planted and Harvested

Year	Acres Planted	Acres Harvested for Processing
1942 .....	39,300	18,300
1943 .....	45,800	33,500
1944 .....	47,500	43,500
1945 .....	53,000	41,000
1946 .....	54,800	53,300

More than \$5,000,000 was received by Umatilla county pea growers in 1946, the committee estimated, based on yields of 1.2 tons an acre and an average price of \$72 a ton. Areas in the county particularly adapted to the growing of green peas for processing include the Walla Walla and Palouse type soils lying largely northeast of Pendleton to the stateline near Milton. In general the committee believes that processing costs are lower in the Blue Mountain area than competing green pea producing areas

and that the quality of the crop is high. However, to remain in a competitive position, growers and canners are going to have to emphasize quality in this post war period.

Based on favorable production factors such as soil, precipitation, and temperature, plus canning and freezing plants, and recognizing that there is danger of over-production of peas for processing, the committee recommends that attention be given to lowering the total production through raising quality. This will

necessitate an upward adjustment in the price scale to the farmer to compensate for his loss in tonnage and to insure his cooperation.

It was the belief of the committee that processors should continue to buy on the basis of sieve sizes. It is recommended that some non-interested party grade green peas for processing. The committee suggested that such a qualified grader might be employed by the State Department of Agriculture, by an association of growers or by the federal government.

**Machines**—There is need for improved pea harvesting machinery. The committee recommends that the agricultural engineering department at Oregon State college work on this problem.

**Insect Pest Control**—The committee recognizes that the economical and efficient control of pea aphid is a major problem threatening the very life of the pea industry, hence recommends that the experiment station study and work out practical control measures. The committee believes that research workers assigned to this problem should be stationed in the county.

The control of **Pea Weevil** continues to need emphasis. Because growers would prefer to control aphid and weevil with one and the same application of materials if possible, the committee recommends that Oregon State College conduct research and educational work on this problem.

**Rotenone dust** for pea weevil control is too high in price. The proper use of DDT appears to effect satisfactory control. In this connection the committee recommends that the college press for

a decision or ruling on the tolerance of DDT on pea vines by the U. S. Food and Drug Administration.

**Root Rots and Pea Wilts**—It is recognized that root rots, pea wilts and virus diseases are an increasing problem in the county and that these diseases have caused other districts to go out of pea production. To date the fungus disease, anthracnose, has not been found. Root rots and virus troubles, including **aphid mosaic** and **leaf spot and streaking**, have been discovered and may become more serious in the future. The committee recommends that the study begun in 1946 by plant pathologists in a very preliminary manner be continued on a larger and more aggressive basis and that some provision be made that will enable experiment station personnel to further investigate these diseases.

### Asparagus

Demand for asparagus will probably continue good. From 53 acres harvested in 1929 production has increased to 250 acres in 1945, grown chiefly in the Milton-Freewater and Hermiston areas of the county. As we move into this readjustment period following World War II, the committee believes that canning and freezing plants may have to process other crops. To determine what crops would be adapted and profitable the committee recommends that the Oregon Experiment station aid in developing or discovering new crops for the county that can be canned or frozen. Processors have set out considerable acreage of their own across the state line in

Washington, in order to get acreage for processing.

Since the quality of the local asparagus is excellent and is in demand by local canneries, the committee recommends that the acreage should be increased up to 2000 acres.

The yields of asparagus vary considerably throughout the Milton-Freewater district with an average of around 2 tons per acre. With a reasonable amount of added nitrogen the yield will reach 4 tons per acre. Fertilizer trials at the Prosser, Wash. Experiment Station indicated that nitrogen applied as commercial fertilizer was as effective as applying barnyard manure. One half of the commercial nitrogen as sulphate of ammonia should be applied to asparagus early in the spring and the second half applied immediately after harvest. (Part of the foregoing is from the Horticulture committee report on Vegetable Crops.)

### **Spinach**

The U. S. tonnage of spinach is not heavy and the pack put up in Oregon follows a similar pattern. The county grew 15 acres, according to official estimates for 1944.

The following report was taken from the Horticultural Committee's subcommittee report on vegetable crops. Your Canning Peas and Processing Crops committee wishes to give full credit to the Horticultural Committee of this conference, especially Chairman Grant York and Secretary Harry Cline of Milton-Freewater, for this material.

### **Beans**

Green beans is a crop that can

be grown very successfully in the Milton-Freewater district. It is possible to produce two crops a year on the same ground. There is enough demand locally for green beans to justify the growing of an acreage of beans. The committee is of the opinion that many farmers could plant a small acreage of beans and realize good returns. No large acreage should be planted unless a contract is obtained from a processor for the beans.

### **Sugar Beets**

The yield and quality of sugar beets produced in the Walla Walla Valley is about the highest of any sugar beet section of the United States. There could be additional acreage of beets grown if and when the sugar beet companies see fit to encourage it.

### **Miscellaneous Vegetables**

Many fruit growers who have suitable soil could produce small acreages of some of the following vegetables for local and nearby markets: sweet corn, cantaloupes, cucumbers, peppers, lima beans, lettuce, spinach, etc.

### **SMALL FRUITS**

**Strawberries**—The acreage of strawberries has ranged from 75 to 125 acres the past 10 years. The acreage was 210 acres in 1909.

Strawberries have been very much in demand for fresh market and local processors. The district can produce good quality berries on fertile soil. The committee is of the opinion that the acreage could be increased considerably since there is a strong demand for strawberries for freezing. The limiting factor for berry production would be labor since pea processing and cherry

harvest are on at the same time. It is very likely this condition will improve during the coming years.

Strawberries require very fertile soil and ample moisture. It is recommended that before strawberries are set out, that growers apply 10 to 20 tons of pea vines plus 500 to 600 pounds superphosphate per acre. Unless growers take precautions in properly preparing the soil for strawberries, the yields and quality will be disappointing.

In establishing new plantings the committee recommends that certified plants be set out. This will keep down disease which is a very serious problem with non-certified plants.

The committee asks that the Extension Service establish variety and fertilizer trials—the trials to include other small fruit varieties.

The strawberry root weevil is a serious pest but can be con-

trolled if growers follow the recommendations of the Oregon State Experiment Station.

**Raspberries**—The committee is of the opinion that new plantings of raspberries would be justified to supply local demand for fresh market and processing. The Cuthbert and Latham are varieties that do well in the district. Other varieties should be tried out.

**Youngberries and Boysenberries**—Youngberries and Boysenberries should only be grown to a limited extent as these berries are not very winter hardy.

**Grapes**—Since grapes can be successfully produced, the committee believes the tree fruit growers could make additional plantings to round out their farm unit and supply local and near-by markets. No large acreage is recommended unless suitable contracts with juice companies can be obtained.

## OTHER VEGETABLES

### Tomatoes

The planting of tomatoes for the year 1946 was approximately 425 acres or about 2 million plants; most of this crop was harvested as mature green tomatoes. A smaller percentage was harvested as ripe tomatoes for Northwest shipments and for local consumption. The acreage for the year 1947 will probably show a slight increase in spite of the poor returns for 1946.

**Packing and Grading**—The committee feels that the high standards now established for packing should be maintained.

**Canning Tomatoes**—A small acreage was planted in 1946 for

canning purposes, but the committee does not feel that this acreage should be increased because of the lack of suitable soil and the high cost of production and competition for labor during the prune harvest.

**Fertilizers**—The application of pea vines or the planting of Austrian peas to increase the soil fertility and humus should be encouraged. Commercial fertilizer with a ratio of 4-12-4 at 300 to 600 pounds per acre seems to be very satisfactory when applied before plant setting time. A side dressing of 16-20 or ammonium sulphate increases the set of fruit and increases yields materially.

**Varieties:** Stokesdale and Valiant are the principal varieties being planted at present. Varieties of recent introduction have been tried out but so far none has been found to replace the two varieties mentioned.

**Marketing:** It appears that the green tomato acreage will be increased in the Milton-Freewater area in 1947. Prices to the grower will depend upon the plantings in the larger districts throughout the United States. Since mature green tomatoes can be shipped anywhere in the United States, plantings in the Walla Walla Valley should be approximately the same in 1947 as in 1946 in order that this commodity may be

moved in volume. Returns to growers were high during the years of the war and large acreages were planted throughout the United States. In 1946 the price was low because of the large crop. The price in 1947 will depend on supply and demand. Plantings of tomatoes to be harvested as ripe fruit should not be increased since the markets of the northwest can not handle an increased supply.

**Diseases**—Some fungus-disease was in evidence in some plantings because of soil borne organisms in the greenhouses. These houses will be disinfected with chloropicrin and if successful this field loss will be eliminated.



Total acreage of county ..... 2,067,840

Number of farms in county ..... 2,105

Acreage in farms ..... 1,562,669

Cropland acreage ..... 616,046

Average annual precipitation—Varies, 8 inches  
in west portion of county up to 40 inches in  
eastern part.

Length of growing season—Pendleton, 155  
days; Milton, 190 days; Hermiston, 163 days.

Principal sources of agricultural income—  
Wheat, peas, animal products, horticultural  
products.