

RECOMMENDATIONS

for

AGRICULTURE and RURAL LIVING

IN

UMATILLA COUNTY



Committee Reports
of the County
Rural Affairs Planning Conference
February, 1958

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Foreword

The County Agricultural Planning Council met on February 28, 1957, at which time decision was made to hold a Rural Affairs Planning Conference. Previous conferences were held in 1926, 1929, 1936, 1938, and 1947.

This publication contains the combined reports of the 12 major committees divided into 25 sub-committees and a number of study groups.

James H. Maloney, Adams district farmer, was General Conference Chairman. He was elected chairman of the County Agricultural Planning Council for a 3-year term in 1955 and was selected by the council to head the Rural Affairs Planning Conference.

The 12 major committee chairmen were:

Economic Problems	James Hill, Jr., Pendleton
Land Use	Richard Hampton, Pendleton
Water Resources	Gaylord Madison, Echo
Crops	R. L. Harris, South Cold Springs
Weeds	Robert V. Wood, Weston
Processing Crops	Stafford Hansell, Athena
Family and Community Living	Mrs. Ada Sacrison Pilot Rock
Recreation	Raymond Reese, Helix
Livestock	William Hansell, Athena
Dairy	Arlen Buroker, Milton-Freewater
Poultry	John Bense, Hermiston
Horticulture	Walter Roloff, Milton-Freewater

Members of these 12 committees and their sub-committees totaled about 400. The 100 problems and questions they listed at a kick-off meeting September 17, 1957 were subjects reviewed, discussed, and worked on for five months culminating in a conference of all committees on February 11, 1958, at the Memorial Armory in Pendleton.

In addition to making the final reports, the conference asked some out-of-county folks to give their ideas on what the future holds for the county. These speakers were:

Frances Clinton, State Leader Home Economics,
Oregon State College
Dr. Burton Wood, Head Dept. of Agricultural Economics,
Oregon State College
Arthur S. King, Conservationist, Oregon State College
E. R. Jackman, Crops Specialist, Oregon State College
Prosser E. Clark, of the marketing firm of Benson,
Bodine & Clark, Portland
Clancy Jean, Secretary Agricultural Committee,
Portland Chamber of Commerce

The Rural Affairs Planning Conference was conducted in cooperation with the County Extension Agents and the Extension Service of Oregon State College. Special service and assistance was given by the Pendleton Grain Growers, Inc.

Serving as secretaries of committees were:

Victor W. Johnson, County Extension Agent, Pendleton,
Gen. Conf. Sec.
Frances Harvey, County Extension Agent,
Home Economics
Cora May Miller, County Extension Agent, 4-H
Gray Thompson, County Extension Agent, Agriculture
Earl Brown, County Extension Agent, Horticulture
Herman E. Bierman, County Extension Agent,
Agriculture
Don Sump, Pendleton Grain Growers, Inc.
LeRoy Warner, Pendleton Grain Growers, Inc.
Marr Waddoups, Lamb-Weston, Inc.
Dr. Stanley E. McGough, Pendleton Veterinary Clinic
Will King, Superintendent County Schools

The consolidated briefed reports are presented here with the hope that they will serve as a guide for improved agriculture and home and community living in Umatilla County.



1958 UMATILLA COUNTY RURAL AFFAIRS PLANNING CONFERENCE REPORT

Agricultural and Industrial History of Umatilla County

An Oregon-bound wagon train of 1844, slowly winding up the east slopes of the Blue Mountains, finally pushed through the mountain pass and stopped for a moment of rest at the top of Emigrant Hill.

Looking out from their vantage point, these early pioneers surveyed a vast panorama of gently undulating hills stretching to the north and west. Below was the grass-covered valley of the Umatilla River, carving gentle curves in the rock and sand as it wandered westward.

It was a sight to sit and look at, but the pioneers were anxious to be on their way. Drivers spoke sharply to their oxen, and the white-covered wagons lumbered and creaked down to the river's edge. Here, a brief pause to freshen up a bit, and then the party resumed the hurried trip, pressing on toward the setting sun and journey's end, the Willamette Valley.

This was a settler's first look at Umatilla County — and he could not know of the wealth that would later spring from the land he had passed by. Today, with the continuous streams of golden wheat and green peas, fat livestock, and timber products that flow from her bounteous soil, Umatilla County stands as a pivot point of agriculture and commerce, a leader in the Inland Empire.

Agriculture is now the largest single source of income in Umatilla County, but this wasn't always the case. The first permanent settlements of the county, in about 1857, were based on a simple subsistence economy. Water and the woodlands along river banks led the first settlers to place their homes and gardens on the bottom lands. Here, the bunchgrass that grew in luxuriant profusion on the level-to-rolling lands between streams was used only for grazing the few cattle and sheep that settlers brought with them.

Since there were no towns close by where excess farm products could be sold, and no transportation facilities to other areas, population in the county grew slowly at first. Then, in 1862, gold was discovered in the Powder mine, and the trade and travel that had previously moved through Walla Walla suddenly turned to the Umatilla County. Mining became the major industry.

Agriculture suddenly had a market at the mines south and east; settlement of Umatilla County was rapid. Wheat is first reported to have been grown near Weston in 1862, and corn about 1865. Numbers of livestock were increased and before long livestock ranches appeared. Grazing was a natural use of the grasslands, which early settlers had described as waving fields of grass growing "belly-high" to their horses. When ranchers discovered that cattle could be driven with profit to distant markets in Colorado, Wyoming, and Nebraska, the industry flourished.

As early as 1878 some grain was hauled to Umatilla Landing for shipment down the Columbia. Grain as a farm product came into its own in the county when, in 1880, a new method of farming called "dry farming" was started. This practice of a summer-fallow-wheat rotation opened many new acres to production, and increasing amounts of wheat were hauled to the river for outside market.

But it was the railroad, with its twin bars of shining steel smoothing the way to distant markets, that led to the mushrooming of agriculture in the area. A mainline railroad, now the Union Pacific, was completed in 1883, and it wasn't long until lush bunchgrass pastures were put to the plow. In 1889, there were 126,827 acres of wheat harvested in the county.

At first, wheat harvesting was a job for crews of men and horses, limiting the size of farm each family could operate. But by 1900, horse-drawn combines had entered the picture and a family could handle a bigger farm. World War I found horses replaced by steam tractors on the wheat ranches, and these smoke-belching monsters were in turn replaced by gasoline tractors.

In the 1930's when modern diesel tractors appeared large scale tillage operations became possible with a minimum of effort. Today, one-man operated, self-propelled combines are making it possible for a family to operate an enormous wheat ranch with only seasonal help.

Wheat growing has proved to be an excellent adjustment to the county's land, climate, and distant markets. Today, around 200,000 acres are planted to wheat each year, and the flood of yellow gold from these fields brings more income to the county than does any other harvest.

Crop agriculture provides about three-fourths of the farm income, and the raising of green peas for canning and freezing helps to swell the total.

The peas are now grown in rotation with wheat in the eastern part of the county where rainfall averages more than 15 inches a year and where different elevations can be used to mature the crop over a period of time. Peas are well adapted, working in a rotation with wheat since they're legumes and help maintain the soil fertility. They replace summer fallow, so the land can produce an income each year.

Modern machinery, developed especially for the pea industry, simplifies harvest and speeds large quantities of peas to processing plants. The pea vines are made into silage, or dried and baled for hay, and are fed to both beef and dairy cattle.

Around 54,000 acres of peas are now grown each year ranking next to wheat in value.

Many other field, forage, and horticultural crops are at home here, some on dryland, some irrigated. These diversify the agriculture of the county, lower the risks, spread the labor, and increase the income.

The grasslands of the county support an important livestock industry. Beef cattle, dairying, lambs, wool, turkeys, and eggs provide the other one-fourth of the county's farm income. Livestock use lands too dry or too rugged for cultivation and they also create wealth from chaff, stubble, pea vines, cannery wastes, and other products formerly wasted.

Cattle and sheep are the main livestock products in the county with hogs on the increase, although dairying is important, and there is a small but active saddle horse industry. Livestock fattening is increasing yearly, making use of local crops products including peavine silage. Biggest increase in feeding for slaughter is in the Milton-Freewater, Weston, Athena, Adams, and Hermiston areas.

Cropping systems and machinery require large acreages, so farms in the county are large. Each farmer has a large capital investment in land, and also a large amount of money tied up in tractors, tillage equipment, combines, trucks, and other farm machinery.

Irrigated agriculture is more diversified. Milton-Freewater grows as wide a variety of crops as any part of the state. Horticultural crops include prunes, apples, peaches, and cherries. Vegetable crops include peas for processing, some tomatoes and sweet corn, asparagus and small acreages of snap beans, carrots, and potatoes.

The irrigated land of the east and west ends of the county is used primarily for the growing of alfalfa, pasture, corn, small fruits, poultry, dairy, melons, and bees. Recently hops, sugar beets, and peppermint have appeared.

Geographical and Climatic Features

Located in the northeastern corner of the State of Oregon, about 300 miles inland from the

Pacific Ocean, Umatilla County is made up of 3,231 square miles (2,067,840 acres) of highly productive wheat lands, horticultural farms, livestock ranches, and forest lands.

A natural outlet for this area is the Columbia River, which forms part of the northwest boundary of the county. The river strikes the edge of the county about 35 miles northwest of Pendleton, and then turns and heads westward to form a water-level route through the Cascade Mountains to the Port of Portland and the Pacific Ocean.

The Columbia River also marks the low spot in the county. From the river, the land slopes upward to the Blue Mountains on the eastern and southern edges of the county. From an elevation of about 250 feet near Umatilla, the land rises in a series of large terraces to an elevation of around 800 feet near Echo, 15 miles to the southeast. To the east and northeast of Echo, the land rises gradually to the mountains, with most of the area in level to undulating plains that average 1,500 to 2,000 feet above sea level. South and southeast of Echo, the land rises more rapidly and is rugged and mountainous, with peaks sweeping to nearly 7,000 feet.

Lowlands in the county include the Echo-Stanfield meadows, the irrigated lands west of Milton-Freewater, and the undulating plains just south of the Columbia River.

The Umatilla River and its tributaries form the major stream lying wholly within the county's boundaries and provide major drainage. Other rivers in or briefly touching the county are the Walla Walla River in the northeastern part, and the North Fork of the John Day in the mountainous southern section.

Some of the more important creeks are Butter, Birch, Mill, McKay, Camas, and Wildhorse Creeks. Although, it is estimated there are 1,503 miles of streams in the county. There are also about 25 artesian wells, and although ground water isn't considered abundant, over 1,000 pump wells supply water for thirsty fields.

Umatilla County is known as a semiarid region. Precipitation averages less than 10 inches a year in the western part, between

10 and 20 inches in the central part, and from 20 to 40 inches in the Blue Mountains. Much of this precipitation comes in the winter months, some of it in the form of snow.

Thermometer readings also indicate that Umatilla County is a land some distance from a large, climate-tempering body of water. Winters are cold, with an average minimum of around 26 degrees during January and February, and it can be severely cold for short periods of time. During the summer days of July and August, it is hot and dry with an average maximum temperature close to 90 degrees. Nights, however, are almost always pleasantly cool and comfortable.

Length of the growing season varies considerably from place to place, depending on elevation and wind patterns. At Hermiston, the growing season averages 163 days a year, while at Echo the season average is 174 days. Downtown Pendleton has an average of about 160 days, lengthening to around 190 days a year at Milton-Freewater. Since temperatures can be extreme at times, the growing season at any one spot varies considerably from year to year. Pendleton is a good example, where the shortest growing season on record is 74 days (June 24-Sept. 11, 1904) and the longest is 224 days (March 22-Nov. 1, 1940).

Climate has, of course, played a big part in determining the kind of agriculture in each part of the county. Rainfall increases from west to east — almost in direct relationship to the rising of the land to the Blue Mountains. At Umatilla, in the west, annual rainfall averages only 7.43 inches. At Echo, the average is 9.56 inches, and rises to 13.27 inches at Pendleton. In these areas west of Pendleton receiving less than 14 inches of rain each year, a wheat-summer fallow type of agriculture is usually followed, except where irrigation is employed.

To the north and east of Pendleton, where rainfall average is 15 to 20 inches (Weston averages 20.8 inches), wheat is still the main crop with more and more peas for canning grown in rotation with the wheat. Areas that get around 17 or more inches of rainfall a year commonly follow an annual cropping plan.

In the Blue Mountains higher rainfall brings forests with it. The rougher land south of Pendleton is used mainly for grazing.

The county has a wide variety of soil types. There are 59 soils and six miscellaneous land types, from the comparatively nonproductive Ephrata and Rupert sands in some parts of the county to the highly productive Walla Walla, Athena, and Palouse silt loams in the central and northeastern parts. Much of the land is in broad rolling hills covering wide areas, and these fertile, wind-laid soils have been able to withstand a single-crop farming practice, the growing of wheat, for almost a century.

County Resources

Umatilla County sits favorably located in a "gardening" or "inlet-outlet" position in relation to the prosperous Eastern Oregon and Eastern Washington areas. It is centrally located, 220 to 300 miles from the large population centers of Portland, Seattle, Spokane, and Boise.

Agriculture

Nearly 75 percent of the land area of the county or 1,556,051 acres are in farms according to the census for 1954. Of this land in farms, 638,511 acres were in cropland and 867,529 acres in land pastured. A little over 56,000 of the acres in cropland were irrigated.

This census also shows there were 1,885 farms in the county at that time, averaging 825.5 acres each. There were 340 farms over 1,000 acres in size. The number of farms in the county is decreasing, but the average size is increasing.

Much of the noncropland is covered with timber, and forestry follows close behind agriculture as the second most important source of income. Most of this timber is located in the Blue Mountains, about two-thirds of it within the Umatilla National Forest. Timber in the national forest is under a sustained yield cutting program, which should maintain the lumber industry indefinitely.

Of the total of around 800,000 acres in forests, a little over 500,000 are in timber that can be harvested with present equipment. Much of this land is covered with Ponderosa Pine, but there are also

good stands of Douglas Fir, White Fir, and Western Larch. Twenty-two mills are now cutting lumber, several of them carrying the processing of pine and other timber into the manufacture and sale of unfinished furniture and other wood products. With new methods and pulp or paper markets much timber now wasted will be used.

Industry

Mainline rail service is available through Union Pacific Railroad. Northern Pacific furnishes effective branchline service.

Mainline highway grids (Highways 30, 395, 11, 730 and 204) cover the county effectively linking truck and highway transportation in all directions.

Mainline buses and ten truck companies provide further diversified and efficient hauling service.

Mainline air service is available at Pendleton, the county seat. United Airlines and West Coast Airlines make 13 stops daily at the Pendleton Airport.

River barge transportation is well established at Umatilla, on the Columbia River. The Umatilla Port district, a public agency, aggressively promotes and encourages river transportation. River barges with cargo capacities of 1000 tons operate year around between Umatilla and lower Columbia River ports of Portland, Vancouver, and Longview. Grain, petroleum, chemicals, fertilizers, and cement now move on the river in large tonnages. Upon completion of the John Day dam, ocean-going barges of 2500 to 3000 ton cargo capacity will operate regularly between the Umatilla port and oceangoing ports up and down the Pacific coast. The Umatilla Port Commission has available large blocks of industrial lands located adjacent to water port facilities.

Natural gas is available. The main pipeline of the Pacific Northwest Pipeline Company (used by Cascade Natural Gas Company) traverses the center of Umatilla County. The main pipeline of the Salt Lake Pipeline Company (used by Standard Oil Company) also passes directly through the county.

Telephone service is supplied to 14,661 customers in every part of the county by Pacific Telephone and Telegraph Company, Helix Telephone Company, and Eastern

Oregon Telephone Company.

Electric power is in every part of the county, provided by the Pacific Power and Light Company, Eastern Oregon Electric Co-op Association, Umatilla Electric Cooperative Association, Columbia Rural Electric Association, and the Columbia Power Cooperative.

Umatilla County's labor force is becoming more and more diversified. Average monthly employment (excluding farming, interstate railroads, public employment) for Umatilla County in 1956 was 6,697. From 1950 through 1956 the average annual increase has been 37 (excluding construction workers on McNary Dam). Umatilla County has had an increase in its working force of 152 percent and a population increase of 67 percent from 1940 to 1955. Food processing has the greatest variation in employment.

Farm labor is highly seasonal. Pea harvest requires the largest labor force. The small grain harvest labor requirements are easily filled from the holdover force from the pea harvest. This peak labor requirement period lasts approximately 75 days. The migratory labor force makes up the bulk of the seasonal farm labor requirement. Local high school and college students, with some migratory labor fill the remainder of the peak farm labor requirements.

News service is excellent. Pendleton has a daily newspaper and weekly newspapers are published in Athena, Hermiston, Milton-Freewater, Pendleton, Pilot Rock, and Umatilla.

There are three radio stations in Pendleton and one in Hermiston. Three television channels covering the ABC, CBS, and NBC networks are received from Spokane via micro-wave at Pendleton and cabled to TV sets. Most farmers get TV reception from Kennewick, Washington.

Business

The 1954 census reports annual retail sales of over 60 million dollars. This trade is bolstered by the fact that persons from surrounding counties shop in Pendleton. This trade area in five counties has 83,000 people. Principal manufactured products are lumber, furniture, woolen goods, canned and frozen peas, flour, and saddle and leather goods. In 1954, according to the U.S. Census of Man-

ufacturers, 67 industrial establishments in Umatilla County employed over 2,500 people with a payroll of over nine million dollars.

Chances for further expansion of industry in Umatilla County appear excellent. There is an abundance of water, electric power, and natural gas. Location and transportation seem favorable for:

1. Wholesale distribution.
2. Branch offices administration to serve all of eastern Oregon, southeastern Washington, and southern Idaho.
3. Processing and manufacture of agricultural and forest products.
4. Manufacture of products to be used in the Inland Empire area (primarily in agriculture).

Forest and recreation

The forest areas of the Blue Mountains provide summer range-lands for much of the county's livestock, and also year-round recreational opportunities.

The tourist and recreation industry is, in fact, the third major sources of income for the county. Best known single event is the Pendleton Round-Up, for Pendleton is world-renowned as the "Round-Up City" and brings around 35,000 visitors into the county each year for this event alone.

The Blue Mountain forests, under the supervision of the U.S. Forest Service, provide 12 developed forest camps and one ski area plus numerous undeveloped camp spots, attracting over 100,000 forest visitors annually. Abundant

bass, trout, and steelhead make lake and stream fishing popular. The county is a well-known hunting ground for China pheasant and during the fall it attracts some 20,000 hunters in search of deer, elk, and geese. Skiing facilities and dude ranches broaden the recreation possibilities.

Parks also add to the attractiveness of the county during summer months. There are seven parks in the City of Pendleton, one with a swimming pool. Four State Parks — Hat Rock State Park, Emigrant Springs State Park, Battle Mountain State Park, and Ukiah Dale State Park offer facilities for camping and picnicking.

Boating, swimming, and water skiing are popular on two large man-made lakes in or adjacent to the county. McKay Reservoir, on McKay Creek, 6 miles south of Pendleton, offers excellent facilities. And McNary Dam on the Columbia River provides a lake 50 miles in length.

Part of the tourist trade results from the county's being the transportation hub of northeastern Oregon. It is served by the main line of the Union Pacific Railway, and by a branch line of the Northern Pacific Railway. Transcontinental U.S. Highway 30 passes through the middle of the county, and U.S. 395 is an excellent north-south route. In addition there are over 390 miles of good state highways.

Community Living

Population of Umatilla itself was 43,840 according to an esti-

mate of the Oregon State Board of Health in 1957. The 1950 U.S. Census shows that about 37 percent of this population lives in cities and towns, 43 percent in rural areas but not on farms, and the other 20 percent on farms.

The county has 30 elementary schools, 11 high schools, several junior high schools, several parochial schools, and an academy. Vocational courses are available in some of the schools.

Library service is supplied by the Umatilla County Library. The main library building is in Pendleton, with 12 branches and 10 stations throughout the county. A total of 75,225 volumes are available. The library also contains valuable historical material on Umatilla County and Eastern Oregon.

Catholic and protestant churches are located throughout the county. All leading denominations are represented.

With its well-established agricultural economy, stable industries, and prime business location, the county has a future bright with opportunity. A large number of the citizens are aware of the potentialities of the region, and are actively working to plan for and build a still more vigorous and profitable economy that will improve the way of life and guarantee the security of the county's people.

The following report on Umatilla County agriculture, listing its problems, challenges, and opportunities, is a long step toward making this bright future a reality.



Economic Problems Committee Report

Committee Members

James Hill, Jr., Pendleton, Chairman

Don Sump, Pendleton, Secretary

Taxation Subcommittee:

Fred Westersund, Chairman
Bert Haynes
Carl Nelson
Milo Adkinson
Ferdie Hudemann
Joe Ramos
Lloyd E. Stafford
Ralph Saylor
Sam Cook
Rodney W. Esselstyn
Clarence Weltzin

Federal Agricultural Programs Subcommittee:

Jens Terjeson, Chairman
R. B. Taylor
Frank Tubbs
Layton Mann
Clarence Hoeft
Lou Levy
Marshall Patton
Army Korvola
Dick Hampton
Elmer Pahl
Robert Allen
Don Hawkins
Harold Holdman
James Beamer

Roads & Transportation Subcommittee:

James Hutchinson, Chairman
Walter Holt, Jr.
Orlin R. Hanson
Robert Harper
Dale Tucker
D. W. Easton
James Sturgis
Paul Graf
Earl Donahue
Forrest Baker
James Hoskins
D. R. Cook
Lyle Ledbetter
Gayle Marks
Jerry Landau
Al Beard
S. E. Brogoitti
Verne Dale
Keith D. Babcock

Economic Farm Unit Subcommittee:

Steve Thompson, Chairman
Fred Hill
Randolph Dorran
Glenn Thorne
Jack Duff
Frank Tubbs
Sheldon Lieuallen
Ralph Saylor
Joe Ramos
Emil Zivney
Henry Kopacz
Bill Duff
Henry Lazinka
Raymond Rugg
Gaylord Madison
L. E. Pearson
J. A. Kilby
Oscar McCarty
Ben Kilgore
Frank Bensel
Reuben Gettman
Harold Meissner
Duff Knight
George Clausen
Barlow Clark

Manufacturing, Processing & Marketing Subcommittee:

Lloyd Key, Chairman
Pat Davis
Irvin Mann, Jr.
Bill Johns
John Storie
Bob Howard
N. R. Mueller
Don Weber
Herschel Fullerton
Francis Miller
Henry Stoddard
R. B. Taylor
Bob Schubert
James Sturgis
Tremayne Rea
Pete Scymanski
R. A. Brogoitti
Rulon Smith
Russ McKennon
Tom Davidson
Verne Hendershott

Agricultural, business, and industrial growth in the county are dependent upon solving the economic problems of the present, and intelligent planning for the future. "Economic problems" is a broad term covering many general and specific problems. The committee has dealt only with broad economic problems. Other commodity committees will deal with the more specific problems in their reports.

Umatilla county's major income is derived from agriculture with timber second. Wheat is the largest single commodity in the agricultural income picture. As wheat production is somewhat regulated by the federal government and its price is determined by the support price, the major part of our agricultural economy is dependent upon government action. It is economically desirable

to attempt to solve our own problems, rather than be dependent upon the government. The production of more livestock would help us solve our problems and develop a better balanced agricultural economy.

For a well balanced economy, the county must have more stable industries. Further processing of agricultural products offers a great industrial potential.

Manufacturing, Processing, and Marketing Subcommittee

Some idea can be obtained from the following charts as to how much processing adds to the value of one product within the county. Nearly all of the green peas produced in Umatilla County are processed within the county. Most of the green peas produced in Oregon are produced in Umatilla County.

Frozen Peas — 1955 — Oregon Figures

Raw Product	\$2,485,401
Labor	455,502
Supplies	1,856,958
Miscellaneous	2,396,424

f.o.b. value \$7,194,285

Canned Peas — 1955 — Oregon Figures

Raw Product	\$1,720,434
Labor	593,137
Supplies	2,010,243
Miscellaneous	576,745

f.o.b. value \$4,900,559

(f.o.b. value is the value of the product before it is shipped).

The value added to the raw product (peas) by processing in Umatilla County in 1955 was approximately \$7,500,000. In 1956, approximately \$13,700,00 was added through processing. Prices to the farmer were a great deal higher in 1956 than in 1955.

Grain Marketing and Processing

Under the present wheat acreage allotment program, the wheat acreage in the county is limited to 200,000 acres, somewhat below the level of 220,000 acres recommended 10 years ago by the County Planning Conference.

The reduction in wheat acreage has been offset by increases in production of other grains, mainly barley.

The following table indicates the relationship between production and sales of grains in Umatilla County in the year 1954:

	Production—1954	Sold
Wheat	6,094,000 Bu.	5,913,964 Bu.
Barley	2,125,475 Bu.	1,938,837 Bu.
Corn	67,502 Bu.	32,801 Bu.
Oats	220,236 Bu.	163,036 Bu.
All other		
Including rye ..	18,084 Bu.	11,246 Bu.

Figures indicating the amount sold do not necessarily mean that the total moved out of the county, but the largest portion did. Feed grains produced on land that otherwise might have been in wheat are usually lower in price and have, in most instances, come within reach of livestock feeders.

A program that would make surplus wheat available at feed

prices would be beneficial to the county.

Grain production here exceeds local needs and will continue to do so in the future.

Commercial marketing of wheat

In attempting to strike a balance between supply and demand for wheat, an all-out effort should be made for full use through all possible outlets. Wheat for food uses, the most profitable outlet, should be explored fully.

Feeding

The feeding of wheat and other grains is a very important outlet. Feeding should be encouraged to provide use for feed grains and wheat surplus. As long as we have the wheat acreage allotment program, grain produced on diverted acres probably will be within price reach of feeders. Any change in price support and/or production control programs should take into consideration the need for surplus grains to be within the reach of feeders price-wise. Statistics presented by the general manager of the Federated Livestock Corp. should be considered when studying the feed picture.

Processing

In considering this matter, the committee could not see much possibility of any increase in grain processing in this county except for feed.

Export

Since we have special types of export wheat, it is imperative that everything possible be done to maintain exports at a high level.

Quality

The matter of quality of all product is stressed. The best way to develop and maintain markets is to offer commodities of quality and to be sure that purchasers receive what they desire and are paying for. This committee believes that consideration might well be given to the matter of quality in our current export program, as we hear some criticism of the fact that sometimes it is difficult for purchasers to secure the grade and quality desired.

Vertical integration

For a long-range marketing program, it is suggested that farmers follow their product nearer to its ultimate use. This could

be done by expanding the activities of farmers marketing cooperatives, by processing the raw products when advantageous to do so, and perhaps by being more active in wholesale and retail marketing activities, disregarded in the past by producers. The situation should be carefully watched and steps taken in the suggested direction whenever, after careful study and evaluation, it appears proper to do so. The Federated Livestock Corp. and its joint venture program is an example of what might be done.

Wheat Straw and Chaff Marketing and Processing

General observations

1. The only known commercial uses for straw and chaff are for livestock feeding and paper production.

2. Straw is more valuable returned to the soil than for any conceivable commercial use except where in excess of a ton of straw per acre is on the ground. At least a ton of straw per acre should be returned to the soil for erosion control before any is removed for any other purpose.

3. Chaff alone can be removed from the land without creating erosion problems but it also has value returned to the soil, and commercial uses must compete with its value as organic matter and as a fertilizer.

4. Chaff has much higher value as a feedstuff than does straw.

5. The cost of gathering and transporting low value bulky straw and chaff make its commercial uses uneconomical except where the use is very near the sources.

Recommendations

1. Except in those rare instances where the amount of straw is great enough to make the return of all of it to the soil physically impossible, it is the opinion of the subcommittee that straw should not be removed for any purpose and that we cannot afford to consider commercial uses of this residue, which is essential to the continued productivity of our soil.

2. The most feasible commercial use for chaff is as a livestock feed for wintering purposes. Oregon State College experiments

have shown that wheat chaff and proper protein supplement will winter calves more economically than a mixture of alfalfa hay and straw.

3. Gathering and transportation costs for wheat chaff are great enough so it is generally necessary to move livestock to the chaff rather than transport it any distance. Dumping chaff and allowing cattle to run to it in the fall and winter have been practiced for years as a profitable utilization. This is a good method of reducing wintering costs.

4. Development of equipment for gathering and compressing wheat chaff into a form that could be transported economically would widen the possible use of chaff as a livestock feed. We commend and encourage those concerns now working on this approach.

Pea Vine Processing and Marketing

Umatilla County produces about 54,000 acres of peas annually. Pea vines average about two tons per acre. Eighteen pounds of silage are equal to about six pounds of hay in feeding value. Pea vines produced in the county would feed an annual average of 40,000 head of cattle.

Pea vines can be stored for several years cheaply. Therefore, a reliable supply of pea vines can be built up and maintained in the county.

Marketing pea vines

Feeding is and should continue to be the major market for pea vines, because they can be stored and they complement alfalfa hay. Pea vines also provide good manure value when spread while dry in late summer and early fall, but the practice is costly and sometimes increases weeds. Unless the vines are used for feed or fertilizer they will create an extra cost in disposal. Such conditions could adversely affect the price of peas to growers by as much as \$5.00 per acre. It is therefore, important that the vines be used for livestock feeding.

Centralized vining operations

Unless a combine is developed, centralized vining is going to become universal in the pea industry. Advantages of centralized vining operations include: centralized

loading and handling of vines is more economical; the farmers could have the vines at cost for feed or fertilizer; and good methods of loading and handling have reduced the loading cost to 50c a ton.

Meat Processing and Marketing

Oregon State Board of Health estimated Umatilla County population at 45,320 for 1956. According to a study by G. M. Henderson of the First National Bank of Portland, completed in May, 1955, the projected population of Umatilla County for 1975 is 75,000 people. This is a 62% increase over the 1956 population.

Using the United States average per capita consumption figures and county production figures, here is an estimate of the production and consumption of meat animals within the county for 1956:

Production and Consumption In Animal Units		
Meat Animal	Produced*	Consumed
Beef & Veal	31,600 head	9,785 head
Hogs	6,500 head	19,100 head
Sheep & Lambs . . .	33,800 head	5,100 head
Chickens & Broilers .	279,500 birds	504,900 birds
Turkeys	73,000 birds	14,100 birds

*Number marketed — does not include farm slaughter

Livestock supply

The county is a major beef producing area, and is centrally located for a large supply of feeder cattle produced in Northeastern Oregon. Cattle feeding is increasing in the county.

As a major county in sheep production, the area is centrally located for feeder lambs. There are very few commercial lamb feeders located in the county.

Hog numbers are increasing in the county. The supply of cheap feeds available will determine the amount of increase.

Livestock supply, cheap feed, ideal climatic conditions, and location make this county an ideal livestock feeding area. Some local markets are also available for fed livestock, and good rail and highway routes give ready access to large coastal markets.

Markets for processed meats

Potential local markets for processed meats depend upon the population concentration within an area. 1956 population estimates are: Umatilla County, 45,000; 50 mile radius of Pendleton, 165,000;

and 100 mile radius of Pendleton, 430,000. Projected population figures indicate a 35 to 40 percent population increase over 1956 population figures by 1975. This area includes the major cities: Pendleton, The Dalles, La Grande, and Baker in Oregon; and the Pasco-Kennewick - Richland area, Walla Walla, and Yakima in Washington. Population centers of Portland and Seattle are about 200 miles from Pendleton.

Committee members agree that a good, locally owned and controlled meat processing plant would benefit Umatilla County agriculture in these ways:

1. Provide a closer and cheaper source of animal proteins for local poultry and hog feeds.

2. Provide offal fats to be used in beef, hog and poultry rations.

3. Save 40 to 60 percent of freight cost by shipping dressed meats on the tonnage basis to

Portland. The double freight rate on locally consumed meats would be eliminated.

4. Increase the economic activity in the county, as new industry increases population which increases the local markets for meats and by-products.

5. Enable the plant and the producers to capitalize on local production advantages.

6. Provide an increased marketing source for locally produced livestock.

The committee believes that it is possible that the meat packing industry will show rather dramatic changes during the next ten years, with greater emphasis on new preserving practices, greater use of tenderizing processes, further prepackaging of meats at the packer level, family freezer deliveries, and financing the food in the family freezer.

If these changes came about, a local plant could take advantage of them to develop new markets for locally grown livestock. We urge local growers to keep this in mind.

Economic Farm Unit Subcommittee

In determining economic farm units for Umatilla County, the committee has established the minimum essentials to becoming established in any type of farming. These essentials would enable a farmer to maintain a standard of living for his family and himself comparable to other persons of like qualifications in other segments of our social system.

Census data show that over the past 25 years, the number of farms has decreased and the average size of the farm has increased. Production per acre has also increased through mechanization and better farming methods.

Size of an economic farm unit is measured in gross production. This may be increased by adding more acres or by greater production per acre or a combination of the two. Each farm is organized with the following production factors land, labor, capital, and management. A proper balance of these factors must be determined and applied fully to each unit.

Each individual farm unit is different. This fact must be taken into consideration when comparing your unit with what the committee has suggested.

A person going into farming must be mechanically minded and have sufficient farm experience and business knowledge to be a good farm manager. He must own all of the machinery and equipment necessary to operate his farm efficiently. The person should have enough cash or credit to operate his farm for one year. He should limit his debt to 50% of his capital outlay.

Minimum standards for an economic farm unit are: 1. Return to the operator at least \$5,000 for his labor and management; and return at least 6% on capital investment.

Commodity divisions for determining economic units

Wheat Ranches	Sheep Ranches
Hay and Irrigated Farms	Swine Ranches
Wheat and Pea Ranches	Poultry Farms
Diversified Irrigated Farms	Dairy Farms
Cattle Ranches	Fruit Farms
	Turkey Farms

General assumptions

These assumptions pertain to all types of farm units:

1. That weather conditions will remain normal as of the past ten years.
2. That total labor costs will remain approximately the same.
3. That no additional income is obtained aside from the farming operation.

Wheat Ranch

Assumptions used to figure the economic farm unit:

1. Market price of wheat — \$2.00 per bushel and the loan price of barley — \$35.50 a ton.
2. Land values range from \$200 to \$450 per acre, depending upon the area. Rent paid for wheat or barley ground ranges from 1/3 to 2/5 share.
3. Government programs remain the same, allowing the farmer to plant 2/3 of his base acreage to wheat.
4. Wheat summer fallow rotation is followed.

Economic unit

960 acres of farm land with a 45 bushel per acre wheat yield, and a one ton per acre barley yield (2/3 acreage in wheat — 1/3 in barley). Unit has a gross income of approximately \$35,000.

This unit would have a minimum investment of \$25,000 in used equipment or \$50,000 in new equipment. The value per acre would depend upon the area in which it was located. Expenses can be expected to run over 50% of the gross income, depending upon the operation (does not include the operator's labor).

Conclusions

1. In the future, it will be most difficult to purchase wheat lands in this area.
2. The large percentage of change of land ownership and farm operation will be within the family.
3. The individual wheat farmer must become more efficient and should integrate his operations to include livestock feeding, thus utilizing all by-products of low value crops.

Wheat and Green Pea Ranches

Assumptions used to figure an economic unit:

1. Market price of wheat — \$2.00 per bushel — Green pea price average at least \$80.00 per ton.
2. Land values range from \$200 to \$450 per acre, depending upon the area. Wheat rents for 1/3 to 2/5 share and pea land 1/4 share.
3. Government program for wheat remains the same.
4. That a five year crop rotation be followed of wheat one year, peas three years, and summer fallow one year.

Economic unit

900 acres of farm land with a 46 bushel per acre wheat yield and a one ton per acre green pea yield. Gross income from this ranch would be approximately \$62,000 (292 acres wheat — 440 acres peas — 168 acres summer fallow). Minimum investment for this unit would be \$34,000 for used machinery and equipment or \$65,000 for new machinery. Land investment would depend upon area. A conservative expense figure (not including operator's labor) would be 60% of gross income.

Conclusions

1. It is not usually possible to purchase wheat and pea lands in this area.
2. A large percentage of change of land ownership and farm operation will be within the family.
3. To maintain the margin of profit in the pea business, farmers must become more efficient or the price must remain within present limits.

Irrigated Farm (Specialized Alfalfa)

Assumptions used to figure an economic unit:

1. That the following prices remain the same: Alfalfa (10 year average)—\$22.50 per ton; wheat \$2.00 per bushel; sugar beets \$14.50 per ton; and corn \$50.00 per ton.
2. Land values range from \$300 to \$500 per acre and land rents for 1/3 share.
3. An alfalfa row crop rotation (8 years) as follows. Alfalfa — 4 to 6 years. Row crop — 2 to 4 years.
4. Raise 6 tons of No. 2 extra green hay or better per acre.

Economic unit

200 acres of irrigated land with 40 acres in row crop each year and the remainder in alfalfa. The following yields per acre are necessary: Alfalfa 6 tons; wheat 60 bushels; sugar beets, 23 tons; and corn, 3 tons. A gross income for this unit should be approximately \$26,400. A minimum investment for this farm would be \$15,000 for machinery and equipment. Expenses would be approximately 60 percent of the gross income.

Conclusions

1. The price of alfalfa hay must be at least the average price stated for this to be an economic unit.

Irrigated Farm (Diversified)

Under the same price assumptions and the same acreage yields as mentioned in the irrigated alfalfa unit, the unit would be between 80 and 160 acres. The farm would have one or maybe two specialty crops, with one soil-building crop. These crops would be combined with some type of livestock on a diversified farm. A minimum investment of \$12,000 to \$15,000 for machinery is required for this operation.

Cattle Ranch

Assumptions used to figure an economic unit:

1. This is a range cow-calf operation based on a 90% calf crop. Replacement heifers will be raised.
2. Calves sold will average \$95 to \$100 per head. Dry cows sold will average \$150 per head.

3. Land values, including hay land, will range from \$10 to \$20 per acre. Each cow will require from 20 to 30 acres for range and hay land.

Economic unit

500 cow herd (1% loss in cows). This unit should gross between \$45,000 and \$48,000. Minimum investment will be from \$145 to \$160 for each cow, 22 bulls at \$400 each, and approximately \$15,000 for machinery and equipment. Expenses are 60 percent of gross income.

Conclusions

1. A price of 25c a pound or \$120 per head for calves sold is needed to return 6% on investment.

2. At present, it is difficult to invest money in a Umatilla Coun-

ty cattle ranch property and expect a favorable return on investment.

Beef Feeding Operation

There are two sizes of economic units for this type of operation. Feeding out a minimum of 300 head would be economical where the feeder depends upon his own labor and a minimum of mechanical feeding equipment. For units where mechanical feeding equipment is used, a minimum of 1,000 to 1,200 head would make an economical unit.

In reviewing the economic unit situation for many of Umatilla County's cattle operations, the committee feels that the county's farmers should diversify with either range cow-calf operations or cattle-feeding operations.

Sheep Ranches

Assumptions used in figuring an economic unit:

1. A range sheep operation with 110% to 120% production based on a fall count of ewes.

2. Lambs sold to average \$18 per head, and ewes to yield \$5 worth of wool per head.

3. 8 to 12 acres of range and hay ground per ewe.

Economic unit

1,500 to 1,800 ewes, with a gross income of approximately \$40,000. This unit would require a minimum investment of \$15,000 in machinery and equipment. Expenses are approximately 70% to 75% of gross income (does not include operator's labor).

Conclusions

Higher production, higher prices, or a subsidy necessary to earn 6% on investment.

2. Side line operations of farm flocks have proved profitable.

Dairy Farms

Assumptions used in determining an economic unit:

1. Selling price of milk is \$2.70 cwt., cull cows \$100 per head, and calves \$10 per head. Replacement heifers will be raised.

2. Land is valued at \$400 per acre.

3. An all-pasture program is used, and all grain, concentrates, and hay used will be purchased.

Economic unit

50 milking cow herd. 40 acres of land in pasture. Gross income

from this unit approximately \$31,200. Minimum investment of \$29,000 in farm machinery and dairy equipment, \$15,000 in animals, and \$16,000 in land and buildings. Expenses would amount to about 70% of the gross income.

Conclusions

1. The dairy farmer would have to obtain a Grade A fluid milk quota to make an economic unit.

Swine Ranch

The committee recommends the following size units as a minimum:

1. Straight farrowing program — With average costs and prices, it costs \$6.00 to raise a pig to weaning size. If it is sold at \$9.00, the operator would realize a \$3.00 profit per pig. At that rate, it would require 140 brood sows on the basis of two farrowings per year per sow to establish an economic unit.

2. Straight feeding program — Paying \$9.00 for the weaner, and getting 160 pounds of gain at a cost of 12c per pound, the operator should sell 200 pounds for 17c per pound. At this rate, it would take an operation involving 1,050 feeders to establish an economic unit.

3. Combine farrowing and feeding program — With 50 sows producing 800 pigs per year, the operator could feed these out, and using the above-cost-price figures he should expect \$6,400 as a combined labor income and return on the investment.

Of these three programs, the combined farrowing and feeding program is the soundest. Experience is a must to anyone going into the hog business on a full time basis. He should either have the experience or work gradually into an economic unit getting experience en route.

Tree Fruit Farm

Due to almost complete winter kill in 1955, orchards are now being replanted and will not be in commercial production for 4 or 5 years. The committee recommends:

An economic orchard unit to provide full time employment, a reasonable return to management, and a reasonable return on investment. It should consist of at least 20 acres of producing fruit orchard. This acreage should be di-

versified into different types of fruit, consisting of at least four different crops, early prunes, late prunes, cherries, and apples, in equal size blocks.

Equipment used in fruit production does not vary with types of tree fruits grown. The reason therefore for varying the types of fruit grown is to level out the producer's income so that it will be fairly constant every year.

At present, vegetables raised commercially are interplanted in young orchards, and the present acreage will be reduced materially when these orchards come into production.

Broiler Production

The following assumptions are used in figuring an economic unit for broilers:

1. Selling price of 22c per pound, and 19c per pound cost of production.

2. Operating on a 4 cycle program of operation (complete turn-over 4 times a year).

Economic unit

1. 20,000 birds or total of 80,000 birds per year.

2. Equipment and housing cost of approximately \$30,000.

3. Working capital of \$12,500.

4. Total investment of \$60,000.

Conclusions

1. Operators feel that they need about 3c per lb. margin to raise broilers.

2. Broiler contracts average approximately 2c per lb. spread.

3. This must be a commercial operation.

Egg Production

Assumptions used in determining an economic unit:

1. Production of 220-240 eggs per layer, of AA grade.

2. Producer will brood his own chicks.

Economic unit

1. 4,000 layers minimum at present. In the future it will require 5,000 birds.

2. Investment of \$4.50 per bird for housing and equipment.

3. \$12,500 to \$15,000 operating capital.

4. Return of \$1.50 per bird to management and investment.

Turkey Meat Production

Assumptions:

1. Price assumptions — 27c per lb. for toms and 30c per lb. for hens (live weight). Toms 22-24 lbs. Hens 13-15 lbs.

2. Cost of production — 25c per lb.

Economic unit

1. Two separate 5,000 — 7,500 bird broods. 80 acres of land.

2. Equipment and housing investment of \$20,000.

3. Total investment of \$60,000.

Conclusions

1. Growers goal of returning \$1.00 per bird to management and investment.

Turkey Egg Production

Assumptions:

1. Price of eggs remains at 25c each.

2. Cost of producing an egg remains at 20c per egg.

3. Each layer will produce 70 eggs per year.

Economic unit

Turkey egg production is a profitable operation in connection with a turkey producing enterprise.

Roads and Transportation Subcommittee

With truck transportation playing such an important role in the transportation picture, a highway network within the county helps determine future agricultural and industrial development. Highway planning without careful consideration of all factors may hinder economic development more than aid it. Without due consideration for each highway involved in the highway network, a county may become subservient to another county or area in its economic growth. The improvement and development of major thoroughfares as well as county roads must be taken into consideration. Other forms of transportation are either directly or indirectly dependent upon the road network.

The county has a main line railroad that seems to be adequate to serve its needs. Railroad facilities can be developed if the need arises.

River transportation is becoming important. Its development is dependent upon the highway network, and it will play a large part

in the economic development of the county.

Nearly all agricultural products, either directly or indirectly, are exported in the raw or processed forms. The major part of the industrial products used in the county are now imported. As industry and further processing of agricultural products grow within the county, the need for transportation will increase.

Recommendations

1. That the new State Highway 11, as surveyed, from Adams through Milton-Freewater, be built.

2. That Highway 395 be improved from Pendleton to Cold Springs Landing to handle present day traffic.

3. That the Helix highway, beginning at Highway 11, be made a secondary highway to the state line and be improved to handle the present day traffic. (The committee was not unanimous on this recommendation).

4. That the Mission North-South road, from Highway 30 to Highway 11, recently acquired by

the State Highway Commission, be improved immediately.

5. That the State Highway Commission rebuild the Tollgate highway for approximately five miles from the end of the present new construction.

6. That Highway 395 be developed between Pilot Rock and John Day.

7. That the Oregon State Highway Commission accept the Interstate Highway, as proposed at present, to be built via Ellensburg, Washington, across the Umatilla Bridge to tie in with Highway 30.

8. That work be continued on the John Day Dam to allow deep draft navigation to inland points.

9. That the Port Commission be urged to build general cargo docks at the Port of Umatilla.

10. That the railroads adjust their rates to help pea processors in Umatilla County place their products on Eastern markets in a competitive position.

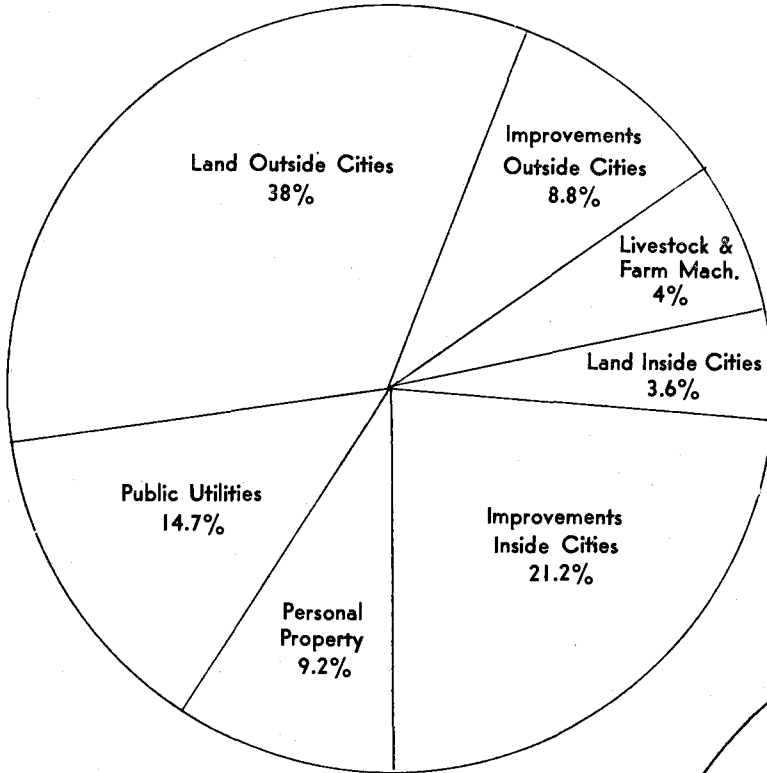
11. That air transportation be encouraged and developed as needed.

Taxation Subcommittee

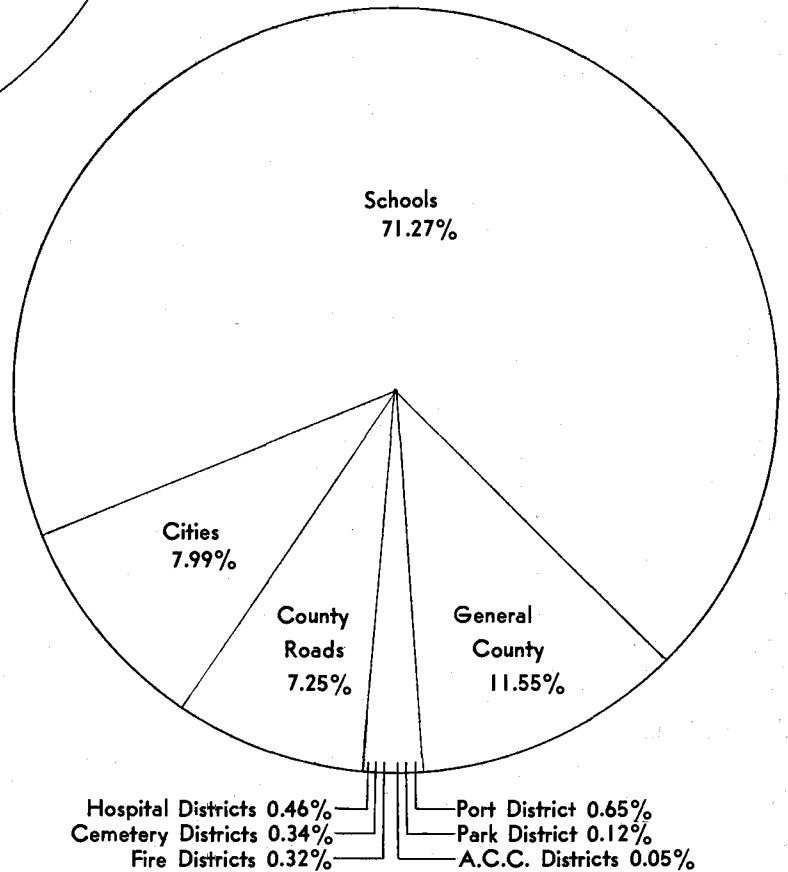
Umatilla County real and personal property taxes for the past four years are as follows:

Tax Year	Amount
1954-55	\$ 941,227.00
1955-56	976,940.00
1956-57	1,014,797.06
1957-58	1,054,924.88
This does not include the 6% limitation.	

Where The 1957-58 Tax Dollar Comes From



Where The 1957-58 Tax Dollar is spent



The committee recommends that the following studies be made:

1. That a study be made of the personal property tax in relation to a substitution of a net business tax.

2. That a study be made of the present Basic School Support Fund formula, in determining a more equitable base than assessed valuation for distribution, which should include cost of building, operating costs, O & C timber receipts, forest receipts, and other sources of revenue, including federal aid.

3. That a special county committee be appointed to make a study of both federal and state inheritance taxes as they affect agriculture.

Committee recommendations for future action:

1. At least forty percent of all eligible voters must vote in any fiscal election and any election to create a new tax district, or the election will be declared invalid.

2. If and when the county undertakes its reappraisal program, the contract with the State should provide for maximum local participation by farm committees in all rural appraisal.

3. The State of Oregon should adopt a severance tax on timber and minerals.

4. We recommend the adoption of a general retail sales tax with at least half of the income therefrom to be used to reduce property

taxes in direct relation to assessed valuation.

5. Oregon's personal income tax should be brought into line with the federal income tax laws in relation to capital gains.

6. We recommend that a portion of the corporate excise tax collected from utilities be returned to the counties to offset the loss in property taxes resulting from the state equalization program.

7. We oppose a homestead exemption for any group or for any amount other than those in existence, and furthermore,

8. We recommend that a thorough study be made of all exemptions from federal, state, and local taxes.

Federal Agricultural Programs Subcommittee

Program for Wheat

For the purpose of marketing, Umatilla County wheat cannot be separated from Pacific Northwest wheat, of which Umatilla County furnishes about 7%.

Oregon Crop and Livestock Reporting Service reports the supply and distribution of Pacific Northwest wheat for the past three years:

NORTHWEST (Oregon - Washington - North Idaho)

(Figures in Million Bushels)

Item	1954-55 Season	1955-56 Season	1956-57 Season	1957-58 Season*
Total Production	109.7	88.2	95.0	105.4
Carryover July 1	79.8	131.3	135.0	55.5
Inshipments	29.2	30.9	61.1	
Total Supply	218.7	250.3	291.1	
Outshipments, Water	45.8	63.5	196.1	
Outshipments, Rail	3.5	2.9	1.8	
Flour	36.4	36.2	36.3	
Feed	5.6	5.0	4.5	
Seed	3.8	4.4	3.6	
Accountable Use	95.1	111.9	242.8	

*Preliminary Estimates

Production

Umatilla County wheat production for the past three years was:

Year	Acres	Production in bushels
1955	201,000	4,039,952
1956	200,000	5,110,635
1957	200,000	6,340,079

With acreage remaining constant, production has increased 50%. This increase was due to fertilizer and weather.

Favorable marketing conditions

1. Oregon Wheat League has developed good export markets for Pacific Northwest white wheat in South Asia.

2. Trend toward increased use,

nation-wide, of pastry-type flours.

3. New and better pastry-type wheats. An example is the smut-resistant Omar.

4. Public law 480 has aided in the export program of wheat.

Unfavorable conditions

1. The nation is producing nearly one billion bushel wheat crops with a 55 million acre allotment. U. S. wheat acreages have been as high as 78 million acres.

what in the last two or three years, rains in the drouth area could easily reverse this trend in 1958.

3. There was a record carryover of feed grains in 1957. This has been building up for the last three or four years. Present controls have apparently not been sufficiently effective on overall production.

4. The 15 acre provision of present law has increased heavy production of wheat outside wheat areas (corn belt, eastern states, and irrigated areas). Extremely high average yields have been obtained on this acreage. This acreage, plus the farmers disregarding allotments, is estimated to produce 100 to 150 million bushels of wheat under the present program.

5. Pacific Coast is the only area where the loan price is generally exceeded by market price. Some areas are 15 to 20 cents below the loan price. This is due to the heavy export demand for white wheat under the Public Law 480 program.

Although the wheat surplus in the Pacific Northwest is being reduced to normal carryover, the surplus nationally is remaining about the same. Therefore, wheat growers have the following alternatives:

1. Take more acres out of production or control bushels marketed.

2. Maintain wheat exports with a program similar to Public Law 480.

3. Increase and maintain a

Present wheat program

1. Support price for 1958 wheat is \$1.82 per bushel, nationally, compared to \$2.00 per bushel nationally in 1956-57, which would be about \$1.65 per bushel in the warehouse in Umatilla County.

2. Although the surplus of wheat has been declining some-

good wheat export market by helping to develop industry in the United States to use raw materials produced in wheat importing countries so these countries would have dollars to buy wheat.

4. A support program that would price wheat according to its end use. In this manner, wheat could be fed and used by industry.

Programs being considered

✓ **Domestic Parity Plan with Bushelage Controls.** This program would have bushelage controls. Bushels allotted each farmer to be marketed through commercial channels would be based on his present acreage allotment and historical yield on his farm. Farmers without any allotments would not be allowed to market any wheat through commercial channels. This would eliminate much of the production in nonwheat states.

Under this program, the farmer may raise all the wheat he wants

to. Any wheat over and above his bushelage allotment must be stored, fed on the farm, sold to feeders or other farmers directly at a feed price. It may not be sold through commercial channels.

The Domestic Parity program could be used with acreage controls as well as bushelage controls.

1. Wheat to be marketed under bushelage allotment would be sold or put under loan at 65% of parity. Approximately 55% of the wheat under bushelage allotment or that used for domestic consumption would have a parity certificate issued for it. This would mean a farmer would actually receive 100% of parity for 55% of his bushelage allotment and at least 65% of parity for 45% of his bushelage allotment.

2. Wheat grown above the bushelage allotment would not be penalized, but would have to be

used or sold as grain on the free market, or stored.

✓ **Domestic Parity Plan as Passed by the 1956 Session of Congress.** This program is well understood by all growers and was not discussed in detail.

✓ **Conservation Reserve of the Soil Bank Program.** This program should be strengthened. The new concept of putting it on a bid basis should be explored. It could be used as a separate program or in conjunction with other programs.

✓ **Industrial Uses of Surplus Wheat.** Research on the industrial use of wheat and feed grains should be increased to make industrial uses economically feasible.

This committee feels that these programs as outlined are worthy of consideration and recommends that a more detailed study be made of each program.



Land Use Committee Report

Committee Members

Richard Hampton, Pendleton .. Chairman
Victor W. Johnson, Pendleton .. Secretary

Sub-Committee — Soil Conservation

Ed Hoeft, Pilot Rock Chairman
LeRoy Warner, Pendleton Secretary
George J. Barth Pendleton
Edgar F. Bauman Pendleton
James Beamer Weston
Don Coe Milton-Freewater
John Dennison Pendleton
Randolph Dorran Helix
R. A. Fletcher Ukiah
Jack Correa Echo
Bill Etter Pilot Rock
Herman Bierman Hermiston
Paul Froese Athena
Charles Herrick Stanfield
R. L. Herndon Milton-Freewater

Ronald Hoeft Pilot Rock
Ralph Hutchison Pilot Rock
Sheldon Lieualen Adams
Layton Mann Cayuse
Mervin R. Meiners .. Middle Cold Springs
Henry Lazinka Ukiah
Henry Kopacz Hermiston
Lester Murray Echo
John Kucera Pendleton
James Nelson Pilot Rock
Joe C. Norton Stanfield
Merrill Oveson Pendleton
Louis Parton Hermiston
Charles Rector Pendleton
Ronald Rew Pendleton
Ralph Saylor Echo

Clyde J. Stimson Warm Springs
George B. Woodward Pendleton
Ray Warren Pendleton
Norton Taylor Milton-Freewater
Melvin Wakefield Pendleton
Ellis J. Wyland McKay Creek

Sub-Committee — Forestry

Art Shumway, Milton Freewater, Chairman
Earl E. Brown, Milton-Freewater Secretary
Charles Rector Pendleton
John Kucera Pendleton
Louis Umbarger Mission
Al Moltke Pilot Rock
William Coppock Adams

The proper use of land is vital to all. Present users of our soil resources are merely transitory custodians. We have a responsibility to generations that follow to leave our soil better than when we took it over.

There has been progress in the last decade towards more stubble mulch farming in the light-soil areas and more cloddy farming in the heavier rainfall sections, but soil erosion is still a major problem.

Ten percent of the dryland crop acres in the county are now farmed in a trashy fallow or cloddy seed bed manner. Farmers using these methods are saving soil and getting better yields. This progress has resulted from a combination of factors including: results from tillage and fertilizer research, farmers' know-how, new machinery, fertilizers and weed sprays, and educational work.

Some farmers have been reluctant to adopt the trashy fallow program because of: yield reduction, lack of proper machinery, and the weed problem.

Recently these objections have been overcome and now a farmer loses money if he does not stubble mulch.

In the next ten years your committee believes this practice and that of cloddy seed beds in the heavier rainfall areas will be

universally adopted to the benefit of all.

Irrigated Lands

There are 87,902 acres of irrigated land in the county.

Twenty-seven percent of the irrigated land has been improved by better water application and land leveling in recent years.

The next ten years should show a similar improvement.

Soil Conservation

Soil conservation is best defined as "The practical and profitable use of the land and other natural resources without waste."

Protecting the soil against wind and water erosion and making a living at the same time is not easy and would not be practical without a great many recent advances in technology. The Soil Conservation Committee of the 1947 Conference had a marked influence on the development of practical soil conservation within the past 10 years.

1,250,000 acres (67 percent) of the total acreage of the County is now in Soil Conservation Districts and another 115,000 acres is in the process of annexation.

District

District	Acreage
South Umatilla Soil Conservation District	1,034,240
West Umatilla Soil Conservation District	214,502
Heppner Soil Conservation District	77,500*
Area being added to the West Umatilla District	115,000

*The southwest corner of Umatilla County is included in the Heppner Soil Conservation District.

Dry-Farmed Land

There are 572,000 acres of dry farmed land in the county.

Tillage and related practices

Stubble mulch is an increasing practice in the summer-fallow area. No new equipment, such as drills and plows, should be purchased without considering its use on stubble mulch land.

Farm across the slope to help stop water erosion.

Stubble mulch is the number one practice for erosion control. Strip cropping may be necessary on some fields, and where used, some type of subsoiling may be necessary on the stubble strips to get water into the soil.

Investigate broad based terraces and diversion ditches. Build only under the supervision of a competent engineer and plan outlets to prevent damage to roads and other farm land. Seed adapted grasses in terrace and diversion release areas. Seeding grain early in the fall (August or September) in swales has proved effective and is more convenient than grass waterways on some farms.

Small diversion ditches may

fill up with snow and cause breakthroughs and serious erosion during a rapid thaw. Use larger ditches only. If small ditches are on the place, make furrows in the snow for water to follow.

Rough tillage is an excellent conservation practice in preparing pea land for wheat. Where sub-surface tillage implements are used for this purpose, they should be of sufficient weight and strength to penetrate to an even depth.

Maintaining soil organic matter

Use all crop residues. If a large amount of straw is present use nitrogen fertilizer at plowing time, or during the summer fallow period, to help break down the straw. Straw without nitrogen may reduce yields.

Use peas as a green manure crop in the higher rainfall areas. Commercial dry peas should be compared with Austrian peas to determine the value of each as a green manure crop.

Pea vines spread back on the land are an excellent source of organic matter but may create a weed problem. Feed the vines and let the manure age or rot.

Annual cropping is best adapted to the higher rainfall areas. Summer fallow reduces organic matter and leads to erosion. Go to annual cropping as soon as federal programs allow on all suitable lands. Weed control is more of a problem but chemicals are rapidly taking care of weeds.

Controlling wind erosion

Control sand blows wherever formed. Here are several methods:

(a) Cover the blow area with straw or manure and work it in. Seed down to grass as soon as possible. It may be necessary to seed grain first because it grows faster.

(b) These plantings can serve as wild life cover. Plant to wind breaks of trees or shrubs.

(c) If area is large seed down to grass and alfalfa and put in the Conservation Reserve Program.

Irrigated Land

Wind erosion

Sand blows in or adjacent to irrigated land should be controlled to protect farm land and irrigation distribution systems. The

County A.S.C. Practice F-2-5 can assist in financing.

Adapted trees and shrubs in well planned wind breaks is recommended.

Crop residues and straw mulches on blow areas help to protect spring seedings. Keep the soil surface as cloddy, rough, and trashy as practicable.

Drainage

Good drainage systems are needed for reclamation of alkaline and saline areas. Fifteen thousand acres need drainage in the western part of the county and Milton-Freewater areas. Subsoiling may be helpful in breaking up subsurface hardpan layers.

Irrigation

Leveling reduces water waste, leaching of fertilizer, and crop damage. Length of run should be adjusted to the soil type, texture, slope, and depth. Ten thousand acres have been leveled in the past ten years. Another 18,300 acres could benefit from leveling.

Profile soil samples help to determine when to irrigate and the amount of water to apply. Each operator should study the irrigation characteristics of his soil, because each soil varies in water holding capacity.

New sprinkler irrigation units should be engineered to fit specific soil and crop conditions.

Organic matter

Organic matter is important on irrigated land. Save all crop residues, manures and in some cases, use green manure. Some organic matter recommendations:

1. Seed cover crops in the fall on all land growing annual crops.

2. Use alfalfa in short rotations as a green manure crop. Plow under first or third cutting, depending upon rotation.

3. Use all available crop residues including pea and bean vines in the areas close to processing plants.

4. Use alfalfa and pasture in all rotations that include row crops.

Forest and Grazing Land

Stream flow is directly affected by the land cover, whether forest, grass or cultivated crops. Lumber, livestock, irrigation, industrial, and recreation interests should all work together for proper management of the upper watershed.

Seed grass on all logging roadways and skidways to protect the soil against erosion, keep out noxious weeds, and furnish grazing. Seeding should generally be in the fall of the year prior to the first snowfall and late enough so that germination will not occur until spring. Logging operators should share in the responsibility for seeding these areas.

Natural grass meadows should be protected to prevent logging equipment from tearing up existing grass. Logging should be done at recommended times to keep damage to soil and vegetation to a minimum.

Spray sagebrush and other undesirable range plants.

The Committee Recommends:

1. That stubble mulch be recognized as the basic conservation practice for the county as a whole, with other practices used where necessary. Cost of equipment has been the major limiting factor in stubble mulch farming.

Large areas have received little benefit from the present Pilot Farms and, therefore, the committee recommends the consolidation of some of the work and the establishment of new Pilot Farms in the South Reservation, Pilot Rock, and West Pendleton area in the vicinity of Rew Elevator.

2. An A.S.C. payment for trashy fallow and rough tillage practices.

3. That farm lands not now in a soil conservation district might well be included.

4. That meetings and tours be conducted for farmers not now in soil conservation districts so that they may have a good understanding of the work of the districts.

5. That the Umatilla Branch Experiment Station conduct irrigation research work (a) to establish improved irrigation methods and to increase the efficiency of irrigation water and (b) to establish the most efficient use of commercial fertilizer.

6. That no additional land be brought under the present irrigation systems, unless additional storage is provided.

7. That a flood control and irrigation dam be constructed near Mission as early as possible.

8. That the headwaters of East and West Birch Creek watershed be studied for combination irriga-

tion, municipal, and flood control development.

9. That the Tutuilla watershed be studied and appropriate action taken for erosion and flood control.

10. The establishment of a demonstration area to show the effectiveness of flooding meadows at higher elevations through cooperation of federal and state agencies with private individuals. Such a project would slow runoff from the high meadows and provide later and more abundant forage.

11. That all Federal, State, and private agencies and organizations have a free exchange of knowledge and ideas. The present good working relationship should be kept.

Forestry

Forested lands are a major asset. They produce timber, grazing, water, hunting, and other recreation.

According to the State Unemployment Commission, payrolls in Oregon forest industries in 1955, totaled \$24,243,485. Farmers in the county in the last census year received \$245,158 from forest products.

Twenty-five percent of all of the land in the county is covered with forests. The future demand for timber should be stronger than for any other product of the land.

FACTS ABOUT TIMBER ECONOMY OF UMATILLA COUNTY

(Information from Pacific Northwest Forest and Range Experiment Station, U. S. Forest Service, and other sources.)

Item	Year	Amount
Volume of live sawtimber, million board feet†	1945	3,130
Log production, million board feet	1940	27
	1950	54
	1955	79
Lumber production, million board feet	1948	56
Numbers of sawmills (estimated)	1957	22
Employment in all covered industries	(Av. Mo. 1955)	*6,376
Employment in forest products industries	(Av. Mo. 1955)	*1,410
Payrolls in all covered industries	1955*	\$24,243,485
Payrolls in forest industries	1955*	\$ 5,799,316

†In trees 11 inches in diameter, breast height, and larger, Scribner rule.

*Covered industries are those submitting returns to Oregon State Unemployment Compensation Commission.

In 1953 payrolls from forest products industries were \$2,945,000. Two years later these payrolls jumped to a high of \$5,799,316. More sawmills and a modern fiberboard plant, at Pilot Rock, were responsible for doubling the payroll.

The harvesting and shipping

FOREST DATA FOR UMATILLA COUNTY

	Amount
Ownership of Commercial Forest Land, 1945 *	
Private	217,000 acres
National forest	310,000 acres
Bureau of Land Management	4,000 acres
Other Public †	21,000 acres
Total	552,000 acres
Total land area in county, 1954 §	2,067,840 acres
Ownership of sawtimber volume, 1945 *	
Private	898 mil. b.f.
National forest	2,087 mil. b.f.
Bureau of Land Management	21 mil. b.f.
Other public	124 mil. b.f.
Total	3,130 mil. b.f.
County share of National Forest receipts ‡	
Fiscal year 1956	\$38,081
Fiscal Year 1957	\$50,628
Value of farm forest products sold, 1954 §	\$245,158

*From Pacific Northwest Forest and Range Experiment Station, U.S. Forest Service, Portland, Oregon. Timber volume is in trees 11 inches in diameter, breast height, and larger, Scribner log scale.

†Includes State, County, Municipal and Indian Ownerships.

§From U.S. Census of Agriculture, 1954.

‡From Regional Forester, U.S. Forest Service, Portland, Oregon.

of pulp timber from two stations in the county was started in 1956. A pulp and container factory is under construction at Attalia, Washington, and this county will supply much of the raw products.

Problems and recommendations

Studies show that an average pine stand will grow 100 to 150 board feet per acre yearly. Bet-

land should be carried out wherever practicable.

We recommend that less valuable, marginal land be planted to forest trees and placed in the Conservation Reserve. The Soil Bank practice has not been giving recognition to the lower productivity of land adjacent to new windbreaks and tree plantings. The committee, therefore, recommends that strips adjacent to these plantings be considered for payment, due to the reduced yields adjacent to trees.

Extension forester

Many individuals have sold timber, not realizing their obligations to good forest management practices and law pertaining to slash disposal, and often not realizing the true value of their timber.

Timber owners need assistance in negotiation of logging contracts, management of cutting and proper land use after logging.

Recent legislation requires that a representative of the State Forester's office must inspect the timber and area prior to the issuance of an agricultural timber harvesting permit to see if the land meets minimum requirements set up in the Oregon Forest Conservation Act of 1957. Adequate personnel to do this job is not available.

ter stocked stands will grow twice that. Annual return on a stumpage basis without paying labor will return a forest owner an average of \$2.50 per acre per year. This is income from growth only and larger returns can be expected if prices rise for forest products. Reforestation of logged over

Pruning and thinning practices should be studied and demonstration plots made to encourage this practice.

We recommend that an Extension farm forester be employed to work with the State Forestry Department in the Blue Mountain area to service farm forest owners.

Information for forest landowners

We recommend that the Extension Service obtain a mailing list of all forest owners and that annual mailings be made of up-to-date sample logging contracts, regulations governing cutting practices, responsibilities for slash disposal, land use following logging and up-to-date forest management practices.

Access road

With the increase of saw mills in the county greater pressure has been placed on the private timber owners to sell. Much of the timber is cut before it is mature. Large acreages have been clear-cut.

With the present access roads in our national forests it is impossible to meet the yearly allowable cut. Large additional amounts of timber would be available if access roads were made.

Thus, more cutting of nation-

al forest timber would be possible with less pressure on private owners.

Appropriations made by the federal government for additional forest access roads in Oregon are mostly for western Oregon.

We recommend that more forest access road funds be made available for the Umatilla National Forest.

Forest land taxes

Tax policies under the ad valorem tax method tend to encourage land owners to clear cut stands of timber, whether mature or not. This tax policy also discourages tree farms and farm reforestation.

We recommend that a new taxing method be devised to encourage rather than discourage tree farms and good forest management.

Slash disposal

Slash disposal is a major problem. It has been impossible to enforce good slash disposal practices that will lessen the fire hazard, encourage rapid re-seeding, and increase the amount of forage for game and livestock.

More research is needed on controlled burning of forest land to prevent thickets and undesirable trees.

We recommend that the state legislature enact laws requiring that anyone engaged in the cutting of forest products be required to enter into a plan with the State Forestry Department and post a bond to the State of Oregon for the management and reduction of fire hazards.

We recommend that the Bureau of Land Management, U.S. Forest Service and State Experiment Stations work cooperatively in research on controlled burning.

Thinning and pruning

Pruning and thinning forest trees is a good practice but is a long term investment not being applied within the county.

We recommend that forest owners be encouraged through demonstrational plots and training meetings to practice pruning and thinning. This is a recommended ACP practice and it should be continued and used.

Porcupines

Porcupines are a menace to the forests and especially to young trees. These animals are not protected by law. They do cause serious damage to our forest trees. We recommend that publicity be given about the forest damage and that porcupine killing be encouraged.



Water Resources Committee Report

COMMITTEE MEMBERS

Gaylord Madison, Echo, Chairman
Herman E. Bierman, Hermiston, Secretary

Sub-Committee: Milton-Freewater area

P. S. Gibbons, Jr., Milton-Freewater,
Chairman

Earl E. Brown, Milton-Freewater,
Secretary

Marvin Shearer, Corvallis
Tom Davidson, Hermiston
Frank N. Mueller, Hermiston
Byron Rentfro, Hermiston
E. Ebsen, Stanfield
Dr. M. J. Belton, Pendleton

Joe Hilsenkopf, Stanfield
Leo F. Clark, Stanfield
Ben Dreyer, Stanfield
Joe Ramos, Echo
Emil Zivney, Stanfield
N. D. Bard, Stanfield

J. C. Hoskins, Pilot Rock
Bud Seibel, Stanfield
Emmett Meyers, Hermiston
Clausie Ammon, Echo
Quentin Bowman, Salem
Charles Herrick, Stanfield

Milton-Freewater Area Committee Members

J. L. Richartz, Milton-Freewater
Fred S. Groth, Milton-Freewater
John Brinker, Milton-Freewater
Archie Harris, Touchet, Washington
Clarence Waliser, Milton-Freewater
Ray Huffman, Milton-Freewater

Robert Millar, Milton-Freewater
Andy Millar, Milton-Freewater
Lawrence McBride, Milton-Freewater
Howard Murray, Milton-Freewater
Walt Miller, Milton-Freewater

Harold Stiller, Milton-Freewater
Bill Bade, Milton-Freewater
Ray Richardson, Milton-Freewater
Tom Fehrenbacher, Milton-Freewater
Carl Mason, Milton-Freewater

Umatilla County has an abundant water resource potential, only partially developed and used.

Two reservoirs store winter flood water for summer use to irrigate 24,860 acres of semiarid lands in the Westend area. The Cold Springs Reservoir near Hermiston holds 50,000 acre feet and the McKay Reservoir near Pendleton 74,000 acre feet. The Cold Springs Reservoir supplies the Hermiston Irrigation District. The McKay Reservoir storage is contracted by the Bureau of Reclamation to supply: Stanfield Irrigation District 30% (5% additional requested), Westland Irrigation District 30% (10% additional requested). It is reported that 15,000 acre feet have been requested by the Teel Irrigation District. A proposed Water Users Association composed of farmers along the Umatilla River in the Echo area is developing a firm contract with the Bureau of Reclamation for McKay storage.

Major streams of the Umatilla River and the Walla Walla basins discharge an annual average 637,000 acre feet. Only 40% of this water is now used.

Industrial development and population growth in Umatilla County will require additional water.

The underground supply in the Milton-Freewater area has approached a critical point because of expanded use of wells for irrigation and industrial use.

There is interest in reclaiming some 50,000 acres of semiarid land, Classes 1, 2, and 3, in the Westend area to be irrigated with water from the undeveloped potential.

Irrigated acreage: According to the Oregon State Engineer's office, adjudicated water rights and permits total 87,902 acres. Total invested, inchoate and permit rights are estimated at 139,500 acres. There are 18,500 acres under sprinkler irrigation, with water supplied principally from deep wells.

The efficiency of irrigation water in the Westend area is considered abnormally low. The Stanfield Irrigation District delivers 7 acre feet, the Hermiston 9 acre feet and the Westland 11 acre feet of water per acre. There are 18,000 acres under full irrigation rights in these three districts. Some water rights are not satisfied.

The McNary Dam pool on the Columbia River will provide an abundant source of water for irrigation and industrial development.

Recommendations

✓ Establish permanent water resources committee: The State Water Resources Board, established by the legislature, was given broad powers over the use of unappropriated waters. It is charged with the responsibility for developing programs designed to "encourage, promote, and secure the maximum beneficial use and control" of water resources in the state.

Phases of water use specified in the law are: Domestic, Livestock, Municipal, Mining, Power, Recreation, Wildlife, Fishlife, and Pollution abatement together with related subjects including Drainage, Reclamation, Flood Control, and Watershed Management.

We recommend establishment of a permanent County Water Resources Committee to work cooperatively with the State Water Resources Board and other agencies.

✓ Solve the underground water problem in the Milton-Freewater area:

1. Recommend that the Walla Walla River bed be chiseled and ripped up each year from a point one-half mile below the Nursery bridge to a point just above the city of Milton-Freewater. This will permit filtration to the water table.

2. Recommend that all possible

existing gravel pits and abandoned wells be fed using surplus water in the winter and early spring to raise the water table of shallow wells.

3. Recommend that the U.S. Geological Survey and/or the State Engineer's office study the underground water supply and determine whether there is water for additional wells.

4. Recommend that farmers in the area with wells check the static water levels in these wells weekly and that the U. S. G. S. be asked to aid and to furnish measuring devices.

✓ Underground Westend Water Resources: There is a definite need for determination of ground water resources in the Westend.

✓ Develop water resource potential:

1. That a reservoir be constructed on the upper regions of the Umatilla River to make 138,000 acre feet of flood water available for existing projects and for use on a potential 25,000 acres in the Westend. Urban development may need additional water for industrial growth. This reservoir would also serve for flood control. The annual average flood damage caused by the Umatilla River totals \$325,000.

2. We recommend that the Bureau of Reclamation explore the full benefits to be derived from the diversion of Birch Creek winter flood water into the McKay Reservoir. McKay Creek usually fails to fill McKay Reservoir by 11,000

acre feet. Birch Creek discharges 32,430 acre feet annually.

3. We recommend that full development of the Umatilla and Walla Walla watersheds be facilitated by the construction of small reservoirs, under Public Law 566, for industrial and agricultural needs.

✓ Develop Water Conservation practices on the Watersheds:

1. We recommend that Water Conservation practices be employed on watersheds to insure a more controlled stream flow. Subsoiling on the contour of the summer fallow land in the watershed areas has been beneficial in preventing damaging run off. This system breaks the plow sole, getting deeper penetration and infiltration to springs and creeks.

2. We recommend that logging and grazing on federal and private land be studied to determine its effect on stream flow. Forests are rapidly getting to be more important for water delivery than for lumber.

✓ Inventory Potential Water Use: We recommend that the projected Umatilla Water Resources Committee establish an inventory of all water resources available and check against present use, value, and demand for additional development.

✓ Establish a Centralized Water Resource information Library: We recommend that the three County Extension offices develop and maintain a complete library on Water Resource information pertaining to the county supply, forecasts, development, and use.

✓ Compliance with Ground Water Act of 1955: This law governs the development and use of all ground water except under limited volume use. Any person planning to drill a well should contact the State Engineer to comply with requirements of this act. The filing of well logs is required.

✓ Develop more Efficient Use of Irrigation Water:

1. Water Use: It is apparent that there is low efficiency of water usage on irrigated lands. We recommend that research work be conducted by the Umatilla Branch Experiment Station at Hermiston to develop improved practices.

2. Flood Irrigation Efficiency: It is recommend that farmers who flood irrigate should organize their distribution system for efficient handling of water. Proper land leveling gives efficient irrigation and greater yields.

3. Drainage: There are areas in the irrigated sections that require drainage to promote reclamation of "water-logged" land. We recommend that a drainage system be planned in the initial phase of any new irrigation district development.

4. Sprinkler Irrigation: We recommend sprinkler irrigation for those lands not suited to flood irrigation, where leveling and distribution systems would be too costly, or where the operators have a limited water supply from wells.

Sprinkler systems should be well engineered for best results.



Crops Committee Report

COMMITTEE MEMBERS

R. L. Harris, South Cold Springs, Chairman
Victor W. Johnson, Pendleton, Secretary

Dryland Crops Subcommittee:

Tom Vaughan, Jr., Pendleton, Chairman

Richard Egg, Helix
Merton Winn, Helix
Robert Brogotti, Helix
Charles Hoeft, Pilot Rock
James Whittaker, Pilot Rock
Art Lindberg, North Pendleton
Glen Thorne, Holdman
Ronald Rew, West Pendleton

Roy Temple, West Pendleton
Bill Purchase, Reservation
John Storie, South Reservation
Roy Hobby, Reservation
Guy Moore, Athena
Robert Hawkins, Pendleton
Robert Fletcher, Ukiah
Bob Cresswell, Pendleton

Merrill Oveson, Pendleton Experiment Station

Charles Rohde, Pendleton Experiment Station

Lauren Beutler, Pendleton Experiment Station

Irrigated Field Crops, Sub-Committee

Emil Zivney, Stanfield, Chairman
Co-Chairmen — Ray Huffman, Milton-Freewater; Stanley Green, Stanfield; Jerry Cooper, Stanfield; Don Mills, Stanfield; Pete Scymanski, Hermiston
Secretary, Marr Waddoups, Milton-Freewater & Herman Bierman, Hermiston

ECHO

Oscar McCarty
Fred Andrews
Harland Crawford
Harry Andrews
Ralph Saylor
Joe Ramos
Clausie Ammon
Glen Cochran

MILTON-FREEWATER

Marvin Key
Dean Beauchamp
Erwin Kessler
Tom Fehrenbacher
Cecil Stanton
Ray Northrup

Joe Myers
Dee Wallace
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Elmer Pieper
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Elroy McDole
Harold Rankin
N. R. Mueller
Frank Mueller
Eddie Bense

STANFIELD

David Raynalds
Leonard Stevens
Joe Cooper
Glenn Seeley
Loy Gossler
Ted Peterson
Tilford Stillings
Glenn Hastings
Jim Kendall
Joe Norton
Al Seibel
Charles Herrick
John Mills

Mise.

Harvey Kaiser, Silverton
Archie Harris, Touchet, Washington

Dryland crops are the largest source of income in the county. Cultivated acres total approximately 660,000. Another 867,000 acres are in pasture and range.

Wheat

Wheat is the king of our crops, accounting for 42% of the county's agricultural income.

1957 was a transition year for the Omar variety of club wheat. In 1958 it will make up 90% of the club wheat acreage. The club varieties grown in 1957 were not even heard of in 1947. We may be growing, in 10 years, varieties unknown now.

The committee recommends that only known and recommend-

COUNTY WHEAT PRODUCTION

Year	Acres	Av. Yield bu./acre	Total bushels
1947	257,000	28.1	7,227,000
1949	275,000	22.7	7,110,000
1951	270,000	32.2	8,752,000
1953	305,000	29.9	9,119,000
1955	201,486	27.7	5,581,000
10 yr. av.	259,500	29.18	7,435,875
1957	200,069	38.0	7,600,000

WHEAT VARIETIES PLANTED (1957)

Club Varieties	75%	Hard Winter Red	3%	Common White	22%
Elmar	58.5%	Rio	1%	Forty-fold	10%
Omar	16.5%	Mosida	1%	Brevor	6%
		Columbia	1%	Orfed	1%
				Idaed	1%
				Federation	2%
				Requa	1%
				Burt	1%

ed varieties of wheat should be seeded. New varieties should not be introduced until they have received thorough experimental tests for yielding and baking quality. Each year money is lost through seeding some variety said to be a wonder in some other locality, but not satisfactory here.

Spring wheat

Spring wheat has not proved generally economical or popular here. When a winter freezeout occurs, or a farmer for some reason is unable to sow winter wheat in the fall, he may be forced to rely on spring wheat. Disadvantages are lower yields, possible weed infestation and later maturity.

Varities now used are Federation and Idaed. Federation, the leading variety for spring seeding for 30 years, yields less than Idaed. More research is needed to develop better strains of spring wheat and to prepare for the day when wheat allotments will be abandoned.

Smut control

Even with new resistant varieties and improved chemicals and treating machinery, the losses suffered from smut compare with those of earlier years.

reduced about 5%. The grower thus loses in yield and in price, since 1% of smut causes a 3c price dockage.

Growers feel that they are penalized excessively for wheat grading $\frac{1}{2}\%$ smut. An investigation leading to some changes in this system was recommended by the 1947 Planning Conference but no change has been made to date of this report. The committee reiterates this recommendation.

The variety Omar should help in reducing smut. This variety is the first white club with other desirable characteristics that has built-in smut resistance to a high degree. So long as it continues resistant to the races of smut found here, the smut problem should be less.

All wheats planted in Umatilla County, regardless of their varietal smut resistance, should be treated with 1 ounce of 40% Hexachlorobenzene per bushel. It controls soil borne as well as seed borne smut.

Treating machine operators should be trained to recognize the importance of uniform coverage for smut control. The best equipment won't help if run too fast,

amount of soil moisture in relation to available nitrogen.

When seeding in the lighter soils, we recommend seeding about the middle of September if soil moisture permits.

For medium phases of soil, seeding should start about the middle of October, again if soil moisture permits.

When seeding in the heavy phases of soil it is recommended that seeding be started from the first to the middle of October, if soil moisture permits.

Rates of seeding tie in closely with the time of seeding. Generally, the earlier the seeding, the less seed needed. After the first of October the rate of seeding should be increased by five pounds per week if the weather begins to cool.

When seeding in dry soil, increase the rate to compensate for possible loss in germination.

Early seedings use soil nitrogen to better advantage and control erosion better.

Type of soil preparation has no effect on rate of seeding. With clean fallow, soil moisture is less than with trashy fallow.

Size of the seed makes some difference in the rate of seeding.

A seeding rate of from 30 to 60 pounds per acre is recommended.

Spacing of drills and different types of openers should make no difference in the rate of seeding. The openers will make a difference in the time of seeding.

Grazing early-seeded wheat

Factors to consider are: soil moisture, availability of plant food, soil conditions and erosion by water and wind.

Factors that make wheat grazing inadvisable are: low soil moisture, lack of available nitrogen, the probability of erosion, reductions in yield and the compaction of heavier soil types.

Benefits of grazing wheat: Winter wheat has more protein than winter grasses. It gives a cheap wintering program for cattle.

Nearly all winter wheat is grazed in the Southern Great Plains. Their rainfall largely comes in the summer and their soils are usually dry on top in the winter. The reverse is true here.

WHEAT GRADING SMUTTY IN UMATILLA COUNTY IN 1957

District	Total Samples	.5%	1%	2%	3%	4%
Adams	78	11	10	3	1	0
Athena	103	20	12	5	2	1
Blakeley	15	3	0	1	0	0
Dawning	10	1	4	0	1	0
Duroc	9	2	1	2	0	0
Echo	53	0	0	0	0	0
Fulton	47	6	4	0	0	0
Helix	115	19	14	2	0	0
Holdman	53	3	0	0	0	0
Juniper	31	0	0	0	0	0
Mission	104	11	2	0	0	0
Myrick	34	10	3	1	0	0
Pendleton	29	1	0	0	0	0
Pilot Rock	156	12	4	0	0	0
Rew	61	1	0	0	0	0
Sparks	55	0	0	0	0	0
Stanton	26	0	0	0	0	0
Umatilla	74	4	1	0	0	0
Vansycle	9	0	0	0	0	0
Waterman & Wayland	11	4	3	1	1	0
Weston	94	12	6	3	1	0
Totals	1,173	120	64	18	6	1

17.80% of total samples graded smutty 1957

6.77% of total samples graded smutty 1946

Smut causes losses above those indicated. Wheat grading 1% smut usually had at least 5% of smut in the field and the yield is thus

or if the wheat is fed in unevenly.

Seeding wheat

Time of seeding is largely dependent upon type of soil, and

Spring Barley

Barley is important each time we have diverted wheat acres. Research performed by the Pendleton Branch Experiment Station and at pilot farm locations has failed to locate a dependable winter barley. In the tables following, spring barleys are shown to out-yield winter varieties, mainly due to winter killing a third of the time or more.

Yield results for spring barley would be tabulated as follows, based on records to date:

Varieties	Bu. per acre
Trebi	76.
Best in Helix area — will lodge	
Gem	81.4
Best all around	
Harlan	78
Least lodging tendency	
Bonneville	74.5
Best where irrigated	
Flynn 37	72.6
Early-good on light land	
Hannchen	68.2
Brewing type	
Meloy 3	63.1
Best hay type	
Compana	70.7
Not Brewing type; not recommended	
Hanna	58.5
Brewing type — good in Helix area	

Winter Barley

A winter hardy variety of barley is needed. The following are the best tried so far, and although none shows the hardiness of wheat, they are all grown in the county.

Varieties	(Tons per acre)
Winter Club	1.24
Most hardy, best at Weston	
Olympia	1.25
Wind shatters badly	
Trebi	1.27
Not winter hardy	
Alpine	1.33
Appears best yet tried, but needs more research	

Oats

Oats will often produce more height than spring barley, and usually sells for about the same price. It is a later crop and is subject to damage in summer by hot winds.

Varieties	Av. Yields
Markton	85.5
Carleton	95.1
Best av. yielder	
Cody	93.8
Centore	93.8
Park	91.9
Victory	83.6
Shasta	83.5

Rye

Barley is not entirely successful in light soils in the county, because of its lack of winter hardiness and inability to produce enough straw to control wind erosion. Therefore, we recommend growing Tetra Petkus rye in areas of light blowing soils. This rye gives sufficient cover to control wind erosion and its feed value is comparable to that of wheat or corn. Rye is somewhat of a weed in a wheat area, however, and we need more information on how to control volunteer rye.

Grasses and Legumes

These crops are gaining importance in the county. A combination of alfalfa and grasses on ground left idle under the Soil Bank Conservation Reserve program is recommended because the combination controls erosion and builds fertility better than either seeded alone. If a farmer accepts Soil Bank money, he should follow the practice that will accomplish the most in building fertility—which is what he is paid to do.

Alfalfa

Alfalfa is recommended for medium and high rainfall areas. Improved management and new varieties produce satisfactory yields where rainfall is above 13 inches. Results at the Pendleton Branch Experiment Station are as follows:

Varieties	(Tons per acre)				
	1953	1954	1955	1956	Average
Naragansett	1.79	1.36	1.60	3.53	2.07
Rhizoma	1.81	1.25	1.56	2.95	1.89
Ladak	1.61	1.26	1.52	3.13	1.88
Nomad	1.30	1.24	1.63	2.98	1.79
Ranger	1.33	1.20	1.49	3.05	1.77

The most widely used alfalfas in lighter rainfall areas have been Nomad, Ladak, and Ranger. Where short-time production is desired for soil improvement, the

Nomad variety with its great root structure will not be so easy to get rid of as the other varieties. Where pasture is needed, Nomad and Rhizoma are superior.

Grasses

The Committee recommends the following varieties of grass:

Low rainfall areas:

Crested Wheatgrass — most desirable for good stand, but low palatability for summer grazing.

Whitmar Beardless Wheatgrass — (Native Bunchgrass)

Sherman Big Bluegrass

Siberian Wheatgrass (cousin to crested wheat and similar in yield.)

High rainfall areas:

Intermediate Wheatgrass (highest yield for seed production)

Pubescent Wheatgrass (adaptable also to intermediate rainfall areas for grazing)

Alta Fescue (very good for pastures)

Understory grasses

These grasses are seeded in a mixture primarily to keep out undesirable grasses such as cheatgrass. These are shallow rooted and have the desirable quality of spreading. Sheep fescue and bulbous bluegrass are recommended for the Columbia Basin areas.

Grass Seeded Waterways

The Committee recommends the following grasses for seeded waterways:

High rainfall areas:

Intermediate Wheatgrass

Pubescent Wheatgrass

Alta Fescue

Low rainfall areas:

Pubescent Wheatgrass

Crested Wheatgrass

Safflower

In the opinion of the committee, the commercial trials to date are fairly conclusive. The crop

does possess possibilities in this area.

Growing safflower presents no problem of extra equipment. Preparation of the ground to be seeded

is important because once the crop is up and growing, weed sprays we now have cannot be used. Perhaps, pre-emergence sprays would help. The late maturity of the plant is the most objectionable feature. The use of rod weeders on the ground after the fall rains is recommended.

Yield of safflower in the 12 to 13 inch rainfall area has been 1,000 pounds per acre. One farmer reports 995 pounds in 1955, and 1096 pounds in 1957. This was on stubble mulched summer fallow with nitrogen spring-applied at a rate of 45 lbs. N. (NH-3) per acre.

Yields in higher rainfall areas, on pea ground, have been about the same or a little less. The average yield at the Pendleton Experiment Station, after fallow, has been 1,901 pounds.

At \$70.00 per ton, this crop is about comparable to oats or barley, which would yield twice as much, but sell for about half that price.

The crops of 1955 and 1957 were grown under contract with an assured market.

Austrian peas

Austrian peas give benefits other than the price-per-ton. The fertilizer value of this crop compares favorably to the application of about 30 pounds of nitrogen and is definitely of a more lasting nature. Harvesting is more difficult than with safflower. A straw walker type of harvester is preferred for threshing peas, and the cylinder speed must be reduced to control cracking the seed.

An even spread of threshed pea vines over the field is important because excessive bunching of pea straw has been known to produce the same effect as an overdose of nitrogen. Austrian peas may be seeded either in the late fall or in the spring.

Other New Crops

Other crops tried at the Pendleton Branch Experiment Station include:

1. Lima beans — yield up to 617 pounds per acre — up to 42" row spacing.
2. Carrots — yield up to 6.72 tons per acre — up to 42" row spacing.
3. Canary seed—yields very poor, although infestation with aphids noted and further trials

will be made with insecticides applied when needed.

4. Sweet corn and field corn — results not encouraging.
5. Soybeans — results not encouraging.
6. Sorghum — results not encouraging.

Asparagus has been successfully grown in the Athena area and may be worthy of further consideration.

With any new crops, growers should consider expense of special machinery, labor costs and the time the labor is needed. Many farmers might grow some forage crops if they get into livestock enterprises.

Fertilization in Dryland Farming

Prior to 1949 and 1950, most of the fertilizing done on small grains was with dry fertilizer including the forms of ammonium sulfate, ammonium nitrate and 16-20-0. Nitrogen was not readily available in the war years and little was used.

In the past 10 years, with the introduction of anhydrous ammonia, aqua ammonia and others, use has increased each year. More farmers are applying fertilizer each year, and now fertilization is one of the most important farming operations.

in the use of fertilizers include: modern, easy-pulling and accurate applicators make fertilizer use convenient; fertilizers have been dropping in price for 10 years; fertilizer supply is plentiful and the services are adequate.

General conclusions

Proper use of nitrogen lies largely within the good judgment of each individual farmer, for no two fields can be farmed identically even though they are within the same area. Fertilizer is a good investment if used properly.

Anhydrous ammonia and aqua ammonia are preferable, but other sources of nitrogen give good results. Those available are: ammonium nitrate, ammonium sulfate, urea (dry), urea solutions, calcium nitrate, sodium nitrate and Cyanamide.

Urea is a new source of nitrogen and there is much interest in the urea solutions, due mainly to the increasing practice of top dressing winter wheat in the spring, and because a selective weed killer can be added to the solution. It has been used here but two years, so no conclusions can be drawn as yet, though results so far are good. Sulfur has given good response on Athena silt loam under wheat-pea rotation, but there has been no response on

FERTILIZERS SOLD, 1952-1956, UMATILLA COUNTY

Fertilizer	1952	1953	1954	1955	1956
Anhydrous ammonia	2,963,677	3,817,322	4,409,167	3,749,496	4,199,838
Aqua ammonia			1,366,920	1,096,655	2,368,529
Ammonium sulfate	880,740	695,360	343,203	157,125	252,811
Ammonium nitrate	877,122	1,159,100	547,450	314,158	746,580
16-20-0	35,456	36,800	40,400	15,072	19,648
Totals	4,756,995	5,708,582	6,707,140	5,332,506	7,587,306

Nitrogen is the most important fertilizing element on small grains and grass pastures. The type of nitrogen is not important, but the rate is.

Fertilizers are applied on a year around basis, depending upon weather.

Rate of application should be governed by a soil test and by available moisture. On dry land most farmers use 20 pounds to 80 pounds — on irrigated lands, 100 pounds or more are common.

Some other important factors

Walla Walla silt loam (light texture phase) under wheat-fallow rotation.

It is wise for each farm operator to use a dependable soil test service to find the moisture and fertility level of his fields.

Fertilizer experiments carried on in the county by Oregon State College reveal that 30 to 60 pounds per acre actual nitrogen (as recommended) has returned a net income over cost of fertilizer of \$12 to \$18 per acre.

Crop Rotation for Higher Rainfall Areas

What can be done to stop erosion in higher rainfall areas?

The Committee recommends that as soon as wheat allotments permit, all areas that can do so should go to annual cropping, because it is the summer fallow that causes most of the erosion.

In general, this proposal applies to areas in the county receiving 16 inches or more of annual precipitation and to the following soil types: McKay Silt Loam, Pilot Rock Silt Loam deep phase, Waha Silt Loam, Palouse Silt Loam, Athena Silt Loam.

In the area here considered soil erosion is the major problem and we believe that future adjustments in the agricultural program that would allow annual cropping would be a great step towards saving soil loss.

Dryland Ranges and Pastures

The 1954 U. S. Census shows 1,368 farms reporting 867,529 acres of land pastured in the county. There is room for considerable improvement in the carrying capacity of these acres particularly sagebrush range land.

The Committee recommends:

1. That sagebrush be eliminated wherever possible. Methods that have worked here are chemicals and cultivation. Strip re-seeding may be best under some conditions.

2. That the County Extension Agents establish more grazing alfalfa trials with cooperating ranchers. Grazing lands need a legume growing with grass for better nutrition and increased production of grass.

3. That four more grass nurseries be established and later grazed after they are well established.

Alfalfa

Alfalfa hay is a major crop on the irrigated lands of the county. In 1957, it was estimated that there were 17,000 acres harvested with an average yield of four tons.

Eighty percent of the alfalfa is grown for cash. It is believed that 40% of the total crop is marketed outside the county. There are not enough livestock enterprises locally to use more than 60% of the crop.

Both 1956 and 1957 were surplus alfalfa hay years. Production in Oregon during 1954-1955, as reported by the U.S.D.A. Crop Reporting Service, averaged 510,000 tons annually. The 1956 crop was 761,000 tons and in 1957, 740,000 tons. This resulted in a 20% surplus or 150,000 tons.

The surplus has been caused by greater yields, fewer livestock numbers in the Northwest, mild open winters, and by an increased tonnage of silage, potatoes, sugar beet pulp and canning wastes.

It is estimated that in 1956 and 1957, one-third of the production stored in bale piles was extensively damaged by rain. Damaged hay is unfit for sale and cannot be safely fed to producing dairy cows.

Quality improvement

Leaf content is a true measure of crude protein, because 75% of the protein is in the leaves. A minimum leaf content of 40% is desired. Higher quality alfalfa is produced from thick stands. Variety, soil fertility, color and proper timing of harvesting are important.

Harvesting at one-tenth (early) bloom is best for yield and quality.

Rain during harvest, handling when too dry, baling when not dry enough, and weedy stands are the most common enemies of quality.

The Committee makes the following recommendations:

1. Expand livestock feeding programs that will utilize all low quality or unsound alfalfa hay, selling only high quality hay, thereby building a reputation for the county as a source of a quality product.

2. Construct pole frame hay sheds to protect a third of the crop.

3. Plow up all low-yielding stands.

Marketing

Frequently, high quality alfalfa hay sells for no more than average kinds. The Committee makes the following recommendations:

1. We recommend educational and promotional work to establish the true feeding value of quality alfalfa hay.

2. We recommend U.S. official grading for all shipments to outside markets.

3. We ask for research work to establish the value of alfalfa pro-

tein as compared to other protein feeds. Excellent quality alfalfa contains 16.5% crude protein. At \$25 per ton, this quality of alfalfa will price its crude protein at 7.6 cents per pound and the TDN at 2.3 cents per pound—an excellent buy in comparison to other feed sources. But we would like some official way of figuring the value of alfalfa protein.

Alfalfa should be sold on a crude protein basis, rather than on grade. Here is a suggested pricing system.

1. The base price would be: Current U.S. No. 2 Green, Portland quotations less freight (\$9 Hermiston and \$10 Milton-Free-water).

2. Standard base quality: 14% crude protein with 15% moisture content. Plus or minus adjustments would be made according to variations from this standard.

3. Alfalfa crude protein above 14% to be valued equal to the crude protein in cottonseed meal.

4. Example: U.S. No. 2 Green, f.o.b. Portland, quoted at \$30.00 less freight or \$21.00 f.o.b. Hermiston. The sample tested 18% moisture giving a 3% discount or 20.37. The crude protein tested 16.2% or 2.2% premium. When 43% crude protein cottonseed is worth \$70.00 per ton, the crude protein in alfalfa is worth \$1.63 per cwt. Adding the 2.2% crude protein premium worth \$3.58 per ton would value this sample at \$23.95 per ton f.o.b. Hermiston.

New methods of handling alfalfa hay

There is growing interest in more economical methods of handling and feeding hay. At present, baled alfalfa is an expensive commodity to transport and does not lend itself to mechanized feeding.

We request the Experiment Station to explore fully the various ways of processing hay.

Production varieties

The Committee recommends that growers buy only Certified Blue Tag seed, of whatever variety is used.

Lahontan, an alfalfa stem nematode resistant alfalfa, aphid resistant and wilt resistant, high yielding variety, is recommended for all Westend areas where alfalfa stem nematode is prevalent.

Ranger is recommended in the irrigated sections where alfalfa stem nematode is not present.

Vernal and Ladak are best at high elevations or where water is short. Of the hay varieties, Vernal is best for pasture.

Other Practices: Plow stands as soon as they get weedy, use chemicals for weed control as they are developed, keep in touch with new varieties and methods.

Harvesting

Harvest for quality and high protein.

An acre of alfalfa harvested as silage during poor weather conditions may yield 50% more live-stock products to an acre than it will if cut for hay. Alfalfa silage yields more total digestible nutrients per acre than if the same acreage is harvested as baled hay, even if the weather is good.

Field chopped alfalfa can be handled mechanically and at about one-half of the cost of baling. We recommend a gradual shift from balers to choppers. If the crop is to be used for pellets, briquettes, or alfalfa meal, it is a positive detriment to have it baled.

Irrigated Pasture

According to the 1954 Census, there were 13,400 acres of improved irrigated pasture in the county. In 1957 acreage was estimated at 12,000. Only 4,000 acres of the pasture acreage can be classed as improved productive pasture.

Under good management, improved irrigated pastures will be productive April 10 to October 10.

Key points to a good management program are: Improved varieties, weed control, land leveling, proper irrigation, good drainage, clipping, harrowing, rotation grazing and fertilization.

Three producing dairy cows or three beef cows and calves or three to four feeder steers, or 20 gilts and sows per acre can be handled on an improved pasture.

An improved irrigated pasture can return a net income equal to alfalfa hay, corn or irrigated winter wheat. Good pasture production would be comparable to 7½ tons of baled alfalfa hay. The Prosser, Washington Branch Experiment Station's experimental pasture program has produced beef gains up to 1,150 pounds per acre. At present prices, that would gross over \$200 per acre.

Internal parasites are a problem on irrigated pastures. To con-

trol them, the Committee recommends such management practices as rotation (one week of utilization and a three week's rest period); phenothiazine; fresh source of drinking water and proper irrigation. Wet areas or stagnant water invite liver fluke and red-water diseases.

More information is needed to tie in pastures with a feedlot program. Beef gains per acre need to be improved. At the present time, there is about a 10% decrease in per pound valuation between April 1 and October 1. Inexpensive pastures are needed to maintain feeders and keep them gaining so they can move into the feedlots with no time lost in bringing back lost condition.

We recommend that research and demonstrational work be conducted to establish the most productive way of using pastures to tie in with the growing feedlot program.

Since varieties change rapidly, the Committee recommends no varieties, but urges all growers to keep abreast of experimental work so that each new pasture will have the best varieties to date.

Alfalfa as a pasture plant may be best under certain soil and management conditions. Farmers fear to use alfalfa because of the bloat hazard. Strip grazing by twice daily moving a portable electric fence has been reported to work satisfactorily as a bloat preventative. New chemical bloat preventatives appear promising.

Here are some steps to consider in the establishment and maintenance of an improved irrigated pasture:

1. A four to eight year rotation with a cultivated crop is likely to give higher yields than a permanent pasture.

2. The irrigation distribution system should be well organized and planned for efficient use of water, re-use of waste water and for adequate drainage. The border system is best for most fields.

3. The seed-bed must be firm, moist and weed free. On the sandy soils, strawing or surface mulching is highly recommended. Spring seeding is best done between February 20 and May 15, and fall seeding between August 15 and September 15.

4. Pre-seeding fertilization improves pasture stands: Ten to

twenty tons of barnyard manure per acre is recommended especially for the cut areas of newly leveled land. Commercial fertilizers benefit seedling establishment. Nitrogen, phosphate and sulfur can be combined and applied according to recommendations.

5. Seeding: Drilling the seed so that it is not covered over one-half inch is desirable. Legume seed should be inoculated just before planting. Cut the first growth for hay, thereby promoting root development.

6. Fertilization. Nitrogen applications stimulate grass growth whereas phosphate and sulfur stimulate legume growth and the right proportions of these fertilizer elements will keep the plant growth in balance. Thirty pound split applications of nitrogen during March, June and August are desirable. Bluegrass does not grow much in hot weather, regardless of fertilization, so use fertilizer on grasses that will respond to it.

Corn

Field corn is a well-adapted rotation crop. About two-thirds of the field corn here is grown for livestock feed and one-third for a cash crop. As a cash crop it now is produced in excess of local demands.

In 1957, there were 3,100 acres of field corn. Most of it is in the western part of the county.

Our corn grain and silage are equal in nutritive value to mid-west corn.

Corn grain yields vary between 75 and 175 bushels per acre and silage yields vary between 15 and 35 tons per acre.

It costs \$125 per acre to grow and market a 135 bushel corn grain crop. In 1957, the market averaged \$1.50 per bushel or \$53.-55 per ton f.o.b., Hermiston. This market price and production cost would allow \$87.50 an acre return to management and interest on investment.

Chief problems are increasing yields and expanding the market.

Production should be brought to 25 to 30 tons per acre if cut for ensilage and 140 to 150 bushels if harvested for grain. We should promote greater use of corn for livestock and poultry.

The Committee recommends:

1. Continued research to show

the value of corn as compared to competing crops.

2. That Corn for silage be limited to the westend. Pea vines are cheaper in the eastend.

3. Increased local use. Committee members engaged in swine feeding programs find that corn growers can double their profits by feeding swine.

On the basis of feed conversion at the ratio of four to one, corn at \$53.55 a ton, gives a feed cost of \$10.72 per CWT for market hogs. These figures indicate that a 70% additional gross income might be realized by feeding hogs instead of selling the grain.

4. Alfalfa corn rotation. A combination alfalfa-corn rotation rounds out a livestock feeding program by producing both protein and carbohydrate feeds.

5. Fertilizer applications at 40 to 180 pounds actual nitrogen plus zero to 50 pounds phosphate per acre. Make total applications before or at time of planting.

6. Control of wireworms. Wireworms have caused extensive stand losses. Apply the recommended residual soil treatments. Seed treatment is also beneficial.

7. That approved varieties be planted. Dwarf varieties have not been tested under local conditions. The mid-season mid-tall grain varieties, Dekalb 409 and Pfister 234, are recommended. The committee recommends that variety research be continued. Silage varieties recommended are: Pfister 485 and 444, U. S. 13 and Dekalb 631 and 816.

8. Corn grain plantings between April 20 and May 10 with silage plantings April 20 to June 1. Late plantings for grain have reduced yields and quality.

9. That corn be planted at proper spacing. Recommended plant stands are: (36 inch row) grain at 22,500 plants per acre with a seven inch kernel drop and silage at 25,000 plants with a six and one-half inch kernel drop.

10. That research work be continued on selective weed control.

11. New harvesting methods. Self-propelled picker-shellers and artificial dryers have proven successful. Start harvesting when corn has dried to 30% moisture.

Small Grains

We recommend small grains only as an emergency measure on irrigated farms. Grain growing on irrigated land is a good way to go broke.

Grow small grains only as a rotation crop in those areas that do not have late water.

Peppermint

In 1957, there were 370 acres of peppermint in the western part of the County. Yields varied between 45 and 95 pounds per acre, with the average about 65 pounds. There were 30 acres of spearmint with an average yield of 80 pounds per acre. There is one mint still operating in the western end of the county. In the mid-west, 22,000 acres were grown at an average yield of 32 pounds and sold at an average price of \$5.30. In Washington, 12,000 acres were grown at an average yield of 78 pounds selling at an average price of \$3.00. In Oregon 14,500 acres were grown with an average yield of 50 pounds but selling at an average price of \$4.35.

In western Umatilla County, mint production under good management, on fine sandy loam to silt loam soils and adequate irrigation, is considered a well-adapted crop. A top quality oil is produced.

Cost of production

Committee members believe that production goals should be 80 to 100 pounds of oil per acre. Taking the 80 pound yield, the first year's costs would total 275 to 300 dollars an acre with \$215 to \$240 figured for subsequent years. Committee members said that \$75 an acre net is needed to make this crop a sound venture.

Scale of operations

The specialized mint producer who operates harvesting still set-up, should have between 80 and 160 acres. The smaller operator who grows peppermint as a rotation crop and uses custom distillation, can grow 20 to 40 acres.

The committee recommends that no expansion should be considered at present prices. If prices work back to \$5.00 a pound, it is a good crop here.

Production problems

1. Irrigation. Ninety percent of mint's water requirements are obtained from the top 12 inches of

soil. There is need for demonstrations on irrigation practices.

2. Fertilization. Research is needed.

3. Insect damage. In 1957, the two-spotted mite and the green leaf hopper caused considerable damage. Sprays are available and should be used.

4. Root Knot Nematode was found in isolated areas of peppermint plantings. Research should be undertaken to find a control.

5. Pre-emergence selective weed control chemicals. Two to three pounds per acre of 80% Diuron have been found effective, but this chemical requires a rather exacting system of application, rates and timing that will enable the chemical to be effective and still cause no injury.

Research is now underway in Central and Western Oregon to determine uses for the spent mint hay.

Hops

Hop production is well-adapted and is a profitable enterprise on 300 acres of Ephrata loamy sand soils under the Stanfield and Hermiston Irrigation Districts of the westend area.

The long-time average yield of 2,000 pounds per acre and the premium quality produced establish this area as equal to the other hop producing centers of the Northwest.

Hop growing is a large scale business with total investments around \$1,350 an acre. An economic unit of hops is considered 80 to 240 acres. The high cost of mechanization dictates the scale of operation. Even though mechanized, the crop still has a labor requirement. The cost of production has been about 35c a pound or \$700 per acre.

In 1957, the uncontracted crop sold for \$1.05 a pound. Because of the strong demand and favorable price, plantings are increasing in the Pacific Northwest.

The seedless varieties of early and late clusters are grown.

The committee recommends that growers maintain present quality but increase yields by exploring cultural practices. Possible lines of research include: irrigation, fertilization, new varieties, disease control and reduction of hand labor.

Weed Committee Report

Committee Members

Robert V. Wood, Weston, Chairman
Vic Johnson, Pendleton, Secretary

Tom Branstetter, Pendleton
Frank Buehler, Hermiston
Glen Brogoitti, Helix
William Coppock, Adams
E. B. Farron, Mission
Roy Hobby, South Reservation
O. D. Isaminger, Myrick

Ron Johnson, Adams
Jack Richartz, Milton-Freewater
Roy Sires, Hermiston
Jim Smith, Athena
Glen Thorne, Holdman
Jack Tillman, Athena

Hugh Tinker, Spofford
Russell Tucholke, Umapine
Melvin Wakefield, Pendleton
Ronald Rew, Pendleton
John Weidert, Athena
Dale Wood, Weston
Mervin Meiners, Middle Cold Springs

Of the 1,556,051 acres of land in farms in the county the committee finds 4.1 percent is infested with noxious weeds. The infestation is increasing.

While much good has come from the work of our Oregon State College Extension Service and Experiment Station, the County Weed Supervisor, and commercial weed people, the problem remains primarily one for each land owner, administrator, and tenant.

Progressive farmers are controlling broad leaf annual weeds in grain crops effectively with 2, 4-D sprays. Farmers on irrigated land are beginning to use new chemicals to control foxtail and cheatgrass. Cheatgrass on dry cropland has increased.

Many farmers are doing a good job of controlling perennial weeds.

Control of cheatgrass in dryland crops is not a problem where the moldboard method of making summer fallow is used. It is a serious problem where surface tillage or the so-called trashy fallow system of summer fallow preparation is followed. Since surface tillage is the only practical method of erosion control on fallow land, it then follows that the elimination of cheatgrass in growing dryland crops is of paramount importance. Unless cheatgrass can be controlled, farmers will have to accept erosion losses as the lesser of the two evils and go back in many cases to the moldboard system of fallow preparation.

A number of farmers have followed the stubble mulch method for many years and have learned to handle cheatgrass.

Under the current program the county weed supervisor does not

have time to work full time with farmers and maintain up-to-date weed maps and records.

Not all farmers know some of the serious weed pests not now in the county but that may be introduced. Two examples are halogeton and Mediterranean sage.

Canada thistle and puncture vine are rapidly spreading and may develop into a costly problem. Headwaters of streams and drainages have some infestations. A comparative newcomer, Bermuda grass, occurs on wheat-pea land north of Athena.

Imported and transported screenings often in the form of livestock feed are the source of new weeds and the spread of weeds.

There is no cost-sharing payment for the control of noxious weeds under the government's Agricultural Conservation Program.

Susceptible plants and bee-feed are being injured or destroyed by careless weed spraying. This is one of the factors in the reduction of our bee industry. Bees are important as pollinators for alfalfa, tree, and small fruits.

Recommendations

The committee recommends that:

1. The County Court and Budget Committee provide sufficient funds so that one more man at least can be hired for spraying, leaving the supervisor free to work full time with farmers and others.

2. Accelerated efforts be made to accomplish eventual all-out weed law enforcement. The County has had a weed control law for about 15 years. The committee believes this is sufficient time for

everyone to become familiar with the objectives of the law.

3. The weed supervisor maintain an up-to-date weed map and individual record cards.

4. An extensive educational program on weeds and weed control be continued by County Extension Agents.

5. Weed research work be continued. An accelerated basic research program should be conducted by Oregon State College in cooperation with U.S.D.A. on weed control.

6. Farmers get and use information available through the offices of the County Extension Agents concerning new chemicals. As experiment stations test new materials and methods, resulting information must continue to be released through our Extension Agents as quickly as possible.

7. Farmers, land administrators and tenants become familiar with the weeds halogeton, Mediterranean sage and other weeds that are not as yet in our area.

8. Oregon State College initiate research in cooperation with feed and seed dealers on imported and transported screenings used in livestock feeds. If findings indicate screenings are a potential hazard in spreading weeds, the committee requests the enactment of remedial legislation.

9. An ACP practice payment be made for control of noxious weeds.

10. Weed spray applicators use caution in applying herbicides so that flowers, shrubs, trees, susceptible vegetables, and bee feed are not injured or destroyed.

If fence rows are not allowed to mature cheat, a good part of the

battle is won. Several chemicals are now available that safely sterilize soil. Applications of soil sterilants should be made in the fall so adequate moisture will take the chemical into the soil. There must be proper penetration of the chemical into the soil to get desired results. First cost of sterilization is fairly large, but benefits derived from clean fence rows make it practicable.

Selective control of cheatgrass in growing wheat is still in the experimental stage. Several chemicals show promise for this purpose. Simazin is the most promising now commercially available. It is likely that selective control of cheat in growing grain will be too expensive to use on a whole field basis (as is practiced with 2, 4-D on broadleaves). It is more likely to be useful for spot treatments around the outside of fields, in draws, and on certain slopes especially heavily infested. Since cheatgrass and grains are both members of the

grass family, the margin of selectivity is very narrow, so application of any chemicals will have to be done carefully to kill cheat without damaging the grain.

Experiment stations and chemical companies should accelerate their efforts to develop chemicals and methods useful for selective annual grass control in growing dryland crops.

Never let cheatgrass go to seed at any time during the summer fallow year. Most of this occurs in May and early June when cultivation, following the first tillage operation, has been delayed too long. In a wet spring, an additional rod weeding may be necessary only to control cheatgrass. It is most important to cultivate enough times to prevent any maturing of cheatgrass seed on summer fallow.

The rod weeder type of equipment, followed by a skew-treader, has been most successful in eliminating cheatgrass in the spring. This follows the first surface tillage as

soon as volunteer grain and cheatgrass seedlings begin to appear.

It is equally important to eliminate cheatgrass seedlings in the fall before seeding if fall rains come early enough. This works only if a fall rain is followed by two weeks or more of dry weather since cultivation will not kill all cheatgrass seedlings if the ground surface stays moist. It simply transplants them. It is therefore important to cultivate immediately after seedlings appear in the fall and not take a chance on later rains preventing the elimination of cheat by cultivation. In other words, cheatgrass control in summer fallow by cultivation is **dependent on timing**. A farmer must be ready with adequate equipment to get over his ground at the right time in as few days as possible. Most serious losses from cheatgrass infestations have been caused by failure to cultivate when the job should have been done.



Processing Crops Committee

Committee Members

Stafford Hansell, Athena, Chairman
 Jim Smith, Athena, Vice-Chairman
 Norton Taylor, Milton-Freewater, Secretary

Don Webber, Athena
 Tremayne Rea, Walla Walla, Wn.
 Merrill Oveson, Pendleton

Beryl Hodgen, Athena
 Marr Waddoups, Milton-Freewater
 Ravella Lieuallen, Adams

Bob Brogoitti, Helix
 Frank Tubbs, Adams
 Keith Babcock, Milton-Freewater

Processing crops are of major importance in the county's economy. These crops include:

Peas for Canning & Freezing
 Sugar Beets
 Lima Beans for Freezing
 Asparagus
 Sweet Corn
 Carrots

Peas for canning and freezing are the most important of the processed crops. Peas are grown in the foothill land of the Blue Mountain range from east of Pendleton northward to the state line near Milton-Freewater. This area, blessed by fertile soil, good moisture, and favorable growing conditions, produces peas of better quality than those produced anywhere else in the United States. They can be produced as economically as in any of the other areas of pea production. The balance of the processed crop section is near Milton-Freewater and Umapine, except for a few hundred acres of sugar beets being grown in the west end of the county.

The increase in acreage of processed crops in Umatilla County, during the past ten years, is evident as noted in the charts in the appendix of this publication. The national crop allotment program, which limits the acreage of wheat planted in any one year, has made many more acres available for the growing of peas. Along with the increased acreage in canning and freezing peas, an increased acreage of asparagus is noted. Furthermore, during recent years some of the processors, in order to increase their pack and lengthen their packing season, have begun contracting increasing acreages of sweet corn, lima beans, and carrots. Sugar beet acreage, due largely to the gov-

ernment beet allotment program, has seen little change.

While our acreage has increased some, the total annual production of crops processed has increased tremendously. Rotations, fertilizers, better strains of seed, improved farming practices, increased processor facilities, have all tended to increase the county's overall processed food production.

During the past year considerable effort has been put forth toward getting the U.S. Department of Agriculture to set up a regional pea disease laboratory with competent personnel, including a plant pathologist specializing in virus disease, an entomologist to work on insect problems and insect vectors; and a plant breeder to work toward the development of disease

PLANTS PROCESSING UMATILLA COUNTY'S CROPS

Processor	Location	Foods processed
Smith Frozen Foods	Pendleton & Milton-Freewater	Peas
Utah Canning Company	Pendleton & Milton-Freewater	Peas
Rogers Canning Company	Milton-Freewater & Athena	Peas & Carrots
Lamb-Weston, Inc.	Weston	Peas, Lima Beans & Carrots
Umatilla Canning Company ..	Milton-Freewater	Peas, Sweet Corn, Asparagus, Carrots, Apples & Prunes*
Walla Walla Canning Company	Walla Walla, Wash.	Prunes*, Apples, Carrots, Peas, Sweet Corn & Asparagus
Libby, McNeil & Libby Co. ...	Walla Walla, Wash.	Peas
Birdseye Frozen Food Co.	Walla Walla, Wash.	Peas
Utah-Idaho Sugar Company ..	Moses Lake, Wash.	Sugar Beets

*When available for processing.

Disease and Insect Control

Pea aphids and resultant virus diseases have occasionally caused considerable losses to the pea growers in the Blue Mountain area. Three years ago the Oregon-Washington Aphid Control League was established to control pea aphid in its over-wintering areas in the alfalfa fields in the Umapine-Gardena district. As a result of spraying, by the Aphid Control League, early hatches of the aphids have been controlled successfully, resulting in a much-reduced aphid problem for the pea growers. Nevertheless, viruses are a constant threat to our pea industry.

resistant varieties of peas.

During recent years there has been some indication of an increasing problem in wilts, root rots, and other non-virus diseases.

The Committee recommends:

1. That the Oregon-Washington Aphid Control League continue its work of controlling the pea aphid in their over-wintering areas and that the assessments by the processors and growers be increased, if necessary.

2. That all possible efforts be made, toward the establishment of a federal USDA regional research laboratory to work on the virus, insect, and disease problems of

peas, and that the U.S.D.A. locate this laboratory in Umatilla County in conjunction with the Pendleton Branch Experiment Station.

3. That the Senators and Representatives in Congress, from the states of Oregon and Washington, be advised of the importance of research work in plant breeding, soil conservation, and entomology presently being conducted in the county in order that they may continue to work in behalf of this research. Furthermore, that the congressmen be urged to contact the various heads of these departments in Washington D. C. advising them of this recommendation.

Weed Control

Weed control in peas and other processed crops has made rapid strides, and selective weed control now shows more promise than ever before.

The Committee recommends:

1. That the Oregon Experiment Station cooperate with growers in testing new chemicals and that the Extension Service make results available to the growers as soon as possible.

2. That chemicals now available and which have proved satisfactory be used to produce weed free fields.

Utilization of Processed-Crop Byproducts

Studies by the Pendleton Branch Experiment Station, show that the organic matter content of our soils is being depleted, regardless of the production practices followed, so long as no organic matter is grown and turned down or introduced in form of manure or crop byproducts.

During recent years great progress has been made toward full and profitable utilization of byproducts of our processed crops.

The beef feeding trial, now conducted at Milton-Freewater, has been helpful in determining values, and methods of feeding these byproducts. However, much more information is needed.

The Committee recommends that growers of processed crops make full use of their crop byproducts by returning them to the land, either directly as green manure or as livestock manure.

Transportation

Since most of the crops pro-

cessed in this area must be transported to eastern markets, methods and costs of transportation are of greatest concern to growers and processors alike. Increases in freight rates based upon percentages have distorted normal relationships of different producing areas, the Pacific Northwest and the North Central states, to the major markets, the east coast. Percentage-wise freight rate increases have been to the detriment of Pacific Northwest producers and processors.

Rapid truck transportation has proved to be of considerable value to the county's food processors in moving out products.

The lack of standardization of truck regulations, concerning maximum length, weight, etc., has considerably hampered maximum use.

The committee recommends:

1. That the Umatilla County Development Commission serve as a coordinating agency to establish a county traffic committee with representation from all agricultural and civic interests.

2. That the traffic committee, when organized, have as its objective, freight rates most advantageous to the county's processors and shippers.

Advertising

Pacific Northwest grown peas are recognized for superior quality. Methods of advertising were discussed at length. Conclusion was that some method is desirable to identify the peas as grown in the Pacific Northwest.

The Committee recommends that all peas packed in the area either have stamped on the lid or printed on the label "Grown in the Pacific Northwest."

Labor

Seasonal labor plays an important part in the harvesting and packing of our crops. Growers and processors are urged to maintain clean, sanitary, well-policed camps for migrant workers to attract good workers.

The Oregon State Employment Service, with their permanent offices in Pendleton and Milton-Freewater and a seasonal office in Athena, has done a good job of labor recruitment and placement.

The Committee recommends that Oregon State Employment Service be commended for its serv-

ice to the county and that it be urged to continue the seasonal office in Athena.

Equipment

Farm equipment plays a very important part in the planting and harvesting of the county's processed crops. Recently much has been heard about pea combines and pea podders. These show promise and the processors and growers are urged to cooperate in their development. The greatest need for the pea grower equipment-wise however, is precision pea-planting drills.

The Committee recommends that manufacturers be urged to develop a more satisfactory precision pea drill. Experiments with this type of equipment should be conducted within the area.

Education

Information on new varieties, disease and insect problems and controls, equipment, soil fertilizers, and other subjects related to the production and the marketing of our processed crops is essential to the growers. A general discussion of these problems combined with expert opinion should do much to keep growers informed.

The Committee recommends that a continuing committee of growers and representatives of processors be set up which, in cooperation with the OSC Extension Service, to plan and sponsor an annual educational and informational meeting for the growers of processed crops.

Pea Quality

The Processed Crops Committee, while recognizing our advantages in pea production, is aware of the need to be striving constantly for improvements in pea quality and flavor, and of the need for more consumer education in order to place the best possible peas on the consumer's table. The Committee believes that peas, harvested at the proper time with the shortest time interval possible from the field to the plant, as well as better methods of handling, will result in peas of best quality. Quickest results in improvement of pea quality will result from these better handling methods. However, constant research must be carried on and closest cooperation is desirable between the seed

houses, processors, growers, and the Experiment Station.

We recommend:

1. That processors, in cooperation with growers, set up central viner stations wherever possible.

2. That every effort be made to develop new varieties of peas that are palatable, have good color, and produce high yields.

Marketing

The importance of having favorable price-cost relationships for both the processor and the grower cannot be over emphasized. Furthermore, processors and growers should both be constantly aware of the dangers of producing food crops of sub-standard quality without available markets and of the depressing results, both market-wise and consumerwise, resulting when such foods are thrust on the market.

We recommend that processors continue careful coordination between their plantings and their markets, entering into contracts with growers on the most equitable basis possible, closely related to the specifications that reflect in sales.

Irrigated Processed Crops

Sugar beets

Sugar beet growers have not

been able to maintain the high average yields that were common a few years ago. Some growers believe that lower soil fertility has caused this reduction in yield and that adoption of better soil building and cultural practices is a must.

We recommend:

1. That mono-germ seed and mechanical thinning be used to reduce labor requirements and cost.

2. That crop rotations be used including good soil building practices.

Peas

During the past two years peas for canning and freezing have been grown in the irrigated section of eastern Umatilla County. When planted early and given proper irrigation and fertilization, they have been profitable.

The Committee recommends that there be increased acreage of peas for processing as a rotation on irrigated lands.

Lima beans

Lima beans have been grown profitably on irrigated land in the east end of the county during the past four years.

Since this crop is not planted until mid-May and the vines can

be returned to the soil, lima beans fit well into soil building crop rotations, and may be used in conjunction with green-manure cover crops prior to the planting of the beans.

The Committee recommends:

1. Increased acreage of lima beans in rotation with other crops on irrigated lands.

2. That all lima bean vines be put back into the soil as green manure.

3. That cover crops be planted prior to the planting of lima beans.

Sweet corn

During the last three years sweet corn for processing has been grown successfully. While at present prices this is not a high income crop it does lend itself to use in our irrigated field crop area where there is adequate summer irrigation water.

We recommend:

1. That sweet corn be planted in blocks of over ten acres, provided maximum utilization of the corn stocks is made as a green manure crop, incorporating them into the soil immediately after the harvest of the corn.

2. More research work on corn ear worm control.



Family and Community Living Committee Report

Committee Members

Mrs. Jack Saccrison, Chairman

Miss Frances Harvey, Secretary

Health and Sanitation Subcommittee

Mrs. Stafford Hansell, Chm., Athena
Miss Frances Harvey, Sec., Pendleton
Mrs. H. O. Whitacre, Athena
Mrs. E. L. Ferguson, Weston
Mrs. Jim Rothrock, Adams
Dallas Dusenbery, Umatilla
Carl Anderson, McNary
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Mrs. John Estoup, Milton-Freewater
Mrs. J. G. Parker, Pendleton
Mrs. Ed Garriss, Pendleton
Mrs. Ralph Hutchison, Pilot Rock
Mrs. Jim Nelson, Pilot Rock
Mrs. Floyd Snyder, Hermiston
Mrs. H. G. McCulley, Hermiston
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Clay Ballance, Pendleton
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Mrs. Clarence Hoeft, Pilot Rock
Rev. Donald Payne, Pendleton
Bob Fackler, Hermiston

Dean Rawley, Pilot Rock
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Mrs. Jack Duff, Adams
Mrs. Charles Simpson, Athena
Mrs. Fred Andrews, Echo
Mrs. Robert Harper, Helix
Mrs. James Ellingson, Hermiston
Eber Howard, Milton-Freewater
Mrs. Jesse Staggs, Milton-Freewater
Mrs. Karl Eaton, Pendleton
Mrs. Vern McGowan, Pilot Rock
Mrs. Fred Hoeft, Pilot Rock
Mrs. Wesley Ayars, Ukiah
Mrs. D. B. Dusenbery, Umatilla
Mrs. Norton Taylor, Milton-Freewater
Miss Frances Harvey, Pendleton

Health

The table below shows our present position and future needs for doctors, dentists, hospital beds, nurses, child guidance, and homes for the aged.

UMATILLA COUNTY MEDICAL AND DENTAL FACILITIES AND OTHER HEALTH AGENCIES

HEALTH FACILITY	Number in county	U.S. Public Health Recommendation	Present County Ratio	NEEDS
Doctors (MD's (Chiropractors (Osteopaths (Naturopaths)	39	1 M.D. to each 1,800 population	1 to each 1,124 pop.	Probably adequate
Dentists	20	1 to each 1,200 pop.	1 to each 2,192	16
Hospitals & Beds	3 166	4.5 beds per 1000	3.8 beds per 1000	31 beds
Nurses (Registered ((Practical ((Aides Total	43 full time 9 on call 10 full time 1 on call 79 on call 142		1 to each 307 people	3 to 4 full time 5 to 6 part time
Nursing Homes & Homes for aged	3 2			Modern nursing home. Home for aged couples.
Child Guidance Clinic	1			More certain financing. Psychiatric Social Worker.
Eastern Oregon State Hospital (averages 15 admittances per month from Umatilla County)	1			"Follow-up" psychiatric care upon release from hospital. Education on vol- untary commitment in early stages of mental disturbances.

Health Agencies and Services Provided

City councils

- a. Mosquito and fly control
- b. Maintain clean streets
- c. Provide pure water supply
- d. Operate sewage disposal system
- e. Maintain sanitary dump grounds
- f. License distributors of food
- g. Maintain park and playgrounds

Public schools

- a. Physical education
- b. Hot lunch
- c. Record cards for students
- d. Nutrition classes
- e. Hearing and visual testing
- f. Mental health program

American Red Cross

- a. Disaster relief
- b. Blood program
- c. Nurses training
- d. First aid and water safety training

County Health department

The County Health Department includes 1 doctor, 5 nurses, 2 sanitarians, and 1 visiting specialist (to be two years in the county).

- a. General health program and enforcement of public health laws.
- b. Medical aspects of civil defense

County Tuberculosis and Health association

- a. Contact county patients in TB hospitals
- b. Chest X-rays (when requested)
- c. Annual nurse scholarship

National Foundation for Infantile Paralysis

- a. Hospital care
- b. Physician's care
- c. Nursing care
- d. Physical therapy
- e. Appliances
- f. Recommended surgery

County Public Welfare commission

- a. Placement of children in foster home
- b. Medical care for welfare recipients
- c. Referral to proper agencies (Needed: funds for glasses and dentures for welfare recipients.)

Oregon Heart Association

- a. Information on heart diseases and allied conditions
- b. Speakers and films

Juvenile counselors

The county employs two juvenile counselors. The Committee feels that a psychiatric worker would be valuable to the counseling program of the Child Guidance Clinic.

County health advisory committee

- a. Sponsors child guidance clinic
- b. Administers child welfare fund

The U. S. Public Health Service recommends for adequate medical care a ratio of 1 physician to each 1,800 people in urban areas, 1 to 1,200 in rural areas. The county has a population of 43,840 making a ratio of 1 to each 1,124 people with 30 registered medical physicians, 3 osteopaths and 5 chiropractors. However, since residents of this county use the services of some physicians outside the county and persons in neighboring counties often consult Umatilla County physicians, our county ratio does not give a true picture.

The U. S. Public Health Service recommends 1 dentist for each 1,200 population. The county has 20 dentists, which gives a ratio of 1 to each 2,192 people.

The State Hospital Plan has an objective of 2.5 patient beds per 1,000 population in rural areas and 4.5 patient beds per 1,000 in intermediate areas. The county has at present 166 available hospital beds with a ratio of 3.8 beds per 1,000 people. Here too, there is overlap with other counties.

Welfare funds are not available for dentures and eye glasses for children or the aged.

There are four nursing homes and one home for the aged, located in Hermiston, Pendleton, and Milton-Freewater. Twenty-nine of these beds are made available to welfare patients. Ninety percent of the patients in nursing homes are over 65 years of age.

There is a scarcity of nursing homes and an apparent loading of general and mental hospitals with aging people, particularly those chronically ill or senile.

Many families fail to assume the responsibility of caring for their aged members.

The county has over 5,000 people 65 years and older. Advances in science, especially those contributing to health and medicine, have resulted in a steady decline in mor-

tality rates. Substantial increases in numbers of older people can be expected.

The supply of nurses is not sufficient to meet the demands even though the number of graduate nurses is greater than ever before. The county has no practical nurse training program which could help alleviate the pressing need for nursing services. The county has been named as a pilot county for testing the "Visiting Nurse" program.

The total population at Eastern Oregon State Hospital is 1,500 or more with an average of 12 to 18 a month admitted from this county. The primary causes of commitment are senility and alcoholism. The county may have a larger number admitted because of the Pendleton location of the hospital. Admission may be by voluntary or involuntary commitment. If patient asks for treatment he is usually given 30 days of treatment. Involuntary commitments are made by physician and county court. There is no guidance for patients outside the State Hospital.

A Child Guidance Clinic conducted by the County Health Department is held two days a month. The services of a well qualified staff of child psychiatrist, psychologist, and psychiatric social worker are provided by the State Board of Health. From the period September '56 to May '57, 57 children were seen in the clinic with 45 given psychological testing. The clinic is two days in length and 8 to 10 children can be seen by the psychiatrist and 6 to 8 children can be tested.

The source of income for the Child Guidance Clinic is uncertain. It is financed by a grant from the State Board of Health (Mental Health division), county funds, rural school board allotment at 10c per child, and an appropriation from the local United Fund. However, United Fund gives only in proportion to the success of the drive, the school board can withdraw funds if it chooses, and the state funds decrease each year.

In time of peace it is difficult to get people deeply concerned with needs and functions of Civil Defense. Preparation for natural disaster usually receives the same unconcern.

The west end of the county has the most complete Civil Defense

organization. Hermiston has 17 zones with one lieutenant and two sergeants named for each, and a captain for every four blocks. The total for Hermiston is 58 civil defense workers beside police, fire departments, and city employees. Umatilla Ordnance Depot is completely organized.

Other areas and particularly the rural areas lack organization and training.

Nearly all citizens that have taken first aid training did so during World War II.

Recommendations

1. That educational programs be continued among adults and children to stimulate the adoption of food habits essential to good health and good teeth.

2. That the value of fluoridation of public and community water supply be investigated as an aid to the prevention of tooth decay.

3. That community health councils be organized where they do not exist to consider dental health needs and the development of tooth decay prevention programs.

4. That the county bring the number of hospital beds up to the U. S. Public Health Service standards and give support to any hospital involved in expansion.

That the county study problems of the aging population and facilities to meet needs, and that steps be taken to solve these problems and meet standards of good nursing homes.

6. That capable citizens be urged to invest in private rest and old age homes within the county.

7. That educational programs be established to help people understand the aging process and recognize the needs.

8. To help maintain physical and mental health we recommend that in caring for the aging, provision be made for

(1) housing suited to needs, physical, mental, and social; (2) purposeful activity; (3) good medical and nursing care; (4) diets adapted to older age needs; and (5) emotional security - friendship and affection.

9. That community organizations offer scholarships or set up a revolving fund for nursing education in order to encourage local girls to enroll at a school for nursing.

10. That an educational pro-

gram be developed on the opportunities for training, service, and schools for practical nurses, and that effort be made to recruit local women for training.

11. That the pilot Visiting Nurses program be supported and used.

12. That Child Guidance Clinic be supported by the county budget.

13. That a Psychiatric Social Worker be a county employee, county paid.

14. That Extension Division of State College plan an educational program for parents on child behavior problems.

15. That a study be made to determine the need and means of support for a psychiatrist located in the county.

16. That effort be continued to inform the public on what has been accomplished in keeping our "home front" alert.

17. That family training be given to rural people to care for others in case of disaster.

Sanitation

(See map on following page)

Umatilla County has poor garbage disposal areas and facilities, an unknown number of polluted water supplies, improper sewage disposal, mosquito control problems, and a vector control problem. Promiscuous dumping creates a considerable hazard, even with 29 dumps in the county.

The county employs two full time sanitarians and has the services of a vector control specialist for the next two years.

The committee recommends:

1. That all water supply systems be safe and pure. Water supply systems should be checked by the County Health Department and sampled for purity whenever a new well has been constructed, and when alterations have been made on the present system. Water should also be sampled by the health department when there is doubt as to its purity.

2. That all sewage be disposed of in a proper and sanitary manner, to the extent that it is not allowed to flow on the top of the ground or into water courses. The health department should be contacted when a new sewage disposal system is planned or alterations are to be made in the present system. Improperly installed sewage

disposal systems are major cause of polluted water supplies through the contamination of the ground water.

3. That either the County Extension office or the County Health Department be contacted for advice or information and pamphlets on rodent control.

4. That measures be taken to control the large numbers of mosquitoes in parts of the county.

5. That each town provide adequate refuse disposal so the rural areas will not be plagued with open dumps.

6. That properly operated sanitary landfills for disposal sites be established.

Home Management

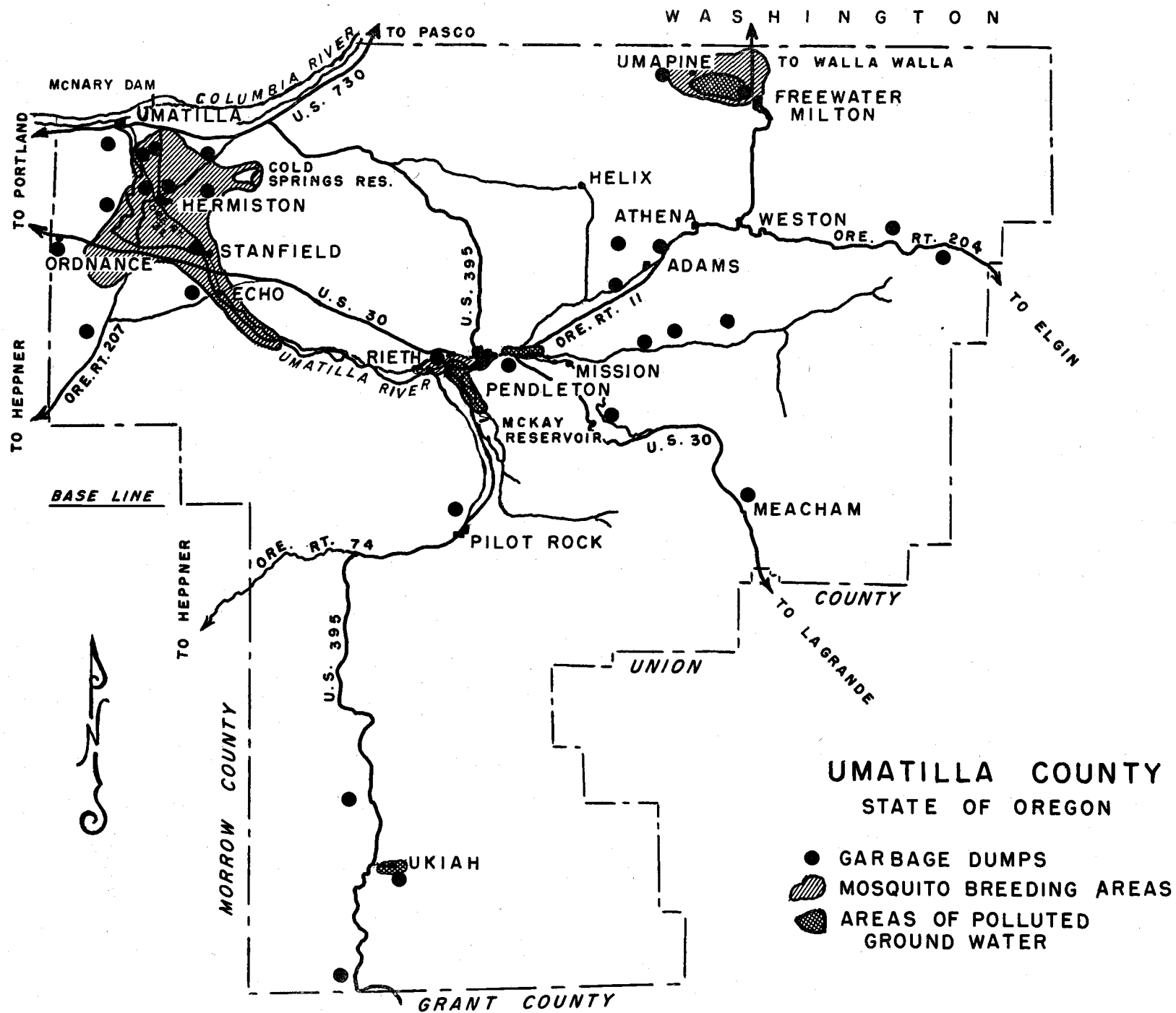
Financial planning

Nearly every family is confronted with the ever-pressing question, "How can we do the best job with the money we have?" The family income and how it is spent determine what a family has and does. Every budget needs flexibility for unforeseen necessary spending. The present trend in family spending in Oregon is that it must be adjusted downward to fit the income. Often families find they have committed too much of their income to monthly payments. Increased income taxes often leave the family with much less than anticipated. About 25 to 30 percent of the family's income goes for food, 8 percent for clothing and another 2 percent is spent on personal care. About 6.5 percent goes for furnishings, including household textiles, floor coverings, furniture and bedding, small equipment, major appliances, and housewares. Transportation accounts for nearly 11 percent of the consumer's dollar and 5.4 percent is spent for reading, recreation, radio, and television. From under 10 to over 19 percent is spent for housing and another 5 percent for household operation, excluding utilities.

The committee recommends:

1. That appropriate programs be set up to educate people through the use of all communication facilities (radio, newspaper, T.V.) in wise consumer buying.

2. That Extension Service help families gain an understanding of money factors (taxation, currency exchanges, over-production) that influence family income.



Changes in family living

Households today are small, averaging 3.39 persons. In times past households were large. Many hands were needed then, since these people produced much of what they needed. Today, households are largely consuming units.

The average household size is still decreasing, although young homemakers are having more children. This change in birthrate and its effect on household size has been offset by an increase in single person households.

Many single individuals are setting up separate living situations rather than living with other families. This gives us two cross-trends: (1) young families are larger today, and (2) more single or widowed persons are living alone.

Across the country, fewer people are living on the farm; more persons are moving into cities or suburban areas. More farm folks are working part-time off the farm in order to add to their incomes; a few city folks are moving out and doing some farming on a part-time basis.

People are living longer. This means that a higher proportion is in the "over 55" age group. These people have special interests and needs.

Women are living longer than men, and as the family bonds are broken by death, these homemakers find it necessary to adjust to a new mode of living. Frequently they are ill-prepared to make this adjustment.

At the same time, our young people are marrying and assuming adult responsibilities at a younger age. They are marrying young and are averaging two or three children, which they tend to have close together and early in married life.

Over half of the first marriages today take place by the time the girl is 20. Over half of the mothers are 26 or younger when their last child is born. It follows that at the age of 48 well over half of these women will have "married off" their last child.

Today nearly 40 percent of the American women are working outside the home. More city women than farm women are working outside the home; more single women than married women are working. Yet, in 1955, nearly 30 percent of the married women in this country

were either working outside the home or looking for work.

This trend to women's working is increasing, and families are not going to give up the added pay check willingly. These working women are of all ages, but the largest increase is coming from those in the "over 45" group and those with young children. In 1955, 16 percent of the young women with children under six were working outside the home.

The committee recommends:

1. That an effort be made to determine the kind of help needed by young homemakers and suitable programs be established to meet their needs. (Evening meetings, baby care program, etc.)

2. That assistance, wherever possible, be given to families where both parents work, to help in evaluating the additional income earned by the homemaker.

3. That working mothers be helped to realize the importance of adult supervision for children. Parents need help in understanding and assuming more responsibility in family life.

4. That the needs of older age groups in social and recreational programs be determined and appropriate aid given.

Housing

The amount spent for housing varies a great deal from family to family. From under 10 to over 19 percent of the consumer's dollar may go for the home itself. Another 5 percent goes for household operation, excluding utilities. Operation costs include such items as cleaning tools and supplies, household services, and minor repair and upkeep of the home.

During 1956, remodeling and repair were given greater emphasis than new building. This trend is expected to continue for the next two or three years.

The committee recommends:

1. That information and education be provided on improving storage areas of the home, modernizing and streamlining kitchens, bathrooms, and workrooms.

2. That educational programs be provided on good home lighting standards, and on safe wiring for equipment.

Reaching more people

More young homemakers should be participating in the extension

program. A minority of the homemakers now enrolled in active extension work are young mothers. Exactly 700 homemakers are now enrolled in 16 extension units within the county. It is impossible to estimate how many women receive help by various other means—radio, news stories, bulletins, office and phone calls.

The committee recommends:

1. That educational meetings be held open to the public in central locations to encourage more participation.

2. That a county home economics program be organized to meet needs and interests of all economic and educational levels in the county.

2. That an effort be made to determine the kind of help women need. The program may or may not be patterned after the present program.

4. That a leadership training program be established to service interested people in all groups.

Nutrition

It has been stated that an average of 25 to 30 percent of the family's income goes for food. Enough is produced in this country so that each person should have a balanced diet.

Poorly fed Americans may be found at any economic level. The poorest fed Americans are the teenage girls and homemakers of child-bearing age.

Obesity is the **Number One** nutritional problem in the United States.

Trends in food markets show more ready-to-serve or partially prepared foods, self service and promotion of large exhibits of single food items. The appeal is to the impulse buyer.

The committee recommends:

1. That since nutrition information is most needed by young mothers for the proper development of children in their growing years, an effort be made to find out how best to reach young mothers and to interest them.

2. That importance of proper nutrition be presented to older people in a convincing manner. These people living alone often neglect their own nutrition because of disinterest in cooking for themselves.

3. That nutrition information be presented to reach the largest number of men possible because

men largely influence the way their wives cook and what their children like to eat.

4. That sufficient programs and information be given to encourage people to establish a good diet for proper weight.

Rural Youth

In this County, during 1957, there were 10,384 children enrolled in county schools. This compares to 7,668 enrolled in 1950, an increase of 35%. Of these enrollments, 7,640 are between the ages of 8 and 18 and therefore eligible for most nationally sponsored youth organizations. Membership in 6 of these organizations is tabulated. Rural, urban, rural nonfarm breakdown is based on estimates.

Enrollment in County Youth Groups

	Rural	Rural Nonfarm	Uurban	Total
Blue Birds	200	258	500	958
Camp Fire Girls	88	100	200	388
Cub Scouts	200	200	550	950
Boy Scouts	100	150	250	500
FFA	150	35	15	200
4-H Club	376	215	327	918
Total Enrolled	1,114	958	1,842	3,914

Counting duplications where a boy or girl belongs to several organizations the committee estimates that 3,276 boys and girls in the county of eligible ages do not belong to any of these organizations. The six groups listed in the table are organizations with constructive programs contributing to the development of boys and girls. The committee recommends that each of these organizations expand its enrollment and include a more representative portion of eligible boys and girls. Each organization should take inventory of its membership with the purpose of assuring boys and girls from isolated rural areas an opportunity to participate if they wish.

School activities

A study was made of five schools in the county in an attempt to determine whether the county youth need more activities or whether they are exposed to too many. The accompanying table shows the results. Activities recorded are those that take place outside of class rooms.

Youth Participation in Activities Outside The Classroom

School	No. of students in activities	No. of activities available	Average activity per student
Pilot Rock	147	11	1.84
Milton-Freewater	385	30	2.0
Athena	88	11	2.5
Hermiston	556	25	2.0
Pendleton	570	17	—

The Committee recommends:

That school authorities limit the maximum activities in which a student may become involved. Many children participate in too many school activities while some should be encouraged to participate in more.

patterns have become established.

The committee studied the driver training program used by about three-fourths of the high schools in the state. This program is recommended by traffic law enforcement officers. Insurance companies demonstrate confidence in it by allowing a 10% reduction in premium rates to young people between the ages of 16 and 25 who have completed a course with a minimum of 30 hours classroom and 6 hours driving experience.

At the present time the cost per student trained is high. The Oregon Legislature recently provided funds to apply on the Driver Training program allowing school districts twenty dollars per enrolled student to be applied to the 1958-1959 school year. Funds are derived from a dollar increase in the driver license fee.

The committee recommends:

That driver training be compulsory for all high school students in Oregon at the 15 year old level as soon as financially feasible.

That safety programs which influence youth toward safe driving philosophy be encouraged. These include the J. C. Sponsored "Rodeo's," the 4-H Automotive Project, the 4-H Tractor Maintenance Project, and the Explorer Driving Safety Rodeo.

Teenage drivers account for only part of the increasing traffic accident rate. Oftentimes teenage driving philosophy reflects the driving example demonstrated by adults.

That law enforcement agencies step up programs to restrict the alcoholic driver. It also recommends to the Secretary of State that drivers' license offices enforce a regular driver examination program for elderly drivers.

Juvenile delinquency

The committee recognizes juvenile delinquency as the foremost problem facing Americans. In 1956,

That everyone concerned — schools, churches, and parents — should encourage children to spend more time at home, and that parents organize activities to involve the family at home.

That communities of the county analyze their local need for activities among young people between the ages of 18 and 21 and plan constructive activities for young people graduated from high school but not enrolled in college.

Youth and cars

Cars and teenagers are both a problem and an institution. In checking five high schools in the county, the committee determined that 185 students in these schools are driving to school. The administrators of the schools felt the number was not excessive because these cars are needed to enable rural youth to participate on equal terms with students in town.

Every effort should be made to imbue boys and girls and parents with a philosophy of safe and sane driving. It should be emphasized at age levels where youths are still open minded, before bad driving

498 different cases were referred to the county juvenile court concerning some phase of juvenile problems; 198 were held in detention. Some reasons for delinquency are:

1. Broken homes
2. Parent indifference or delinquency
3. Dependent children.

Broken Homes: The committee studied the Umatilla County divorce rate. Over a 3 year period the marriage and divorce rate was as follows:

Year	Marriages	Divorces
1955 -----	287	147
1956 -----	300	150
1957 (to Nov. 21)	233	111

Over the three year period there has been one divorce to each two marriages, or a 50% divorce rate. The state of Oregon averages three divorces to each five marriages or a 60% rate. The U. S. averages one divorce per 4.2 marriages or a 24% divorce rate. Oregon has one of the highest divorce rates in the nation. The committee checked with ministers, doctors, and teachers in this study.

The committee believes more couples need marital counseling before and after marriage, and marriage laws are too lax. The Committee recommends:

That the governor of Oregon counsel with governors of adjoining states to formulate state legislative programs that will result in more consistency in the marriage and divorce laws of the Pacific Northwest area, and that these programs include provision for compulsory counseling before marriage and before divorce.

There is a great diversity among marriage and divorce laws in the various states. Tightening marriage laws in Oregon alone would be ineffective because matrimonial candidates would simply apply in a different, more lenient state.

That in the absence of such standardization the County Child Guidance and Health Council take leadership in organizing a county-wide interagency council for the purpose of promoting and offering marital counsel service to schools and other organizations or to individuals.

That, anticipating an increased

juvenile delinquency problem in the coming years the County Court should employ an additional worker in the Juvenile Department.

The Juvenile Department, under the County Juvenile Court is now staffed with two professional workers. Each of these has a monthly load of 80 youths to counsel. The accepted counseling load is 50 per month.

That the County Court study the county jail facilities and lay plans for improving them as time and finances permit.

The committee feels that the facilities and supervision in the county jail are inadequate where it is impossible to separate young teenagers from hardened adult inmates.

That the County Child Guidance and Health Advisory Council establish a Big Brother and Big Sister movement throughout the county. We recognize the influence that interested adults have on young lives.

Schools and Education

SCHOOLS AND EDUCATION IN UMATILLA COUNTY

Year	Districts in county	School census	School Enrollment (1-12 gr.)	Expend., Maintnce operations	Other expendtrs.
1946-47 -----	83	8,095	6,371	\$861,817.79	\$8,503.07
1956-57 -----	24	13,565	10,384	\$3,906,693.49	\$129,548.24

Year	Elementary districts	Union high schools	Unified districts	County valuations	Amount per child
1946-47 -----	70	5	8	\$50,926,408.49	\$7,993.47
1956-57 -----	12	2	10	\$61,082,285.93	\$5,882.35

The people of the county have made many improvements in their educational facilities in the past 10 years, and the schools are rendering a commendable service. Reorganization of school districts is going on, and there will be many new developments in transportation, curriculum, facilities, and student activities. School bus transportation has been improving in type of equipment and services rendered. All but two districts have bus transportation and accidents are a rarity. Most of the schools are serving well planned hot lunches. Two schools remain that serve hot lunches only during cold weather. Library facilities are up to state standards. Kindergartens are provided in 3 of the districts.

Riverside school for retarded children serves as a pilot program. It accomodates 15 children from 8 to 13 years of age. No provisions are made for these retarded children after leaving Riverside. Adult education in many fields is available at the high schools through night classes. Vocational education and classes in the creative arts are possible. Some courses for college credits are available in Pendleton, Hermiston, and Milton-Freewater.

There is a need for well qualified teachers, and for better understanding between teachers and parents. Parent-teacher conferences should be developed, and tried in several grade schools and one high school. Concerted effort by parents to create a favorable teacher climate would give teachers high status and encourage more people to enter the teaching profession. The dedicated teacher should be respected and even revered just as are members of the other professions.

Changes in the curriculum should be geared to the modern age

to meet the needs of the child for living. The school program is not well balanced in all areas of instruction.

Home economics and other vocational education in high schools need to be coordinated with other outside training programs. Young adults not attending college need provision locally for vocational training.

The Committee recommends:

1. That serious consideration be given to a local Junior College that will offer college courses and also terminal vocational work.

2. That more emphasis be given to student guidance throughout the school life of the student.

3. That a special supervisor be

selected to be available for county service to schools.

4. That the public schools curriculum be studied by lay people as well as by professional educators.

5. That every school provide the hot lunch program.

6. That all citizens exercise continual vigilance concerning the school bus transportation and facilities.

7. That young adult class instruction be encouraged in areas of the county when and where the need arises.

8. That schools continue to keep up their library facilities in accordance with state standards.

9. That every school district under the Reorganization of School Districts Act provide education through 12 grades.

10. That the community participate in a program of loan funds or financing plan for teacher preparation.

11. That housing and living facilities for teachers in rural communities be improved.

12. That school buildings be available for adult and after school activities.

13. That effort be made to honor the more meritorious teachers as permanent professional citizens.

14. That programs for the retarded and exceptional children be enlarged.

Youth labor problems

Going into effect in 1958 a new directive of the Oregon Labor Commission will prevent boys and

girls under the age of 16 from obtaining agricultural work permits where exposure to heavy machinery is involved. Judging by previous participation the committee believes this means that approximately 50 to 100 youths will be unable to work legally in local harvest operations. Since the opportunity to hold down a job is important to older boys and girls, the committee is concerned about the problem of finding appropriate jobs for those between the ages of 14 to 16 years.

The committee recommends that the U. S. Forest Service study the possibility of organizing a forest youth camp where young teenage boys could be employed in routine forestry chores unassociated with heavy machinery.



Recreation Committee Report

Committee Members

Ray Rees, Helix, Chairman
Norton O. Taylor, Milton-Freewater,
secretary

Frank Leeper, Pilot Rock
Don Hawkins, Pendleton
Ferdie Hudemann, Stanfield
Vern Tinnerstet, Pendleton

Robert Butler, Pendleton
Lwayne O'Harra, Weston
Carl Ramsey, Milton-Freewater
Ray Richardson, Milton-Freewater

Ed Knopf, Milton-Freewater
Mrs. Jack Duff, Pendleton
Mrs. LaVerne Pearson, Pendleton
Mrs. Lowell Caplinger, Pendleton
Mrs. James Terjeson, Helix

Consolidation of schools and development of good roads in the county have so integrated our rural and urban recreational activities that the problem of leisure time use is now countywide.

We have more and more leisure time, much of it devoted to recreation. Increase in leisure time has been due to: 1. Mechanization of farms; 2. Shorter work week for city people; and 3. Rapid transportation.

These factors, along with increase in population in the Northwest, have congested our already inadequate recreational facilities.

To attract industry and tourists we must develop our natural recreation sources and improve and add to local facilities.

The county has many natural advantages. Fishing and hunting, centered in the Blue Mountains and the Umatilla National Forest, have long been major attractions, and have furnished seasonal recreation for much of our population.

The county has three state parks and one trailer park. Increasing use of the parks is shown in the accompanying table.

are in the Blue Mountains.

Attendance at Battle Mountain State Park has decreased slightly, but this trend is only temporary. As demands on other facilities increase it will change. Need for additional facilities must be reckoned with.

Camping and Picnicking

The county is favorably situated with the Blue Mountains and the Umatilla National Forest in the east and south. There are many natural sites for camping and picnicking.

Last year Umatilla National Forest started a five-year program to develop forty-eight camping and picnicking areas. Twelve sites have been completed.

We commend the U. S. National Forest Service and recommend:

Expansion or development of all existing sites for camping and picnicking uses.

Aquatic Sports

All possible aquatic sport recreation areas should be fully developed.

Use of McKay Reservoir for aquatic sports is limited by the

the Umatilla River, is favorably located and should be well adapted to water sports.

Recommendations

1. All aquatic sport recreation areas be fully developed.
2. When Mission Dam is built, recreation should be spelled out as one of its purposes. It should **not** be turned over to the Fish and Wildlife Service.

Swimming

The county is short of swimming facilities. For a county of this size adequate swimming facilities must have capacity for 1,500 persons. Existing facilities serve only 500.

Of the eleven incorporated towns and cities in the county only five, Pendleton, Milton-Freewater, Hermiston, Athena, and Helix have swimming pools.

There are no covered, year-round-use swimming pools. This is one of the greatest recreational needs of Umatilla County.

Recommendations

1. Communities without adequate swimming facilities should develop them.
2. That the schools include plans for covered swimming pools; or
3. In the event that these are not feasible, investigate the possibility of a Y.M.C.A. with pool in Pendleton, or a county-sponsored, covered, year-round swimming pool.

Use of Public School Facilities for Community Recreation

The use of our public schools for nonschool activities, including recreation, has increased recently.

Number of People Using Umatilla County Parks

PARK	1954	1955	1956
Hat Rock State Park	55,731	66,945	92,394
Emigrant Springs State Park	89,733	130,452	147,915
Battle Mountain State Park	26,562	24,985	23,850
Ukiah-Dale Trailer Park	33	8,931	10,355

Hat Rock State Park, recently developed, is on the lake behind McNary Dam.

Emigrant Springs, Battle Mountain, and Ukiah-Dale state parks

Fish and Wildlife Service. McNary Pool is far from our center of population, and needs more development.

The proposed Mission Dam, on

School administrators have been reluctant to permit the use of schools for nonschool activities because of liability responsibilities for accidents.

Recommendations

1. Schools should not be monuments to education. They should be the dynamic centers of community life. Present day education costs dictate maximum use of facilities.

2. That legislative action be taken relieving school administrators of responsibility when school facilities are used for nonschool functions.

Winter Sports

In the northeastern part of the county is a very fine ski area, Spout Springs. If a site in the southern part of the county could be developed it would be of great benefit.

Recommendations

That a ski area be planned in the southern part of the county.

Landowner-Sportsman Relations

Hunting and fishing have long been among the most popular forms of recreation. With the great increase in population and development of rapid transportation, relationships between sportsman and landowner have deteriorated. It is small wonder that some private lands have been closed to sportsmen as a result of sportsmen's disregard of their responsibilities and the right of the landowner. Crop damage, gates not left as they were found, litter and debris left behind, careless shooting, to say nothing of the wilful destruction of property, have all caused the landowner to resent sportsmen.

Hunting accidents are all too common.

Recommendations

1. That a mutual approach to

the problem be made by sportsmen and landowners.

2. That sportsmen undertake a positive education program aimed at the delinquent sportsman.

3. That every effort be made to teach our youth to be good sportsmen with a proper sense of responsibility.

4. That any hunter who injures another person by careless gunfire shall have his hunting license revoked for life.

Recreation Coordinator

The committee considered the need for a new county officer, a County Recreation Coordinator, but believes the present demand is not great enough to justify the expense.

As population increases and needs justify it employment of such an officer should be given serious consideration.



Livestock Committee Report

Committee Members

Wm. Hansell, Athena, Chairman
Mike Kilby, Pendleton, Chairman Swine Sub-Committee
Bill Duff, Adams, Chairman Beef Cattle Sub-Committee
Herman Snyder, Pendleton, Chairman Horse Committee
Harry Cline, Chairman Sheep Sub-Committee

Norton Taylor, Milton-Freewater, Secretary
Gray Thompson, Pendleton, Secretary
Dr. Stanley E. McGough, Pendleton, Secretary

Carl Groth, Umapine
Stanley Green, Stanfield
Roy Hatley, Pilot Rock
Frank Bensel, Hermiston
Ben Kilgore, Hermiston
Dr. R. L. Whitford, Pendleton
Ray Rugg, Pilot Rock
Don Coe, Milton
Ron Baker, Hermiston

Bill Johns, Athena
Jay Scott, Athena
Henry Lazinka, Ukiah
Lee Foster, Pendleton
Bill Harder, Milton
Evelyn Broun, Pendleton
Altha Kirk, Hermiston
Emil Muller, Helix
M. A. Buroker, Umapine

Paul Rice, Pendleton
Eldon Harvey, Pendleton
Dick Piper, Milton
R. L. Liueallen, Adams
Joe Dougherty, Pilot Rock
Gaylord Madison, Echo
Lou Levy, Pendleton
Vic Johnson, Pendleton

Livestock production is an important segment in the economy of the county, and is increasing. In 1949 income from livestock amounted to \$2,236,209; in 1957 the income from meat animals and wool was \$5,541,850.

The potential in livestock has not been attained, and income in '58 will probably exceed that in '57.

Swine

Census figures show that in 1940 sows and gilts for spring farrowing in the county numbered 1901, in 1945—1519 and in 1950—1047. The committee estimated sow and gilt numbers for 1957 at 1125.

Oregon is a pork-importing state. It has 1% of the nation's population, but produces only .3 of 1% of the nation's hogs. Oregon imports about 57% of its pork needs either live, dressed, or cured.

The West Coast has 10% of the nation's population and produces only 1% of the nation's hogs. Oregon is in a position to compete favorably in supplying pork to neighboring states, especially California.

The barley-hog ratio in Oregon has recently been more favorable than the corn-hog ratio in the Mid-West.

Swine diseases

The county is in a relatively good position as to swine diseases.

Epidemic types of disease are very uncommon, but the parasite problem is an ever present menace.

Expansion of hog industry

National legislation affecting feed grains also effects the hog outlook. This makes the future difficult to predict, however.

Recommendations

1. The committee recommends a general increase in hog production in the county.

2. That the Extension Service, working with interested swine growers plan and conduct one or more barrow carcass shows, because of their educational value.

3. That the Extension Service make available to swine producers information giving merits and disadvantages of selling on a rail grade. If possible, a demonstration should be arranged where a local producer or organization will co-operate in an attempt at this type of marketing.

4. That there be more research on problems of swine management. Research on swine has been inadequate in Oregon. The Experiment Station has had very few projects relating to swine management. The branch experiment stations are doing little or no swine work.

Problems needing research are: Economics of hard surface and shelter versus dirt pens, in confined feeding; different types of building structures and costs;

comparative value and economy of alfalfa pasture, alfalfa chop, alfalfa pelleted, and other sources of roughage; and cross breeding — what different breeds should be used in a cross-breeding program?

5. That there be an increasing amount of research on swine diseases problems. This, coupled with constant vigilance by all concerned, should keep the swine industry in a healthy position.

6. That an additional agent be added to the Umatilla Extension Staff. This agent should be responsible for livestock, or he should relieve another agent so that additional time of one man could be spent on livestock. The growing importance of livestock justifies such a request.

7. That the Extension Service take the initiative in organizing an association of producers interested in swine problems, to promote programs helpful to the swine industry, as well as to provide an organized group to represent swine producers in legislative and other policy matters.

Horses

The number of horses in the county dropped steadily until 1954 but has been increasing since. The recent increase in the number of horses represent a gain of well-bred horses.

Population trends of horses in Umatilla County

1950	3,678
1951	4,000
1952	3,500
1953	2,900
1954	2,365
(674 farms with horses and/or mules on census report)	
1955	2,400
1956	2,450
1957	2,500

Total number of horses in Oregon this year is 50,115.

Summary of horse breeders in Umatilla County:

Shetland	9
Thoroughbred	4
Arabian	6
Quarter Horse	28
Draft	2
Mules	3
Total	52

It is not claimed that horse raising is hugely profitable. In most cases, horse breeding is not a primary source of income. It does, however, have a definite place and is profitable to those breeders who have invested the necessary time, effort, capital, and ability. Horse raising is also a source of enjoyment to many.

Horses can be raised economically in most parts of the county by utilization of stubble ground and available pasture land. Horses often can be run along with a wheat operation.

Disease control

The county is a favorable area from the standpoint of diseases of horses. The main considerations in disease control are:

1. Sleeping sickness, easily prevented by vaccination program.
2. Parasites—both internal and external, particularly bots—ever present and must be controlled for an efficient operation.

Expansion of horse industry

Demand for horses of all types is good and will probably increase.

The price is directly proportional to the quality of the animal and its training.

Quality, regardless of breed, is the most important single point.

A knowledge of breed characteristics and requirements of the breed association is a must for any person who anticipates entering a horse-breeding venture.

Recommendations

The committee recommends:

1. That a local breeders' association be formed. Breeders' associations are most important from the national to the local level. They help promote interest, increase the opportunity to display good horses and good training, and thereby aid the horse breeder by increasing the demand for and price of his product.

2. That a horse show with a recognized judge be held at the County Fair. Members of the Committee were appointed to meet with the Fair Board to promote a horse show at the Fair in 1958 and subsequent years.

3. That Quarter Horse racing in the State of Oregon be increased both by scheduling races on approved tracks and by offering improved purses.

4. That the State College be asked to schedule a Horse Clinic in Western and Eastern Oregon on alternate years. In that way, more eastern people could get the valuable training offered.

Sheep

The county sheep numbers total approximately 31,000 head. This is a heavy reduction in number from 200,000 head at the turn of the century. During the last 30 years numbers have remained fairly constant.

Factors limiting numbers of range bands have been:

1. Availability of range. Sheep range operations have been located largely on public domain. Administrators have, since World War I, greatly reduced permits.

2. Labor. Few experienced herders available.

3. Economic conditions. Prices received for products sold have not increased in proportion to operational costs. Now, with the Wool Incentive payment, the outlook for sheep is much better than a few years ago.

Farm flocks, during recent years, have increased. Most of these are side line farm enterprises. This trend is good and is expected to continue.

Disease

The most serious problem of the farm flock owner is internal sheep parasites. The concentration of the flock on fewer acres intensifies this problem, particularly on irrigated lands.

Expansion of sheep industry

More farm flock sheep could be raised profitably in the county. Persons interested should obtain all information available before starting this enterprise. Only good quality breeding stock should be acquired. New operators should understand internal parasite control practices, and apply them rigorously.

Good sheep fences and, if possible, dog-proof fences, are a must to a successful farm flock project.

Ample supplies of good quality low cost roughages are a prerequisite to a successful sheep operation.

Marketing

Marketing of lambs and wool is a problem for the small farm flock sheep raiser, since local markets for these products are not the best.

Research

Most of the county's present range sheep operations have been developed with a minimum of dependence upon public lands.

Because of the tendency of sheep to feed principally upon browse, low growing shrubs, bushes, etc., while cattle feed mostly upon grasses, use of range by both cattle and sheep rotated periodically would give increased forage yields and reduce soil loss problems.

Recommendations

The committee recommends:

1. That long time results of range use in rotation grazing by sheep and cattle be learned, and trials demonstrating this practice be established.

2. That farm flock sheep raisers of the county consider organizing a marketing association for the purpose of pooling and selling their lambs.

3. That wool quality improvement programs be followed by sheep operators. Wool quality is increasingly important.

Beef Cattle

The county is divided geographically so range and feed yard operations are compatible.

Range cow operations are principally located east and south of Pendleton, while feed yards are mainly in the northeast and western sections.

During recent years beef cat-

tle have become more important, a development due to:

1. Recognition of the value of locally grown feed crops and crop byproducts.

2. Increased acreages of feed grains and processed crops resulting from the national wheat allotment program.

3. Curtailed income under the allotment program causing many farmers and ranchers to diversify their operations.

4. Mechanization of the feeding operations removing a former objection.

Livestock disease

Umatilla County is in a very desirable situation from a disease standpoint. The county is a modified, certified, brucellosis-free area.

The committee recommends:

That beef feeders and ranchers take advantage of new and pertinent information on cattle diseases; rely more on vaccines; and use the services of local veterinarians—discussing with them disease problems—especially when obtaining cattle from other areas.

Expansion of cattle industry

During the last ten years the feed yard capacity in Umatilla County has increased to more than 20,000 head.

Considerable quantities of feed crops and crop by-products produced annually here include barley and corn grains, silages of corn and peavines, alfalfa hay, some cannery wastes, and chaff from wheat and barley.

Estimated tons of feed produced in Umatilla County each year for the period 1953 through 1957:

Pea silage	121,060
Corn for grain	4,087
Barley	44,680
Alfalfa hay	68,030
Corn silage	12,090
(from 350 tons in 1953 to 17,600 tons in 1957)	

Custom feeding of beef cattle is in the experimental and developmental stages in the county. As experience in cattle feeding is gained, feeders will be able to feed out their own cattle or offer custom feeding programs on a basis of either cost per pound gained or feed cost plus a yardage fee.

The committee recommends:

1. That farmers producing feed crops and crop by-products consider including some type of live-

stock enterprise in their farming operations.

2. That there be an orderly development of additional feed yard facilities in northeast and western sections of the county operated by experienced feeders and utilizing locally grown feed stuffs.

Marketing

During the next ten years meat marketing will, in the opinion of the committee, undergo considerable change.

Prepackaging of meat is done in many of the metropolitan areas. It is expected to become more general.

As more of our meats are prepackaged, more and more emphasis will be placed upon good quality with less fat.

Other possible trends include: Meat preservation by irradiation; the use of meat tenderizers; increased volume of frozen meat; and producer sales of slaughter beef on a carcass grade and yield basis.

Successful producer-feeder cattle sales have been held in the county.

The committee recommends that since producer-feeder sales definitely serve a purpose, they be continued.

Milton-Freewater beef feeding trials

Beef feeding trials at Milton-Freewater have been conducted during the past four years, as a result of requests of local cattle feeders to the Experiment Station for assistance in answering questions about use of locally grown feeds.

Questions best answered by research include:

1. What are the best combinations of available feedstuffs?
2. How and at what rates should they be fed?
3. What kind or kinds of cattle

The first feeding trial was conducted during the winter of 1953-'54. With each succeeding year the trial has been expanded until the 1957-'58 trial includes 12 pens of 18 each weaner steer calves, totaling 216 animals.

These trials have been possible only because of cooperative effort. The Experiment Station has paid the wages of the feeders, budgeting annually about \$4,000, and furnished overall supervision of the trial. Extension Agents in Milton-Freewater gave immediate supervision to the trial, kept the records, and made arrangements for the cattle. The cattle are furnished by local cattlemen who pay feed costs plus a small yardage fee.

The feed yard used for the trial the past two years is furnished without charge by the Umatilla Canning Company.

Beef feeders of the northeast section of the county have taken an active part in the planning of each year's experiments.

Results of the 1956-'57 trial showed feed cost per pound gain varying between \$.1508 and \$.1725 and daily gains per day between 1.21 and 1.87 pounds depending upon the feeding plan followed.

The cattle in the pen producing the cheapest feed cost per pound gain were handled as follows:

Peavines were fed free choice—all the animals would clean up each day. Grass aftermath at a rate averaging between .6 and .7 pounds was fed daily.

Concentrate consisted of
1,400 pounds barley
300 pounds beet pulp
200 pounds mill run
100 pounds molasses
in 5/8 inch cube—cost \$52.50 per ton.

The ration was based on percentage of animals' body weight and was increased as noted below:

	Pen 4 1-69 days 1 1/2 % 70-140 days 1 % 141-247 days 1 1/2 %	Pen 5 1-89 days 1 % 90-247 days 1 1/2 %
Average daily gain	1.61 lb.	1.78 lb.
Feed cost per pound	\$.1508	\$.1531
Average daily feed consumption		
Concentrate	6.62 lb.	8.03 lb.
Peavines	24.6 lb.	21.8 lb.
Grass aftermath69 lb.	.68 lb.

are best adapted to the local situation?

4. What results can be expected from the use of hormones?

The committee recommends:

1. That beef feeding trials now being conducted at Milton-Freewater be continued.

2. That funds for operational expenses of trial be increased to \$6,000 annually through additional state appropriation to the Experiment Station.

3. That plans for a permanent experimental beef feeding yard be drawn, to be developed at such time as funds are available.

Youth

Youth education, 4-H and FFA

beef projects, came in for considerable discussion.

The committee recommends:

1. That increased emphasis be placed on the commercial beef steer project. This would result in a profitable feeding experience with a method much superior to present feeding methods for show beef.

2. That the 4-H and FFA departments put their livestock feed-

ing educational programs on a more realistic basis, educating the youngsters as to the amount of feed required by various types of livestock and training youth to feed toward this requirement.

3. That the Umatilla County Cattlemen's Association sponsor a special junior commercial beef feeding contest based on economy of gain.



Dairy Committee Report

Committee Members

Arlen Buroker, Milton-Freewater, Chairman

H. E. Bierman, Hermiston, Secretary

Dairy Situation—Don Neil, Stanfield,
Chairman

Quality of Product—Harold Meissner,
Milton-Freewater, Chairman

Feed—Virgil Attebery, Hermiston,
Chairman

Requirements—George Patterson,
Pendleton, Chairman

Art Marquardt, Hermiston
M. A. Buroker, Milton-Freewater
Jim Parent, Milton-Freewater
Herman Plass, Hermiston

Kenneth Williams, Stanfield
Mrs. Kenneth Williams, Stanfield
Jess Anson, Stanfield
Mrs. Jess Anson, Stanfield

Mrs. Duff Knight, Hermiston
Mrs. Don Neil, Stanfield
Lester Brown, Pendleton

Umatilla County Dairymen have demonstrated that Grade A dairying is a well adapted enterprise, because of favorable climate and abundant feed supplies.

In the past ten years, the number of dairy cows here has substantially decreased. The U.S.D.A. 1945 census reports 10,000 dairy cows, but in 1957, it is estimated there were only 4,400 dairy cows two years old and older.

Committee members outlined the following reasons why dairying has decreased:

1. Dairying was more profitable between 1942 and 1952 than now. During that time, many farmers were maintaining a Grade B unit, selling cream.

2. There are now fewer family cows.

3. The county has no processed milk outlet.

4. Many dairymen found they could make more money through industrial or urban employment.

5. The demand for Grade A fluid milk is now being supplied.

6. There are fewer Grade A fluid milk producers. As pipe-line milkers and bulk tanks are installed, dairymen are increasing the number of cows per unit.

7. Milk production per cow has increased 20% during the last 10 years.

Value of production

Umatilla County dairy, milk products, cash marketings were estimated in 1952 at \$1,302,550. In 1957, total sales were \$867,000.

Production per cow

The Dairy Herd Improvement Association records show that in 1956 the average production per cow was:

U.S.A.—383 lbs. butterfat; 9,713 lbs. milk testing 3.9%

Oregon—389 lbs. butterfat; 8,872 lbs. milk testing 4.5%

Umatilla County—356 lbs. butterfat; 8,714 lbs. milk testing 4.1%

Grade A Processors and Distributors report that milk testing 4.2% butterfat average, supplies the butterfat needs for all Grade A fluid milk product sales. Grade A fluid milk is standardized 3.8% butterfat content.

There is a trend, nationally, for Grade A fluid milk producers to become more specialized. The dairyman may operate under a dry lot program. All forage and concentrates will be purchased. Under this system, a neighboring farmer may have a contract to grow out the producer's replacement heifers.

Potential expansion

The county may become a greater dairying center because: 1. Grade A fluid milk can be hauled to Portland via refrigerated tank and trailer units at 31 to 35 cents per CWT. Milk can be hauled to Portland more cheaply than hay. 2. Portland milk-shed dairymen may move to Eastern Oregon due to competition from more intensive farming, urban development, high taxes, and high feed costs in Western Oregon.

Recommendations

The committee recommends:

1. That the cream producer feed the skim milk to livestock to make Grade A dairying pay. This system is considered most profitable. In November 1957, Grade A fluid milk was 70 cents per pound butterfat plus \$2.70 per CWT of milk. For cream production, the November price was 63 cents per pound of butterfat.

2. That farmers planning to establish Grade A dairy operations first contact Grade A processors to learn when a quota contract can be received. After a quota has been assured, it is suggested that a new dairyman construct his unit, buy quality springer cows and heifers and be organized to develop an efficient operation. New or increased quotas are more likely to be available during August to December.

3. That the commercial, family-farm dairyman maintain 35 to 60 producing cows, under good management, so he may receive an adequate return for family labor, management, and interest on investment. The size of unit needed will depend upon performance, efficiency, degree of specialization, etc. 400,000 pounds of milk per man year is considered desirable.

4. That dairymen keep good records. With records, dairymen can feed according to production, develop a good breeding program, a rigid culling program, and adopt improved management practices.

The Dairy Herd Improvement Association's program provides a record system to improve the performance of dairy cows.

Dairymen report that their net return has a direct relationship to production. Production of 8,752 pounds of 4% milk valued at \$435, returns \$258 over feed costs. A production level of 11,210 pounds of 4% milk is valued at \$550 or \$344 over feed costs.

The D.H.I.A. program is available to all dairymen. During the past ten years, Umatilla DHIA production has increased 72 pounds of butterfat per cow. The 1956 average butterfat production was 356 pounds. The Association's goal is a 425 pound butterfat average.

5. That dairymen manage their breeding programs to get more uniform production.

6. That dairymen handle their replacement heifers to help maintain their quota during the August to December period. There is a surplus during the March to June period.

7. That producing cows be allowed an adequate dry period. Records show that 0 to 19 days dry produces a 9,805 pound level; the 20 to 29 day period, 10,306 pounds and the recommended 50 to 59 day dry period produces an 11,077 pound lactation.

8. That dairymen buy replacements, tested to show a clean bill-of-health and with good production record backgrounds.

9. That artificial breeding be used to give commercial dairymen improved performance and efficiency from their herds.

10. That only registered sires with backgrounds of production testing be used. Purebred breeders have an opportunity to produce foundation stock of specific blood lines.

11. That dairymen support and adopt the programs to eliminate brucellosis, tuberculosis, and leptospirosis and use every known means of mastitis control.

Calfhood vaccination is recommended to immunize dairy cattle against brucellosis infection. The county is now a certified, modified, brucellosis free area.

Mastitis udder infections are more difficult to control. Mastitis is reported to be the most costly disease.

12. That new Grade A dairymen contact the milk inspector before constructing new facilities so that all requirements can be met. Rules and regulations have been adopted by the State Department of Agriculture to promote production and marketing of a quality product. Dairymen are encouraged

to cooperate with the area's State Milk Inspector.

13. That Grade A dairymen manage their feeding program to prevent off-flavored milk. Silage feeding within two hours of milking frequently promotes off-flavor.

14. That dairymen cooperate with processing, retailing, and consumer groups to promote mutual understanding.

15. That dairymen maintain attractive dairy farm layouts, as a good public relations program.

Feeds and feeding

A dairy enterprise can provide a ready market for part of the county's forage and grain production.

Research work shows that excellent quality forage will provide 80 to 85 per cent of the total feed requirements for a dairy operation. Hay, silage, and pasture programs, therefore, largely determine whether the dairy is profitable or not.

Grain and concentrate

With an excellent, high protein forage program, dairymen can supply additional energy needed by growing or buying Umatilla grown feed grains and by-products. Concentrates should be fed according to a cow's production and condition. Mineral requirements can be met by providing steamed bone-meal and iodized salt.



Poultry Committee Report

COMMITTEE MEMBERS

John Bense, Hermiston, Chairman

Herman E. Bierman, Secretary

Sub-Committees:

Commercial Egg Production—Chickens:

Phil Gibbons, Milton-Freewater,
Chairman

Broilers, John Bense, Hermiston,
Chairman

Turkey Production: Joe Baggett,
Hermiston, Chairman

Commercial Egg Production—Chickens

John Bense, Hermiston
Phil Gibbons, Jr., Milton-Freewater
Clint Jackson, Hermiston
Mrs. Don Neil, Stanfield
Mrs. Leo Klaus, Hermiston
Frank Bense, Hermiston

Broiler Production

John Bense, Hermiston
Frank Bense, Hermiston

Turkey Production

Joe Baggett, Hermiston
Russell Tucholke, Milton-Freewater
Roy Penney, Stanfield
Ed Benthine, Umatilla

County poultrymen consider commercial egg production a well adapted farm enterprise, because of favorable climatic conditions and abundant feed supplies.

Commercial egg production has become a specialized, efficient, and somewhat integrated farm business.

The 1954 U.S. Agricultural Census found 75,000 layers on Umatilla County farms. There has been a gradual decline in commercial flock numbers.

Production of Oregon layers has improved. In 1940, it was estimated that the average lay was 169 eggs. By 1956, the average rate-of-lay had increased to 216 eggs.

Since 1945, the number of layers on Oregon farms has varied little from 3,500,000. Oregon layers produced 497 million eggs in 1945, but in 1956, the same number produced 617 million. The National egg production in 1945 was estimated at 56 billion eggs. By 1956, the volume increased to 61 billion eggs.

The National average per capita consumption in 1945 was 402 eggs and by 1956 the per capita demand dropped to 369.

The Pacific Northwest has approached self-sufficient basis in producing market eggs. This county, however, does not produce all

the Double "A" quality eggs needed to supply the local demand.

Recommendations

The committee recommends:

1. That poultrymen have a well planned marketing program.

2. That a commercial egg producer house at least 4,000 layers. The part-time or side-line unit can maintain 500 to 1,000 layers. The small flock should house enough layers to supply family needs.

3. That increasing poultry flock numbers not be considered until an efficient operation has been planned and market outlets obtained, although expansion would give added income, diversification, and use of available resources such as family labor and feed supply.

4. That the operator arrange for and plan a continuous financial program adequate to meet his needs.

5. That the operator install and use recommended egg-handling facilities and methods which will insure marketing Double "A" quality.

6. That the operator obtain and follow established and recommended management, production, and marketing methods.

7. That poultrymen purchase high performance egg laying strains.

8. That the producer start his flock with a February, March, or

April brood. Commercial egg producers use multiple brooding to get efficient production. Confined rearing is recommended.

9. That available practices to prevent or control each disease situation be used. Alert management will prevent costly disease outbreaks.

Summary

It was concluded that a poultryman can be successful only when he has an established market outlet, an adequate and efficient unit, Double "A" quality production, and low cost of production.

Turkey Production

Turkey growers feel that the county is well adapted to turkey production. The semiarid climate, sandy soil, available low cost land, and isolated area, are all favorable factors.

Feed grains are abundant. Feed represents about 60% of the cost of production. Growers report that in 1957 feed costs averaged around 15 cents per pound of market bird.

The large majority of Oregon turkeys are marketed in the Pacific Northwest. Ten years ago approximately one-half of the turkeys produced in the Pacific Northwest were sold east of the Mississippi. Turkeys produced in California and Utah are competing for the Pacific Northwest market.

The turkey enterprise is becoming a more commercialized, integrated industry.

Oregon is especially noted for the production of Broad Breasted hatching eggs and poults. Westend turkey growers have developed a good reputation for the production of high quality Broad Breasted Bronze hatching eggs and poults. In 1958, there will be 8,500 breeder hens there.

In 1945 there were 43 million turkeys produced in the U.S. and in 1956, 77 million. In 1947, Oregon produced 3,105,000 turkeys and in 1956, 1,428,000. In 1957, Umatilla County produced 108,000 turkeys.

Most of the turkeys in the Pacific Northwest are marketed frozen, though fresh turkeys are available for a short period before Thanksgiving and Christmas.

Market promotion

Turkey growers in the county believe that Oregon's turkey industry should continue to promote, "Eat more Turkey" throughout the year. The industry should encourage retail stores to carry turkey at all times.

Efficiency

The committee believes that turkey growers in Umatilla County can compete for the Pacific Northwest markets if they have an efficient program of management, feeding, processing, and marketing.

Processing

Only three major processing concerns are available to handle the county production. Growers will need to plan carefully with processing plants, so their birds can be processed at the best age, weight, and quality.

The Federal Inspection Act requires that by January 1, 1959, all poultry products moving through interstate commerce, or designated consuming areas must be inspected. This act also provides that packaged poultry must be properly labeled and marked with the official inspection mark.

Production methods

Growers must keep their overhead down and their investment low. They must also use labor-saving devices, clean range, and well drained soil, feed a well balanced ration, and provide adequate natural or artificial shade. The most desirable range crops for this area are: Alfalfa, sunflowers, and corn. Many growers could profit by raising an early and a late flock of turkeys. This makes better use of investment and labor, and also helps processing and marketing programs.

Breeder flocks

The Westend of Umatilla County is especially well adapted to the production of turkey hatching eggs. Growers who raise market turkeys can successfully operate a

breeder program and have a year-round operation. Growers who keep breeder flocks should develop high performance stock through a rigid selection and foundation program.

Broiler Production

Commercial broiler production is very efficient, competitive, and highly commercialized. It is an integrated business producing broilers under contract.

It is recommended that before a farm operator establishes a broiler program he obtain a contract market outlet. A sound finance program is needed.

New production and management methods are gradually lowering the cost of production. In 1957, it cost 19 cents to produce a pound of broiler, live weight basis, in the county. The return above cash costs has ranged from 2 to 3 cents per pound.

If a grower is depending upon broilers for a living, he should have a capacity of 20,000 birds and raise four broods per year.

Competition is from the southern and eastern states. It costs three cents a pound to transport their pan-ready broilers to this area. However, the cost of production is 15 to 20 per cent higher in the Pacific Northwest. Therefore, Northwest broiler growers must capitalize upon being able to offer a higher quality product.



Horticulture Committee Report

Committee Members

Tree Fruits & Vegetables

Chairman: Walter Roloff,
Milton-Freewater

Sub-Chairmen: M. E. "Pat" Morris &
Wallace Bullock, Milton-Freewater

Secretary: Earl E. Brown,
Milton-Freewater

Alex LeFore, Milton-Freewater
Earl Ransom, Milton-Freewater
Harry Scudder, Milton-Freewater
Clarence Waliser, Milton-Freewater
C. C. Anspach, Milton-Freewater
Fred Groth, Milton-Freewater
Sam Brinker, Milton-Freewater
Aaron Weis, Milton-Freewater
Cecil Carter, Milton-Freewater
Wilbur Bline, Milton-Freewater
Wilbur Gibbons, Milton-Freewater
Phil Gibbons, Sr., Milton-Freewater
Ned Feigner, Milton-Freewater
Glenn Gibbons, Milton-Freewater
Barlow Clark, Milton-Freewater
Herbert Tanke, Milton-Freewater
John Roloff, Milton-Freewater
Russell Bolen, Milton-Freewater

Beekeeping

Chairman: Roy Sires, Hermiston
Secretary: H. E. Bierman, Hermiston
Sam Frazier, Stanfield
Tom Lenhar, Hermiston
Bert Rozema, Hermiston
Closson Scott, Pendleton

Potatoes & Melons

Chairman: Emil Zivney, Stanfield
Secretary: H. E. Bierman, Hermiston
Ralph Rawson, Stanfield
Chris Sturm, Hermiston
Art Wilson, Hermiston
Tom Davidson, Hermiston
Lloyd Hudspeth, Stanfield
Bill Huddleston, Hermiston
Johnny Sturm, Hermiston
John Walchi, Hermiston

The Milton-Freewater fruit industry is rebuilding following the disastrous freeze of November, 1955 which resulted in a 10-million-dollar loss of property and income, and practically eliminated Umatilla County's third ranking income crop. Forty-five hundred acres of orchards were killed or seriously damaged. This included a total loss to fruit growers of 3,000 acres of prunes and cherries, and an 85% loss of 1,500 acres of apples.

Orchards set from 1953 to 1955 were killed back to the snowline. Growers either cut these trees off and regrafted them or left them to sprout up hoping to realize some income prior to the time newly planted orchards would produce. There are now approximately 500 acres of cutback or grafted trees in the area.

This November freeze, the first of its kind in the 80 year history of orchard growing in the Milton-Freewater district, came while trees were still in leaf and in a succulent condition. Moisture and temperature were favorable throughout the entire month of October and the first week in November. Normally, killing frosts are common in October and very little

rainfall occurs, so the trees become hardened off and are not susceptible to subzero temperatures normally occurring during the winter.

Here is the tree population in the area prior to the freeze and in the two years immediately following:

Numbers of Fruit Trees in Umatilla County

Fruit	1950	1954	Survived 1955 freeze	Planted 1956-57
Apples	53,099	76,218	33,750	49,132
Prunes & plums	279,916	203,992	10,900	49,788
Cherries	33,627	18,429		5,473
Peaches	26,098	16,529		2,440

Less than half the acreage prior to the freeze has been replanted. Acreage of trees survived plus those planted in 1957 is estimated at 1881.

The most important job for 300 orchardists in the next six or seven years is orchard re-establishment. The estimated minimum cost of growing an orchard to six years of age is \$1,000 to \$1,500 per acre. Both figures are exclusive of land cost. Figures are based on 1957 costs of fertilizer, spray material, nursery stock, water, labor, taxes, and insurance. (For costs see

the Milton-Freewater Extension Agent.)

To finance living costs and grow new orchards, most growers have off-farm jobs. Some have increased their plantings of vegetables for the fresh market. These include: tomatoes, cantaloupes, watermelons, squash, sweet corn, and

green beans.

For tree fruits and vegetables the committee recommends:

That only cobbly-loam soil in the Milton-Freewater area should be planted to tree fruits. Land suitable for the production of other crops should not be planted to fruit.

That the State Department of Agriculture be contacted and asked to enforce all existing laws pertaining to the control of insect pests and diseases that could affect the fruit industry if left uncontrolled in the Milton-Freewater area.

That the State Department of Agriculture enforce all laws in effect concerning fruit traffic, spraying or destroying infected or infested fruit that is grown here or is brought into Umatilla County.

That an annual survey be made of fruit tree plantings established in the Milton-Freewater area to furnish up-to-date information for making recommendations for plantings and marketing practices.

That fertilizer trials be established on fruit trees, using basic fertilizer materials plus minor elements. Leaf analysis work, started in the Milton-Freewater area prior to the disaster, should continue. All varieties of tree fruits should be included.

That pome and stone fruit variety trials, established in the area in 1954, be continued adding new varieties as they appear.

That the Extension Service, in cooperation with the Experiment Station, continue to carry on insect and disease research within the Walla Walla Valley area. Up until the establishment of the Milton-Freewater experimental area in 1949, control of certain insects and diseases was based on recommendations from research in western Oregon. After the establishment of the area, more accurate information on the biology and control of insects was available.

That a livestock district be created in the Milton-Freewater area where no livestock will be permitted to run at large on the valley floor where fruit and vegetable crops are grown.

That fruit growers, packing house operators, and other professional persons should attempt to keep up on the practices in fruit growing now applied in areas comparable to the Milton-Freewater area. This applies, particularly, to the central Washington fruit producing areas. Each year new cultural practices and handling methods are developed.

That the Extension Service, in cooperation with the Experiment Station personnel, continue to test tomato varieties and establish variety trials on cantaloupes and watermelons to determine if better varieties can be found.

That trials be established to determine whether staking tomatoes is economical and to determine varieties best suited to this practice.

Apples

More than 1,100 acres of apples are now planted in the county. The committee feels that this acreage is enough and that no more should be planted. Packing and storage facilities are not sufficient to handle a larger production. Additional facilities would be uneconomical for the short period of time that apples can be shipped before competing areas begin marketing. Large acreages of apples have been planted in many apple-growing areas of the United States during recent years. These plantings will start producing about the same time that peak production here will occur.

The growers starting young Red Delicious orchards should adopt new pruning methods. The Verner method is being used in other areas with good results.

The committee recommends:

1. That all growers request information from their Extension Agent or other experienced individuals concerning new methods of pruning Red Delicious. During the first four or five years of growth very little pruning is suggested on apple trees planted as filler trees. Less pruning will mean earlier production.

That good practices should be followed in training young, permanent apple trees, and overpruning should be avoided.

Cherries

The acreage of cherries in the area should be increased. The same freeze that killed cherry trees in the Milton-Freewater area reduced Washington's production considerably. California has lost large acreages of cherries to housing developments and virus diseases.

The Milton-Freewater area, in the past, has shipped the earliest carlots of cherries from the northwest.

The committee recommends:

1. That cherry plantings be increased in the area adapted to their production. This excludes heavier types of soil on the outskirts of the area.

2. That stock known to be virus free be used. Newer varieties of cherries, such as the Van, that are recommended by experiment stations, should be used as pollinizers.

Prunes and Plums

The committee feels that early prune acreages already planted in the area are sufficient. New plantings of prunes and plums should be of the late Italian variety.

The committee recommends that only virus-free stock from reputable nurseries be planted.

Watermelons

Watermelon production, 1,000 acres in 1957, is a well adapted enterprise on Ephrata loamy sand soils of the west Umatilla area. The crop is grown in rotation with alfalfa, pasture, and field corn. Fusarium wilt, being widespread in the district, and a soil-borne disease, is of the greatest concern to growers. Present popular green and striped Klondike varieties are not wilt resistant. Losses due to wilt ranged between 15 and 20% of the plantings over the past several years. Good progress has been made on the marketing situation. Improvement was gained through educational and demonstrational activities, cooperative endeavor, and the establishment of a local broker.

The committee recommends:

1. That variety development work be continued at the Umatilla Branch Experiment Station. Fusarium wilt is the number one concern to growers. A wilt-resistant variety of watermelon is needed that has qualities equal to present popular varieties.

- 2 That improved cultural practices through research and demonstrational work be explored because land available for the planting of watermelons may not be adequate to maintain the present acreage in the area. It is the hope that this work will lower the wilt loss, improve quality, and increase yields.

3. That growers ship only quality melons, U. S. No. 1 equivalent with all marketing on an order basis before shipments are made. Buyers report that they place a great deal of confidence in certain growers who have maintained a desired quality level. Additional emphasis should be given to establishing better market practices information along with developing a distribution pattern to channel the melons more systematically and effectively.

Potatoes

Early, Long White Rose potatoes grown in the west end, under good management practices produce good quality and favorable yields, have the advantage of earlier harvesting, usually during the second or third week in July, and provide a much needed cash crop.

The committee recommends:

1. That 300 sacks of No. 1 potatoes be the goal of all growers.
2. That the growers of the area cooperate with the State Department of Agriculture shipping point inspectors, in order that only potatoes of good quality may be offered for sale from the area.
3. That there be no further increase in acreage of potatoes in the area until new markets or an improved marketing program is developed.

Beekeeping

There are approximately 3,500 hives of bees in the county. They are handled by approximately 40 beekeepers. Two of these are full-time operators. Eight are operating apiaries that supply one-third of their total income. The rest are farmers with a few colonies to supply honey or pollenization for tree or seed crops.

The greatest return from bees here is from pollenization. This is not making a large monetary return to the beekeeper. It is estimated that in 1957 there were 2,000 colonies rented for pollenization. Many of these rentals were in other counties resulting in considerable travel and expense to the operator. Under present conditions at least 600 colonies used for honey production and pollenization are needed to be economically feasible as a single unit. The value of such a unit, with modern and good quality equipment, vehicles, and buildings at 1957 prices, would require about \$24,000 capital investment.

The committee recommends:

1. That increased amount of inspection work be done by the state apiary inspector. This may warrant increased registration fees. Farmers' and hobby hives should be reported and registered, since they are the greatest factor in the transferring of disease to commercial apiaries.

Sulfathiazole and Terramycin are good disease preventatives. Information on their use should be distributed.

2. That discrimination be used in the spray program for weed control, and where possible, sweet

clover and stands of other honey-producing plants be preserved. Beekeepers would appreciate it if farmers who plan to apply bee-toxic insecticides would contact the nearest County Extension Agent to learn application methods that are effective, but are still safe for the bee population. The use of 2, 4-D along roadsides to control noxious weeds is necessary, but at present it is eliminating large amounts of bee pasture.

5. That beekeepers use reward posters and other law enforcement aids to discourage molesting of bee yards and colonies.

6. That all beekeepers should support the check-off plan as a means of providing money for the promotion of honey so that it can better compete with other products. This plan provides for 1 cent per 60 pounds of honey to be withheld from the producer's sale price and this amount to be matched by the wholesaler.

7. That because of their low margin of profit beekeepers adopt labor-saving equipment that will increase efficiency, thereby placing the product in a better position and increasing the net return to producers.



UMATILLA COUNTY AGRICULTURAL DATA: 1948-1957

1. ANIMAL INDUSTRIES	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
Number as of Jan. 1:										
a. Horses and mules	4,300	4,100	3,800	3,300	3,500	3,000	2,900	2,400	2,450	2,500
b. Cattle: all	43,000	44,900	44,000	44,400	56,000	64,800	71,700	71,000	71,000	77,900
Beef Cows: over 2 yrs.	9,000	9,300	10,000	11,500	13,500	15,600	16,500	17,000	22,000	28,500
Milk Cows: over 2 yrs.	7,000	6,000	6,000	5,600	5,000	5,100	5,200	5,100	4,750	4,400
All other cattle	27,000	29,600	28,000	27,300	37,500	44,100	50,000	48,900	44,250	45,000
c. Sheep: all incl. lambs	49,000	48,000	46,000	43,500	41,000	40,000	43,000	46,000	44,000	40,000
Ewes — one yr. old and over	40,000	39,000	38,000	36,000	32,000	36,000	34,000	32,000	30,000	29,000
d. Hogs: all incl. pigs	6,900	7,000	7,300	6,200	7,900	6,000	3,700	4,900	5,000	6,000
Brood sows over 6 months	1,400	1,500	1,200	1,200	1,100	600	500	900	900	1,000
e. Goats and Kids — all kinds	200	150	200	150	200	200	100	150	150	160
Milk goats	180	100	150	120	150	150	70	100	100	110
f. Chickens 4 months old and over on farms	100,000	98,000	109,000	111,000	115,000	120,000	115,000	115,000	100,000	70,000
g. Turkeys: raised previous year	68,000	65,000	65,000	69,000	72,000	70,000	75,000	78,000	81,000	70,000
h. Geese: raised previous year	350	350	325	400	400	6,100	1,000	1,400	250	250
i. Ducks: raised previous year	600	500	500	500	300	250	250	250	250	250
j. Other poultry previous year	100	175	150	150	130	100	100	100	100	100
k. Rabbits: raised for all purposes	3,100	3,100	3,200	3,200	3,300	3,300	8,000	9,000	9,000	9,000
l. Foxes in captivity										
m. Mink in captivity										
n. Chinchillas							25	30	34	35
o. Karakul sheep	60	60	60	10			10			
p. Other fur-bearing animals										
q. Bee colonies on farms during year	5,100	4,500	4,300	4,200	3,200	3,000	3,000	3,100	3,100	3,600
2. FIELD CROPS Acres harvested in	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
a. Small grains: total for grain	298,400	285,820	288,000	288,000	301,500	312,000	287,020	286,150	287,100	280,010
Wheat harv. for grain, grown alone	279,000	275,000	258,000	270,000	297,000	305,000	215,000	201,000	200,000	201,000
Barley, harv. for grain, grown alone	16,500	8,000	27,000	16,000	5,000	5,500	68,000	80,000	82,000	85,000
Oats threshed, total	2,400	2,400	2,500	1,000	500	700	4,900	3,400	2,100	1,000
1 Oats for grain, grown alone	2,400	2,400	2,500	1,000	500	700	4,800	3,300	2,000	1,000
2 Oats cleaned out of vetch or peas							100	100	100	
Rye harv. for grain, grown alone	500	420	500	1,000	1,000	800	600	700	1,000	3,000
Grains grown together and threshed as a mixture (Wheat & oats, wheat & barley, wheat & rye, oats & barley)								1,000	2,000	2,000
Other grain threshed (Buckwheat, emmer, proso, millet, spelt, etc.)								50		10
b. Corn harv. for all purposes, except sweet	1,100	1,020	1,100	1,200	1,200	1,300	1,500	2,300	2,500	3,100
c. Hay crops, all kinds harv. *	30,200	29,225	32,500	31,450	26,300	27,575	26,750	33,900	34,500	28,200
Alfalfa and alfalfa mixtures cut for hay	15,000	15,500	16,000	16,000	14,000	17,000	16,500	16,500	17,000	17,000
Oats, wheat, barley, rye or other small grains cut for hay	10,000	9,400	12,000	11,000	8,000	7,000	6,400	11,000	11,500	7,000

2. FIELD CROPS **Acres harvested in**
(Continued)

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
Vetch or peas, alone or mixed with oats or other grains, cut for hay	100	325	300	350	400	200	1,000	3,500	2,500	2,000
Clover and mixtures of clover and grasses for hay	1,100	1,100	1,000	900	500	375	350	400	500	200
Other hay, wild (prairie, range or marsh grass) crested wheatgrass, orchardgrass, June grass, sweet-clo- ver, millet, sudan grass, old meadows, etc.	4,000	2,900	3,200	3,200	3,400	3,000	2,500	2,500	2,500	2,000
d. Other forage crops and uses, all on plowland	266,730	276,910	276,608	277,100	280,620	271,120	279,470	292,630	290,970	279,950
Grass silage made from grasses, al- falfa, clover, or small grains		80	80	80	100	100	450	600	450	450
Root crops harv. for feed	30	20	18	18	20	20	20	30	20	
Rape grazed off		10	10	2						
Annual crops grazed off other than corn or rape (Sudan grass, grains, etc.)	2,700	2,800	2,500	2,000	1,500	1,000	1,000	2,000	1,500	1,500
Cropland used only for pasture	44,000	44,000	44,000	45,000	47,000	50,000	32,000	35,000	32,000	25,000
Cultivated summer fallow						220,000	235,000	243,000	250,000	245,000
Cropland idle, failure, or in soil-im- provement crops.	220,000	230,000	230,000	230,000	232,000		11,000	12,000	7,000	8,000
e. Forage seed crops, total harv.	4,125	9,575	8,498	3,145	2,140	2,250	1,180	1,828	1,300	1,486
1 Alfalfa seed, all harv.	50	190	400	550	220	365	200	280	475	950
Common	50	110	400	390	60			10		100
Nomad						165		64	140	130
Orestan		80		160	160					
Ranger						200		206	335	700
Vernal										20
2 Clover seed, all kinds	180	170	45	70	40	25	20	95	40	33
Red	135	160	30	15	20	15	20	20	40	33
-a Cumberland								10	20	20
-b Kenland								10	5	
-c Pennscott									15	13
Alsike					20	10				
Ladino	5	5	15	45						
Sweet	30			10				50		
White								25		
Other clover seed (Rose)	10	5								
e. 3 Grass seed, all harv.	295	565	520	1,275	1,705	1,830	1,672	1,153	590	403
Chewings fescue				25	60	160	20		60	
Creeping red fescue		150	40	65	125	100	80	75		
-a Illahee								75		
Tall (Alta) fescue	85	85	160	500	1,000	1,050	550	600	180	161
Merion bluegrass						20	50	50	75	50
Tuallatin oatgrass (other)	90	180	250	585	520	400	454		70	85
Wheatgrass	120	150	70	100		100	200	110	100	155
-a Intermediate								100		

2. FIELD CROPS		Acres harvested in									
(Continued)		1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
-b Pubescent					3	7	5	5			85
-c Whitmar								10	5		
-d Tall									5		70
(The 1957 acreage is crested wheat grass.)											
Brome								318	318	105	37
-a Lincoln								318	318	105	37
e.4 Austrian winter peas		3,600	8,600	10,000	1,200	200	60	260	300	300	100
e.5 Vetch seed, all grown alone or with support crops and threshed primarily for seed			50	10	50						
Hairy vetch			50	10	50						
f. Vegetable and other seed crops, total		120	51	50	2,060	640	84	70	135	50	32
Beans for seed		50								10	
Hybrid field corn seed			1								
Mustard seed		50									
Onion seed		20									
Potatoes for seed			50	50	60	40	84	70	95	40	32
Rape seed									40		
Other seed crops (Garden type peas)					2,000	600					
g. Specialty field and drug crops, total		11,610	8,983	1,840	7,920	4,715	10,220	5,484	4,846	7,260	10,099
Peppermint for oil		40	60	40	30		40	20	140	380	430
Sugar beets for sugar		1,030	1,200	1,000	1,600	1,800	2,300	2,500	1,700	2,100	2,481
Dry field beans for food		50	3		5	10		216			
Dry edible field peas and garden-type peas		10,000	7,500	600	6,000	2,500	7,500	2,300	1,900	3,900	6,400
Hops		100	120	100	140	225	200	298	278	280	297
Safflower									678		471
Other field and drug crops		390	100	100	140	180	180	150	150	600	20
h. Total grain, hay, seed and specialty crops (a,b,c,d,e,f,g) *		612,285	611,584	608,596	610,875	617,115	624,549	601,474	621,789	623,680	602,969
<hr/>											
3. TREE FRUITS & NUTS — Total, commercial and other.		Acres harvested in									
		1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
a. Apples, total acreage		575	780	800	830	875	925	1,500	1,600	450	1,195
Commercial apple acreage		500	655	675	675	700	700	1,275	1,275	20	100
Other apple acreage		125	125	125	155	175	225	225	325	430	1,095
b. Sour cherries, total acreage		550	595	595	550	400	300	275	31		
Commercial sour cherry acreage		525	495	495	450	300	250	225	31		
Other sour cherry acreage		25	100	100	100	100	50	50			
c. Sweet cherries, total acreage									250		109
Commercial sweet cherry acreage									225		108
Other sweet cherry acreage									25		1
d. Peaches, total acreage		300	330	300	200	230	250	270	260	8	43
Commercial peach acreage		275	280	250	150	150	150	170	160	6	5
Other peach acreage		25	50	50	50	80	100	100	100	2	38
e. Pears, total acreage		40	40	35	40	40	40	40	50	12	12
Commercial pear acreage		25	25	20	20	20	20	35	35	9	9

3. TREE FRUITS & NUTS—Total, commercial and other. Acres harvested in
(Continued)

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
Other pear acreage	15	15	15	20	20	20	5	15	3	3
f. Prunes and plums, total acreage	2,650	2,600	2,800	2,000	2,000	2,050	2,300	2,550	415	564
Commercial prune & plum acreage	2,600	2,550	2,300	1,500	1,700	1,700	1,950	2,000	15	10
Other prune & plum acreage	50	50	500	500	300	350	350	550	400	554
g. Apricots, total acreage							90	90		22
Commercial apricot acreage		Included in other tree fruits					90	90		
Other apricot acreage										22
h. Other tree fruits (almonds, figs, nectarines, quinces, planted black walnuts), total acreage	40	55	55	55	260	260	5	5	5	5
Commercial acreage, list	35	10	15	15	220	220				
Other acreage, list	5	45	40	40	40	40	5	5	5	5
i. Filberts and hazelnuts, total acreage		1	1	1	1	1	1			
Commercial acreage										
Other acreage		1	1	1	1	1	1			
j. Walnuts (English or Persian) total acreage		15	15	15	10	10	2	2		
Commercial walnut acreage										
Other walnut acreage		15	15	15	10	10	2	2		
k. Total Tree Fruits and Nuts	4,155	4,416	4,601	3,691	3,816	3,836	4,901	4,838	890	1,950
Commercial acreage	245	4,015	3,755	2,810	3,090	3,040	4,260	3,807	41	124
Other acreage	3,910	401	846	881	726	796	641	1,031	849	1,826

4. SMALL FRUIT CROPS Acres harv. in

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
a. Tame blackberries, total acreage	15		5	5	5	5			1	1
Harvested acreage	12		5	5	5	5				1
b. Cranberries										
Harvested acreage										
c. Gooseberries, total acreage										
Harvested acreage										
d. Loganberries, total acreage	3	3	2	2	3	3	3	1		
Harvested acreage	3	3	2	2	3	3	3	1		
e. Red raspberries, total acreage	42	45	20	20	25	25	25	15	18	18
Harvested acreage	40	40	14	15	20	20	20	12		18
f. Black raspberries, total acreage	6	6	2	2	2	3	3	1	1	1
Harvested acreage	6	6	2	2	2	3	3	1		1
g. Boysen & Youngberries, total	16	15	5	5	5	5	5	5	2	2
Harvested acreage	14	15	5	5	5	5	5	3		2
h. Strawberries, total acreage	70	25	25	35	35	25	25	15	45	30
Harvested acreage	60	25	25	30	35	25	25	12	28	30
i. Blueberries, total acreage										
Harvested acreage										
j. Grapes, total acreage	85	120	85	120	125	160	160	500	50	60
Harvested acreage	20	120	75	110	120	150	150	400		40

4. SMALL FRUIT CROPS Acres harv. in
(Continued)

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
k. Other small fruits, total acreage—list										
(currants, tame huckleberries, etc.)	1	1	1	1	1	1	1	1		
Harvested acreage	1	1	1	1	1	1	1	1		
1. Total small fruit crops	238	215	145	190	201	227	200	538	117	112
Total, harvested acreage	156	210	129	170	191	212	192	430	28	92

5. TRUCK CROPS AND POTATOES

Acres harvested in

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
a. Vegetables, all grown in the open for sale	34,233	45,655	48,086	52,989	46,150	45,788	51,228	57,952	62,109	60,656
Asparagus	40	55	95	85	60	100	100	135	150	420
Beans, snap green	35	20	20	20	15	50	30	40	64	40
Snap beans for processing										
Snap beans for fresh market	35	20	20	20	15	50	30	40	64	40
Beans, green lima	5	120		1	1	240	600	600	425	232
Green lima beans for proc.		115				240	600	600	425	232
Green lima beans for market	5	5		1	1					
Beets	5	2		2	1	1	1	1	1	1
Beets for processing										
Beets for fresh market	5	2		2	1	1	1	1	1	1
Cabbage	20	10		2	3	3	3	3	3	3
Cabbage for kraut										
Cabbage for fresh market	20	10		2	3	3	3	3	3	3
Cantaloupes & Muskmelons	20	25	50	75	75	150	185	50	50	130
Carrots	15	8	1	6	6	5	6	7	10	10
Carrots for processing					5	4	3	3	6	6
Carrots for fresh market	15	8	1	6	1	1	3	4	4	4
Cauliflower		2	2	2	2	1	1	1		
Cauliflower for processing										
Cauliflower for fresh market		2	2	2	2	1	1	1		
Corn, green	130	40	40	40	50	200	100	70	286	452
Corn for processing						10			260	400
Corn for fresh market	130	40	40	40	50	190	100	70	26	52
Cucumbers	5	5	4	7	5	7	3	1	5	5
Cucumbers for processing										
Cucumbers for fresh market	5	5	4	7	5	7	3	1	5	5
Lettuce, total (early & late)		7	2	2	1	10	3	1	3	3
Onions, dry	1	11	2	5	1	1	6	8	10	3
Peas, green	33,520	45,002	47,000	52,000	45,000	43,900	49,000	56,000	60,000	58,002
Peas for processing	33,500	45,000	47,000	52,000	45,000	43,900	49,000	56,000	60,000	58,000
Peas for fresh market	20	2								2
Spinach	15							5	12	
Spinach for processing								5	12	
Spinach for fresh market	15									

5. TRUCK CROPS AND POTATOES

Acres harvested in

(Continued)	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
Squash and pumpkins		14	10	12	25	150	100	75	105	55
Tomatoes	350	275	455	275	400	370	300	250	275	450
Tomatoes for processing				5	5	5				
Tomatoes for fresh market	350	275	455	270	395	365	300	250	275	450
Turnips and rutabagas	5	4								
Watermelons	60	50	400	450	500	600	785	700	700	840
Other vegetable grown in open (brus- sel sprouts, garlic, green onions, par- snips, radish, sweet potatoes, horse radish, etc.)	2	5	5	5	5	5	5	5	10	10
b. Irish potatoes for home use or sale	600	425	350	200	150	250	250	250	230	120
c. TOTAL (a, b) for food *	34,833	46,080	48,436	53,189	46,300	46,038	51,478	58,202	62,063	60,776

6. SPECIALTY HORTICULTURAL CROPS & GREENHOUSE CROPS. Acres har. in

	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957*
a. Nursery crops, total acres of young fruit and nut trees, berry plants, and ornamental trees, shrubs and peren- nial plants.	340	260	349	175	180	180	260	260	185	185
b. Flower bulbs and corms, total acres	2	7	1	1	2	2	3	4	11	11
Gladiolus	1	2		1	2	2	3	3	8	8
Iris, all kinds								1	3	3
Lilies, all kinds	1									
Other flower bulbs and corms, dahl- ias hyacinths.		5	1							
e. Greenhouse products (Acres under glass)		13	3	3	4	4	4.5	3	9	16
f. Cut flowers		12	4	4	5	5	25	25	16	16
	342	292	357	183	191	191	295.5	292	221	228

* preliminary.

Data Compiled by Umatilla County Extension Agents



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