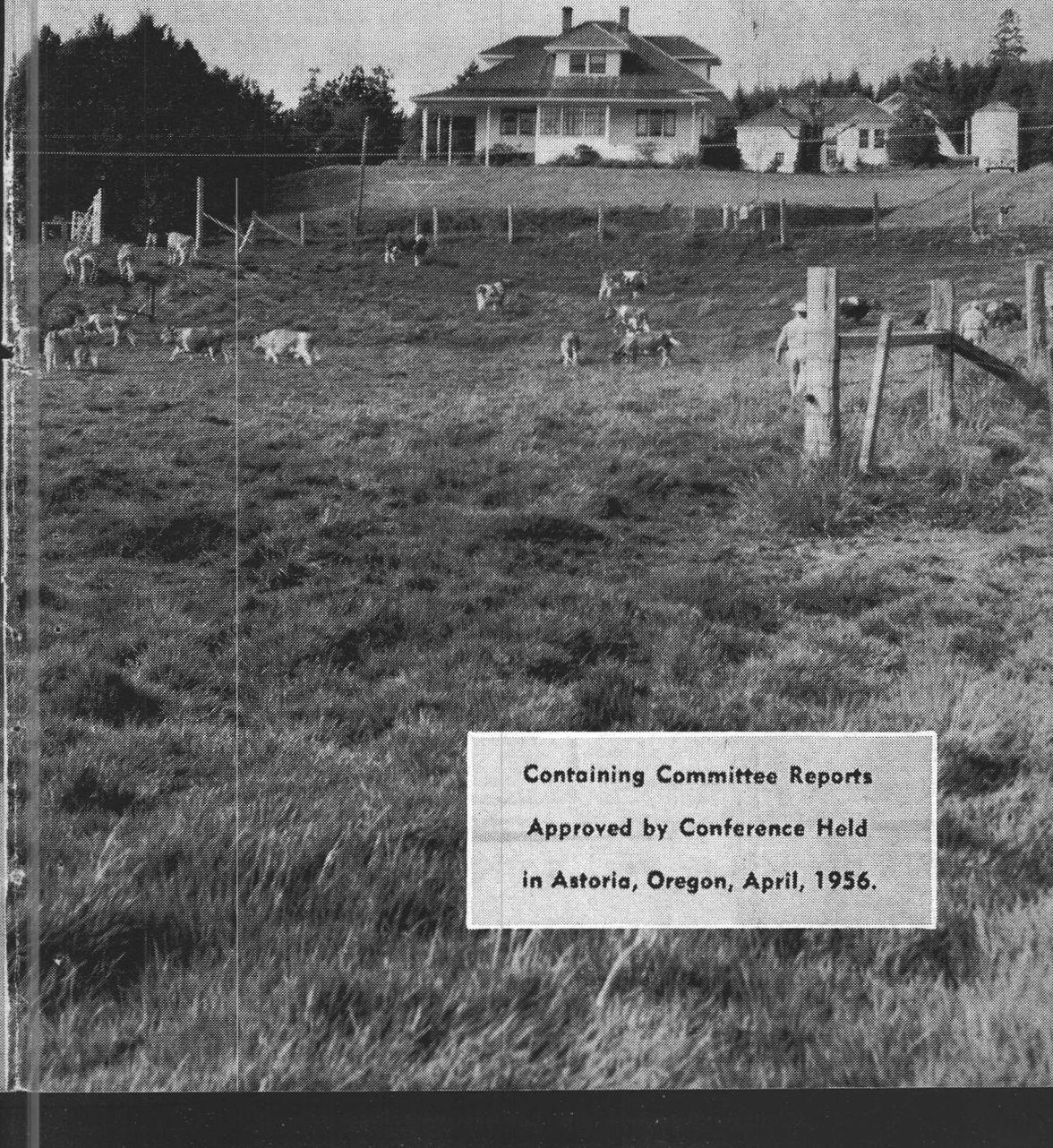


REPORT OF THE

Clatsop County Agricultural Planning Conference



Containing Committee Reports
Approved by Conference Held
in Astoria, Oregon, April, 1956.

FOREWORD

This booklet contains information on the situation and outlook of agricultural enterprises, and some aspects of rural living, in Clatsop County.

Clatsop County people from the rural areas as well as from the urban areas have made up the membership of committees on Land Use, Land Economics, Dairy, Livestock, Poultry, Mink, and Family Life.

The reports contained in this booklet were developed by these committees for presentation at the County Agricultural Planning Conference, held April, 1956, in Astoria.

This Conference was organized and conducted by the county agricultural planning council with the cooperation of the Oregon State College Extension Service. Similar conferences had been held in the county at several earlier periods, the most recent being in 1947. Experience has shown that these conferences are effective in accurately predicting trends in the local society and economy and in influencing developments in farming and rural living.

Each of the reports in this booklet is the work of a committee that met several times over a period of months and considered data from a variety of sources in arriving at its conclusions. It is believed that this booklet will be significant and useful as earlier, similar booklets have been.

The publication of this booklet was made possible through the cooperation of the Clatsop County Court.

If additional copies are needed, they can be obtained from the local County Extension Service office at the Post Office Building in Astoria, Oregon.

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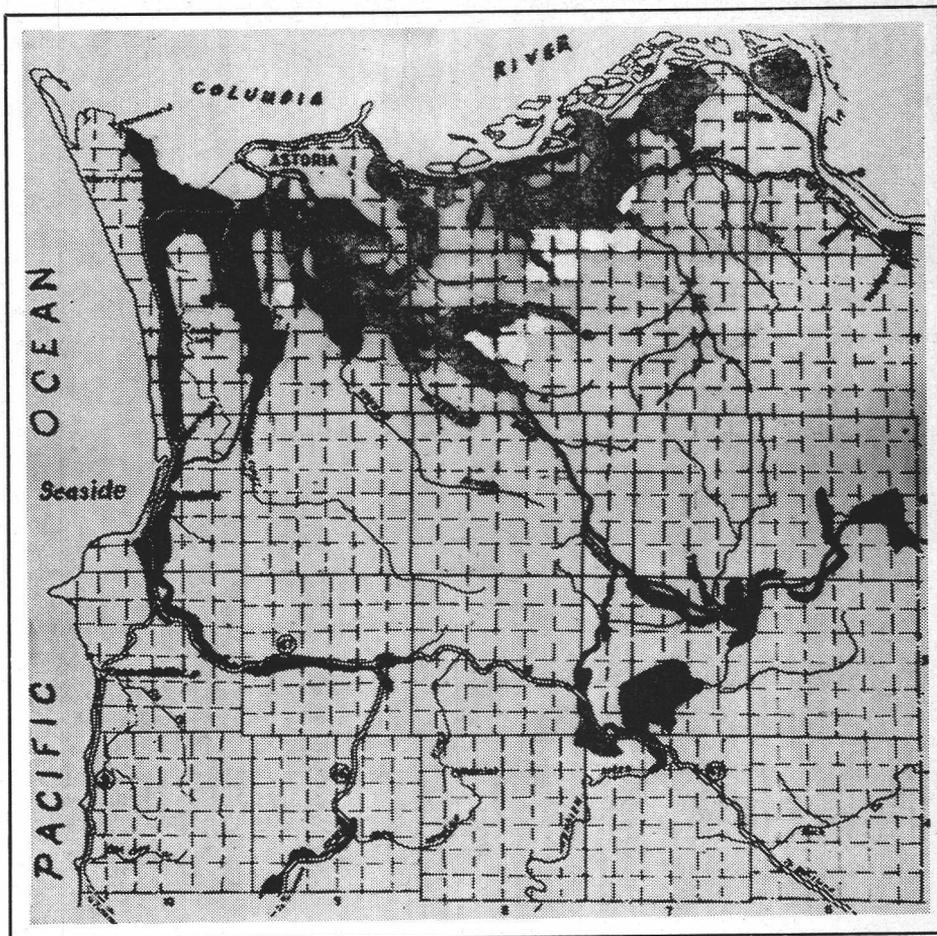
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CLATSOP COUNTY AGRICULTURAL LAND

Darkened areas indicate general location of farm lands along the Columbia River, the Coastal strip, and the major rivers and streams.

Farm lands along the Columbia River and near the mouths of the Youngs and Lewis & Clark rivers are protected by dikes from high tides and flood waters.

Of the 52,000 acres in farm ownership, approximately 20,000 acres are classed as tillable.

The uncolored area is primarily timber land, which is over 90 per cent of the total county area of 525,000 acres.

CLATSOP COUNTY

Its Size and People

The 525,000 acres of Clatsop County are bounded on the north by the Columbia River and on the west by the Pacific Ocean.

These acres are populated by 31,000 people deriving livelihood primarily from forest products, fisheries, agriculture and tourist trade.

Agricultural lands include 51,458 acres in farm ownership, of which 18,900 acres are classed as improved and tillable.

Timber land is the major classification, with 95 per cent or more of the county area being commercial forest land.

Of the 31,000 people in Clatsop County, 16,200 live in the urban areas of Astoria, Seaside, Warrenton and Cannon Beach. In the rural non-farm group are 12,000 people, and those living on the farms total 2600.

Families in the county total 10,084, 5600 of which are urban families, 3800 rural non-farm and 700 farm. These families have an average income of \$3,443.

Gross agricultural income to the farm families (before any expenses are paid) amounts to approximately \$3,000,000 annually in Clatsop County.

Major agricultural enterprises include dairying, livestock production (beef, sheep and swine), poultry (eggs and broilers), mink ranching, Astoria bentgrass seed production, cranberries, holly, nursery and greenhouse products, small fruits and vegetables, and forest products from farm woodlands.

Facilities

Clatsop County residents are well served by hard surfaced roads.

The SP&S railroad provides rail freight transportation to Clatsop County.

Transportation by highway is facilitated by U. S. Highway 26 and U. S. Highway 30 in an east-west direction. Highway 101 transverses the length of the county along the Pacific Ocean.

Five high schools and twenty grade schools, both rural and urban, serve the some 1400 high school students and 2900 grade school pupils.

There are some 50 churches in Clatsop County, representing many denominations. Approximately six of these are rural churches.

There are about 500 retail stores in the county, providing a near complete variety of products.

Agricultural Services

Agricultural and related state and federal agencies serving Clatsop County residents include:

The OSC John Jacob Astor Branch Experiment Station, Route 1, Astoria.

Federal Agricultural Stabilization and Conservation Program, Room 214, Astoria postoffice building.

Soil Conservation Service representative, serving the Warrenton Dune Soil Conservation District, basement Astoria postoffice building.

Oregon State Game Commission, area representative available through Oregon State Police office.

Farmers Home Administration, serviced from office at Hillsboro, Oregon.

The State Forestry Department, Wal-luski District, Astoria, Oregon.

Cooperative Extension Work in Agriculture, Home Economics and 4-H.

This program provides the services and information of the Oregon State College Extension Service in cooperation with Clatsop County.

The Federal Extension Service, the Oregon State College Extension Service and Clatsop County cooperate in the support of this program to provide services and information from Oregon State College to the people of Clatsop County.

There are three county extension agents working in the fields of agriculture, home economics, and 4-H in Clatsop County.

The County Extension office is located in room 214 of the Astoria post office building, where free subject matter bulletins and additional information may be obtained.

Recreational Facilities

The ocean beaches and resort facilities, extensive hunting and fishing opportunities, the historical attractions, and state park developments provide year around recreation for residents and tourists.

Climate

Clatsop County residents enjoy a mild, temperate climate with a mean winter temperature of 42°F. and a mean summer temperature of 60°F.

There are an average of 272 frost free days (March 8 to December 5) in the coastal area, with somewhat less in the Nehalem Valley.

Rainfall averages 77 inches annually, with 70 per cent of this falling from November through March.

LAND ECONOMICS COMMITTEE

The Land Economics Committee prepared the following report with the initial understanding that the Ad-Valorum property tax law in Oregon is the chief means of supporting public services at the county, city, and district level.

The committee further recognizes that under the proper administration of the property tax law all classes of property supporting the services in a given district under the same millage should pay equally according to property value.

Reappraisal

The reappraisal program being conducted presently in the county in cooperation with the State Tax Commission is intended to establish current market values on all taxable property. From this information the county assessor determines the assessed values and millages necessary to produce sufficient tax funds to meet the county budget. The reappraisal program will also assure equalization of assessed values between classes of property, as intended by the Ad-Valorum property tax laws of the state.

The committee does not feel that assessed values have been equal between property classes according to market value, and support the reappraisal program to this end.

It is also recognized that while a current reappraisal may help to equalize property taxes, it can not change the general burden of property taxation. Property owners likely will continue to look for other sources of tax, and may seek changes in the Ad-Valorum tax law.

Property taxes in Clatsop County totaled 877 thousand in 1944, as compared to over 2½ million in 1955. This increased cost of local government and services including schools is of great concern to property owners, and particularly to the farm people represented by this committee.

The committee considers a review of tax problems facing the farmers of Clatsop County will be helpful to all taxpayers in an understanding of the need for re-appraisal.

Farm Taxes

The increase of 150 per cent in total county property taxes since 1944 has come during a time when consumers spendable incomes have reached an all time high; values of homes have increased; and forest lands have returned valuable saw-lags, pulpwood, and peeler lags from second growth forests, burned and logged-off areas that 20 years ago were considered of little value.

The committee felt that farm income has not kept pace with the inflated property values of farm lands and equipment, making it increasingly difficult to meet the property tax increases.

The agricultural census lists agricultural gross income from value of farm products sold in Clatsop County at 1.6 million in 1944; 2.1 million in 1949; and 1.7 million in 1954. This does not include the gross income from mink ranching of approximately ¾ million in 1954. During the same period according to the same source, the average value of buildings and land per farm rose from \$6,597 in 1944; to \$10,294 in 1949; and \$17,005 in 1954. These latter figures reflect inflated values and increased farm investment for the most part. Consolidation into larger farms has been less of a factor. There were 900 farms in 1940 averaging 70 acres in size, as compared to 700 farms in 1955 averaging 74 acres in size.

Land In Farms

Total acres in Clatsop County are approximately 524,800 of which only 9.8 per cent or 51,458 acres are in farms.

Included in this 51,458 acres of farm lands are 14,455 acres of improved, tillable croplands, according to the 1954 as-

assessment roll summary given for Clatsop County in the 1955 Oregon Bluebook. Other farm land includes less tillable pastures, brush and woodland, and land taken up by buildings and wastelands.

The major portion of land outside corporate limits, approximately 470,000 acres, is forest land in various stages of timber productivity.

The timber land area is owned approximately as follows:

	Acres
Public lands - state and county	145,000
Crown Zellerbach Corp. (including St. Helens Co.)	190,000
Other large private owners of over 5,000 acres each	85,000
Small privately owned	51,000

There are 141,698 acres of state-county forest land. Seventy-five per cent of the proceeds from the sale of timber on these lands is used to offset county property taxes. The other 25 per cent is used by the state board of forestry for management of the forest land. Mature timber acreage on this land is presently yielding some 40 million board feet per year, and the total receipts to the county have been nearly one million dollars since the start of the program in 1944. Harvest from this land will increase to about 120 million board feet per year on a sustained yield basis. In the last tax year the dollar proceeds to Clatsop County from sale of timber on the 141,000 acres of state-county forest land in Clatsop County was about equal to the tax revenue from all other timber land in the county.

Included also in the private forest land ownership shown above are 71,523 thousand acres of re-forestation land that returns 5 cents per acre annually in lieu of tax and 12½ per cent of the stumpage value at the time of harvest, according to the Oregon Reforestation Act of 1929.

County Assessment

The source of property taxes and assessment values are shown on the county assessment rolls for 1956 as follows:

Real Property	Assessed Valuation
Lands inside corporate limits	\$ 4,663,666
Improvements inside corporate limits	5,033,000
Land outside corporate limits	2,214,173
Improvements outside corporate limits	1,208,780
Timber (exclude land)	868,572
Total Real Property	\$13,988,191

Personal Property

Stocks in Trade	1,703,885
Furniture & Fixtures	348,265
Farm Machinery & Equip.	90,860
Other Machinery & Equip.	889,155
Trailer Houses	4,590
Boats & Vessels	122,390
Livestock (including mink)	185,560
Miscellaneous	30,890
Total Personal Property	\$ 3,375,595
Public Utilities	\$ 2,109,494
1956 Total taxable value	\$19,341,637

Total Tax & Millage

Total county property tax income for 1956 was \$2,499,731.33.

Millage rates in cities, towns, and some school districts range from a low of 90.4 to a high of 187.4 mills.

The 1956 tax dollar was used for:

All schools	59.4%
County General	13.5%
Cities	15.2%
Port	6.0%
Roads	3.9%
Other	2.0%

From these data it is pointed out that of the land outside corporate limits which is assessed at 2.3 million, there are approximately 14,455 acres of tillable farm land or cropland assessed at \$936,773 in 1954, according to summary of assessment rolls given in the 1955 Oregon Bluebook.

This cropland acreage accounts for approximately 5 per cent of the total 277 thousand acres of taxable acreage listed outside corporate limits, but carries an assessment amounting to approximately 33 per cent of total assessment for land out-

side corporate limits.

It is recognized that farm cropland includes the best farm land in the county, but current assessed values of farm lands are high in relation to market values of farms according to the findings of the committee.

Average cropland was assessed at \$64.81 per acre in 1954 according to Bluebook data. To arrive at this assessed value, market value is reduced by 20 per cent to become true cash value, and 16 per cent of true cash value is the assessed value. An average assessed value of \$64.81 would then represent current market values of nearly \$500.00 per acre for improved cropland.

The committee does not feel that average cropland values in Clatsop County are over \$150 to \$200 per acre.

Costs of maintainance and improvements have increased the capital investments on farms, while farm incomes have not increased proportionately. Farmers have far more invested in their operations than can be included in selling prices. It has also been pointed out that on combining all personal and real property taxes, the amount farmers are paying would in many

cases buy their farms inside of 15 years. This is nearing the confiscatory level.

Recommendations of the Land Economics Committee

1. Stumpage values used to determine the 12½ % severance tax on the 71,000 acres of timber land under the reforestation law should reflect more quickly the prices being paid currently for timber.
2. The committee is of the opinion that the average market value being used presently on cropland for assessment purposes is not realistic, and the committee is hopeful that this will be corrected by the reappraisal program.
3. It was also the opinion of the committee that in view of increased costs of local government, schools and services, some alternate source of tax to offset property tax is urgently needed.
4. In addition to problems with real property assessments the committee foresees continued difficulty in the fair levy of personal property taxes. Further study is needed for methods whereby all inventories are reported equally, according to the committee.

LAND USE COMMITTEE

Forestry and forest industries, fisheries, agriculture, shipping, flour milling and recreation are the main sources of Clatsop County income. Roughly 90 per cent of the county's 525,000 acres is in forest land, with the remaining 10 per cent in agricultural lands, cities and towns. Land area in timber or best suited to its use amounts to approximately 470,000 acres of which 325,000 acres are privately owned, and 145,000 acres are under public ownership. Much of this land is being managed for continuous production of tree crops. Each year sees new tree farms established, and more intensive forestry practiced on both private and public lands.

There are 141,000 acres of forest land under a state-county arrangement whereby 75 per cent of the proceeds from the sale of timber goes to the county as a property tax offset, and 25 per cent is used by the State Board of Forestry in the management of the timber lands. These lands were largely acquired as tax delinquent lands, and now under proper management and increased timber values the State-County forest land represents a great asset to the people of Clatsop County.

Farm woodlands include some 30,000 acres of the total 52,000 acres in farm ownership. Forage and Astoria bentgrass seed are the main crops on most of the remaining 22,000 acres in farms. Climate-wise, Clatsop County is well suited to producing grass and legume forage crops for pasture, silage and hay. As a result dairy and beef cattle are the principle agricultural endeavors.

Other agricultural products include mink, poultry, sheep, Astoria bentgrass seed, cranberries, holly, nursery crops, and small fruits.

Mink and poultry operators are favored by the mild climate and do not depend on land quality. Cranberry producers find both climate and local bog areas well

suited to this crop. Holly and nursery crops are favored by good growing conditions. Strawberries and raspberries are grown successfully for a limited local market, as are blueberries, sweet corn, garden peas, beans and miscellaneous garden crops.

Farm Forestry

As a part of farm management and income in Clatsop County, farm forestry is receiving increased attention. Income from farm timber has called attention to the value of tree planting, pruning, thinning and systematic harvesting. Maximum returns from these practices depend on markets for pulpwood and small sawlogs. Profitable returns from small farm timber sites depend largely on utilization of farm labor and equipment.

A demonstration of woodlot management on fir under very good harvesting and marketing conditions is being conducted in Columbia county. Project reports show that \$500 per acre has been the return from the sale of timber harvested and delivered to market from a ten acre stand of 60 year old fir at the Columbia county fair grounds. The management of this small timber stand over the past 10 years has served well to demonstrate possible returns from planned management and marketing. The \$500 per acre returned \$3.35 an hour to the operator for periodic labor; and still left for future income a stand of crop trees with annual board foot growth equal to what the stand was producing ten years ago.

Some owners of large timber holdings in Clatsop County are spending as much as \$40 per acre for tree planting and control of competitive brush. This gives an indication of expected future returns from forest management which would generally apply equally to small forest tracts.

Markets

Harvests from Clatsop County woodlands have come largely from mature or nearly mature stands. Local markets have

not been established adequately as yet for the utilization of small trees or thinnings. In many instances young form timber stands have been clear cut. Such cutting of stands before they reach peak growth causes considerable loss of potential yield.

Though the greater part of the county is in hemlock or spruce stands very susceptible to "blow down" after partial cutting, there is room for greater utilization through periodic thinning, especially of young stands. Again, however, such utilization is dependent on pulpwood and small sawlog markets.

Present markets in Clatsop County include the following sawmills and log buyers:

Columbia Hudson Lumber Company, Wouno Lumber Company, Lebeck Lumber Company, Worrenton Lumber Company, buyers of fir, hemlock and spruce sawlogs; Crown Zellerbach Corporation, buyers of sawlogs and pulp logs; Astoria Plywood Company, buyers of peelers; and Koppers Company, buyers of poles.

Markets outside of Clatsop County include:

Weyerhouser, Longview, Washington; Fir Tex Incorporation, St. Helens; Longview Fiber Company, Longview, Washington; Publisher's Paper Company, Oregon City, which are all buyers of pulpwood; and Long Bell Lumber Company, Longview, Washington, buyers of fir and hemlock sawlogs.

A sub group of the Land Use Committee appointed to study forest products marketing in the county reported that pulp and small sawlog markets are improving and becoming more competitive. The committee also reported there is need in the county for chipping plants to prepare pulp chips from small or damaged logs.

State-County Resource

The Land Use Committee was one of the organizations helpful in starting the State-County holdings of forest lands and

providing for their management to the best interests of the people. The committee in this report held the opinion that these once tax delinquent lands, now aggregating 141,698 acres, were developing under the State Board of Forestry management into a sustained yield forest of unestimable value to the county.

The bid sale of timber from these lands provides a yardstick to values of private owned timber and returns income to the county which offsets property taxes.

From 1944 to 1956 this income has amounted to \$933,198.00. It was also pointed out that the income from this land in 1956 was as great as the property tax collected from all other timber land in the county.

Forest Services

State forestry personnel stationed in Clatsop County to manage the 140,000 acres of state-county timber land are available for part-time counsel and guidance to forest land owners. Personnel of state forest fire patrol station at Jewell are also available to assist in the application of sound forestry practices. Research and Extension service personnel of Oregon State College, as well as the U. S. Forest Service, assist in matters of forest resource development. The Federal Agricultural Conservation Program in cooperation with the U. S. Forestry Service as technical advisers, assists farmers in a cost-sharing partnership on farm forest improvement practices.

SPECIAL FARM CROPS

Astoria Bentgrass

Production of Astoria Bentgrass seed has been a cash crop on approximately 2,000 acres of improved land in Clatsop County since the early 1930's. It commands a slightly higher price than other fine bents such as Highland, but is in competition with them.

In the 1955 crop year, approximately 1,200 acres of Astoria Bentgrass were entered for seed certification in Clatsop

County with a total yield of approximately 85,000 pounds of cleaned seed or an average of 70 pounds per acre.

The outlook for Astoria Bentgrass seed production is tied closely to production of other turf grasses, and the success of growers in increasing the yield of seed per acre.

Following are some of the major factors facing growers at present:

(1) Nationally the 1955 production of the 5 major fine turf grasses including bentgrasses was 6 per cent over 1954 and 59 per cent over the 10 year average. (2) Total Bentgrass production in the United States in 1955 was 4,600,000 pounds as compared to the last ten year average of 2 million pounds. Oregon produced 4,400,000 pounds of this and the increase has been in the Highland Bentgrass acreage. (3) Bentgrass yields average over 200 pounds in Oregon, as compared to the local average of 70 pounds. (4) A little more than 3 million pounds of Bentgrass has been used annually. Carryover will likely amount to 2 million pounds after sale of 1955 crops. (5) Astoria Bentgrass seed, under normal production, sells for 10 to 15 cents per pound above Highland. Astoria Bentgrass seed is noted for its high quality, but must compete with other turf grasses. (6) At present grower prices of 40 to 50 cents, Highland Bent seed production is increasing, and Astoria Bentgrass seed production is decreasing. (7) Of the U. S. total of 22,000 acres of Bentgrass harvested in 1955 approximately 2,500 acres was Astoria Bent, 1,100 acres in Clatsop County and the remainder in Columbo County and Pacific County, Washington.

In order to continue to produce Astoria Bentgrass seed profitably as a crop in Clatsop County, an average yield of at least 200 pounds per acre is considered necessary. If this yield cannot be maintained, an alternate use of the land is likely.

Increase Yield Per Acre

From work done by the John Jacob Astor Experiment Station, Clatsop County

yields can be increased through the following practices:

1) An acreage rotation is recommended for control of Nematode. (2) Application of nitrogen fertilizer in the annual amount of 20 to 30 pounds of actual nitrogen per acre. (3) Control of velvet grass with Kormix DW or Chloro IPC, at the rate of 4 pounds per acre applied about October 15. (4) Weed control through selective spraying with Amine 2-4-D at 1 to 1½ pounds per acre to control ploutains, chickweeds, and the competitive effect of clovers in the stand.

Bentgrass Seed Equipment

One of the major cost items in the production of Astoria Bentgrass is harvesting. It is evident that the shortcut harvest methods adapted to reduce labor cost have also reduced yields. However, costs of harvest can be cut $\frac{1}{3}$ to $\frac{1}{2}$ under good conditions by use of suitable combine equipment over stationary threshers, according to the comparison reports of at least one producer.

Tooth cylinder combines seem most satisfactory, and should be large enough to handle at least a single mower swath. A combine is not considered economical for less than about 150 acres, particularly if stationary threshing equipment is available.

Cranberries a Stable Crop on Some Land

Approximately 45 acres are in producing bogs. These are located in the coastal peat soils that lie between the mineral hill soil and the sandy dune soils between Warrenton and Seaside. Little change in total acreages has taken place in the past decade with new bogs about offsetting those that lose out to weedy brush and grasses or mismanagement. However, a slight growth is evident now with 10 or so additional acres due for production by 1960.

Growers consider about 8 acres of producing bog, preferably of the McFarland variety, to be necessary for an economic unit. Cost of establishing an acre of bog remains high and is currently estimated

at between \$2,000 and \$2,500 including all costs from clearing to the installation of frost and draught protecting sprinkler systems.

Though some 500 acres of bog land suitable to cranberry production are still available in Clatsop County, potential returns from this crop do not speed its development. Nationally the one million barrels (100 pounds per barrel) of cranberries produced annually is meeting the present need. National cooperatives such as the National Cranberry Association carry out orderly marketing and advertising programs which level out producer prices over the nation and limit economical expansion in this area to about the rate of population growth.

Local berries are marketed through N.C.A. and are processed in the Grayland, Washington, plant. Approximately 80 per cent of the national crop is processed, and 20 per cent packaged for the seasonal fresh market trade.

With growers prices averaging about 12 cents per pound over the past five years, cost of production stands at about 8 to 10 cents per pound. Control of weeds, insects, diseases, and frost damage are the major points of management, with weed control being the number one problem for most growers.

Holly Production Favorable

There are presently some 25 acres of producing holly trees in Clatsop County. Most of this acreage is in a few commercial holly orchards that have been operating for several years.

Expansion of this crop appears favorable in light of the limited climatic areas in which it can be produced and the large potential national market for this seasonal popular item.

Increase is slow, however, in view of 3 to 4 hundred dollars per acre planting costs, plus initial land and clearing costs that show little return until trees are 8

to 10 years old.

Use of varieties that will ripen for November picking is also necessary, and much improvement still remains to be done to this end. A variety trial is in the 5th year of growth at the Astar Branch Experiment Station, which is giving additional encouragement to this crop.

At present prices a good 5 to 10 acre holly planting is considered an economic unit, and is most apt to be successful on well drained hill soils of north or east exposure. Accessibility during wet November and December weather is also important.

Of the approximate 1,300 acres in Oregon, nearly half of this growing stock is considered of poor variety due to poor quality or because of ripening too late. Holly should have a fairly short annual growth so sprays are 10 to 12 inches long with berries well distributed along the spray. Wavy thick leaves that lay flat are also desirable.

Marketing of holly can best be handled through present growers or organizations with established markets. As grower volume increases, new outlets can be contacted either individually or by cooperative means.

Best known varieties and cultural practices are covered in an Oregon State College bulletin on Holly Production.

Big Trefoil Seed

Production of Bigtrefoil seed (*Lathyrus uliginosus*) attained importance for a few years prior to 1952 but has since dropped off to periodic harvesting of a few hundred pounds for local use and limited sale outside the county. This legume is well adapted to some poorly drained pasture lands and hill land along the Oregon coast, and to some extent also on the east coast. A more common strain called Beaver has been used locally for forage and was widely accepted in the county as a result of its success as a forage when planted originally for seed production. An improved strain

called Columbia is now recommended over the Beaver strain for local pasture seedings, as well as for limited seed production. A few growers have plantings eligible for certification and produce seed as the limited market dictates. Harvesting is critical and the price per pound should exceed \$1.00 or the crop is usually more valuable as forage.

DRAINAGE A FIRST STEP IN LAND USE

Approximately 15,000 acres of the improved pasture land in Clatsop County is under dyking or drainage districts along the Columbia, Youngs, and Lewis & Clark rivers. Early development saw the use of hand made dikes, puncheon drains, and open ditches to drain bottom soils. Formation of tax levying districts to support drainage costs and to cooperate with federal diking programs has been a large factor in developing Clatsop County farmland.

Diking Projects

The work of the U. S. Army Engineers through specific federal appropriations for flood control and water resource development has been and continues to be a means of agricultural land improvement and development.

The Land Use Committee in reviewing major drainage needs such as pumping stations in the Brownsmead diking district, received information from the office of U. S. Army Engineers of importance to this report. Excerpts of a letter from Colonel Jackson Grahom, Corp of Engineers, Portland district, include:

"Although this office has constructed a number of pumping plants along the lower Columbia River, experience at those plants does not provide a ready answer as to the practicability of pumping in the Brownsmead area. Variable factors in the design of a pumping plant which must be considered include drainage area, precipitation anticipated, tidal fluctuation, available ponding areas for storage, desired

maximum and minimum water levels within the protected area, heads to be pumped against, seepage characteristics, and tide box capacity. Since these factors all vary with individual locations, you can understand why a general figure for installation and operating costs would be of little value and might lead to erroneous assumptions. If the Brownsmead area desires pumping facilities it is recommended that a study of needs of the districts and cost of additional facilities be made by a competent engineer.

" . . . Most of the diking work done by the Corps along Lower Columbia River, including that in the Brownsmead area, has been done in accordance with the general procedure, of the 1936 Flood Control Act. There is an inspection procedure after completion to insure that structures built with Federal funds are maintained properly. Inspections are made annually, or as funds become available. For complete projects, also, approval by this office is necessary before any construction work is done in, on, or over any flood control improvement financed by the Federal government.

"In addition to regularly authorized projects, the Office, Chief of Engineers, has available for its use certain general authorizations for channel clearing; emergency repair of flood-control structure; emergency protection of highways, bridge approaches, and other public works; and for small projects not specifically authorized by Congress.

"In addition to the projects and policies mentioned in the preceding paragraph the members of my staff are available at any time for consultation of flood-control problems of any organization or individual. Anyone desiring such information is cordially invited to discuss his flood problems and obtain the advice of our engineers.

"The congress recently authorized a review of past reports on Columbia River and tributaries with a view to control of floods and water resources development. That report, which is now under way will

include consideration of flood problems along the lower Columbia, including protection by upstream storage by presently authorized levees and levee improvements, and by any desired and justifiable additional levees or levee improvements. Completion of the report is currently scheduled for calendar year 1957. Completion of the report will be preceded by public hearings at which local interests will be asked to state their views and desires as to flood control improvements in the area and other related items."

As to possible pumping installations needed in the Brownsmead area or such additional areas as Tenasillahoe and Svensen Islands, the committee believes costs would probably be prohibitive to property owners under present agricultural enterprises, unless assistance was made available through Federal appropriation.

Skipanon Drainage

Another area needing drainage lies between Warrenton and Seaside along the east portion of the coastal plain. Further development in this area may involve some diking of the Skipanon River, a large tide gate installation, and control of the Cullaby Lake water level. It also involves new drainage ways for water flowing south into the Stanley Lake area at Seaside. Although a drainage district has been formed in the area from Gearhart to Seaside, further improvement is unlikely until property owners and land use pressures bring it about.

Farm Drainage and Other Conservation Practices are aided by State & Federal Agencies:

Farmers in Clatsop County may make voluntary use of many services toward improvement of agricultural lands. Present services include the county agricultural Extension Service, and the John Jacob Astor Branch Experiment Station which are both under departments of Oregon State College; the Federal Agricultural Conservation Program, offering cost sharing assistance on farm conservation practices; State De-

partment of Forestry and U. S. Forest Service; United States Army Corps of Engineers; and the United States Soil Conservation Service operating in the county through the Warrenton Dune and Necanicum Soil Conservation districts.

WEED CONTROL

No weed control districts are established in Clatsop County, and all noxious weed control is heavily dependant on the vigilance and community spirit of the landowner having such weeds.

Canada Thistle is presently one of the serious weed pests spreading rather rapidly from wind born seed over farms and across fences. Its many seeds find easy going in newly tilled land and waste places. Chemical sprays and mowing are methods used most effectively, with the recently developed chemical ATZ showing great promise.

Tansy ragwort, a serious pest in most western Oregon counties is not as yet prevalent in Clatsop County, but its control depends on land owners keeping on the lookout for new infestation.

Gorse infestations of varying size exist in the Olney district, Vine Mople, Youngs Bay Bridge, and the Ridge Road near Camp Kiwanilong. These infestations are under various stages of control but need continued control, particularly in unpopulated areas.

A serious pasture weed is the curled Dock. General spraying and spot treating with hormone sprays, particularly 2,4-DB, are of some aid in control of this weed. Pasture clipping to reduce seed set is also helpful.

STATE PARK RECREATIONAL RESOURCES

State parks comprise over 6,000 acres in Clatsop County including the following parks and waysides: Bradley, Ecola, Saddle Mountain, Oswald West and Fort Stevens State Parks, and Sunset Highway and Gearhart Ocean Waysides.

The Oregon State Parks division of the State Highway Commission reports a planned expenditure in 1956 of approximately \$45,000 for further development and operation of the Fort Stevens State Park, and \$20,000 for maintenance of remaining older parks.

The success of the Fort Stevens State Park is of particular interest to the committee, since establishment of the park was one of the committee's projects in cooperation with the county court and the State Parks Department.

Committee Recommendations

Worthwhile projects or goals considered by the Land Use Committee and offered as suggestions to farmers, farm organizations, or others interested in agricultural development are as follows:

1. Promote the installation and operation of one or more wood chipping plants to provide easier handling and marketing of small logs and thinnings from local forest harvesting.
2. Promote the use of forestry practices on farm woodlands, through cooperation with ACP cost sharing practices, publicity, and use of technical personnel available in the county.
3. As members of farm organizations and community groups farmers are encouraged to promote the control of noxious weeds in their communities and county wide.
4. In view of the extensive diking projects that have been accomplished to protect bottom lands along the Columbia, Youngs, Lewis & Clark, and Skipanon Rivers, the committee recommends that farmers make all possible effort to establish and maintain ditching systems within the dikes that will aid in maximum use of bottom lands.
5. The 1955 state legislature established the Oregon State Water Resources Board which is charged with the responsibility of guiding the development of all unappropriated water in the state. The development and utilization of all Clatsop County water resources is important to the agricultural and industrial growth of the county. The committee recommends that this committee, or a sub-committee thereof, work on a continuing basis toward development of water resources in the county for all purposes.

DAIRY COMMITTEE

Agriculturally, Clatsop County farm lands are primarily suited to the production of grass and legume forage crops in the form of pasture, silage and hay. The dairy cow is considered the most economical utilizer of these forage crops.

The production of over 15 million pounds of Grade "A" milk annually in Clatsop County returns more income per acre to the average dairy farm family than other livestock enterprises.

Numbers of dairy cattle have decreased slightly from the 1940 to 1945 average of 4500 cows and heifers over 2 years old, to the 1955 figure of 4100. This reduction is due in part to fewer dairy farms and in part to herd improvement resulting in increased production per cow.

Milk from Clatsop county's 60 some odd Grade "A" farms is being produced primarily for the bottle milk sales in cities and towns of Clatsop County and the Portland area. These markets utilize from 70 to 80 per cent of the production with the remainder being sold for manufacturing purposes at lower prices.

In addition to the Grade "A" milk production, approximately 2¼ million pounds of factory milk are produced annually and used along with surplus Grade "A" milk for manufacture of powdered milk, butter, ice cream mix and cottage cheese. This factory milk for the most part represents production from small operations, seasonal in production, and too small to justify facilities for Grade "A" milk standards. In 1949, 275 farms reported sale of whole milk; the 1954 U. S. Agricultural census reported a total of 197 farms in Clatsop County from which whole milk was sold. Factory milk sales dropped ¾ million pounds in 1955 from 1954 production, indicating many small sized, part-time dairy farms dependent on present factory milk prices are unable to continue.

Also, the general economic condition

of all dairy farms in Clatsop county is not good from the standpoint of a reasonable return on investment and labor. Production costs have increased to both the dairy farmer and to the distributing plants while consumer prices have remained fairly constant. Notionally the dairy farmer's share of prices paid for dairy products was 45 per cent in 1955, as compared to 54 per cent in 1949.

Average production costs determined in both the Tillamook and Portland market areas by Oregon State College economists, have shown that costs in 1951 for producing 100 lbs. of Grade "A" milk were \$5.77 and \$6.15. The average price to dairymen selling to the Portland market at that time was \$6.15. This lack of margin has been no less severe on Clatsop dairymen who have received less for their product during 1955 than in 1952 and have had production cost increases since that time.

In the opinion of the dairy committee, the potential markets in and out of the county, the need for continued increase in management efficiency, and the lessening of the price-cost squeeze are factors that will determine the future of dairying in Clatsop County. The committee also felt that with the gross production potential of Clatsop County, dairymen should be able to produce dairy products in competition with other areas that may compete for the same markets.

Management Factors

Size of full time dairies in Clatsop County vary from 20 to over 100 cows while the average size operation necessary to support a farm family is considered to be from 30 to 40 cows. The total production considered necessary for an economic unit is about 250,000 pounds annually with 70 to 80 per cent of this being sold for bottling purposes at fluid milk prices.

Size and value of dairy farms in Clat-

sop County vary a great deal and average figures are not too meaningful. It is generally true, however, that far more is invested in fully equipped dairy farms than can be included in today's selling prices.

Newcomers to the dairy business should thoroughly check into the productive history of a farm which can then be measured against purchasing price, operating costs, and debt retirement.

Some other factors of management which the committee listed as helpful to successful dairying include:

Patience: Dairying is a long time investment and industry not subject to fast economic changes.

Family labor: It is very helpful to a dairy farmer to have the interest and assistance of the family, if possible.

Buildings: Loose housing and milking parlors are a steady trend as older buildings are replaced. Buildings where cows are milked must conform to standards for Grade "A" milk production.

Silage program: Full use of home grown forage depends on a silage program on dairy farms. Silage should be harvested at good pasture stage if possible. Types of silos vary but they should be convenient to feeding. Many new silos are of the above ground bunker type built next to a hard surface, covered feed area. Also, mechanical unloaders are being used in upright silos to save on labor.

Herd improvement: Production per cow continues to increase, adding to the efficiency of dairying. Production testing either through the Dairy Herd Improvement association, Breed associations or other means is considered a basis of economical dairying. Use of herd sires that improve production of daughters is of primary importance. Good bulls are available to dairymen from outstanding herds in Clatsop County, as well as through artificial breeding programs.

Good replacements: Herd replace-

ments are of vital importance to dairymen, and raising enough good heifers for normal replacement is often difficult. Raising heifer calves from the best cows in a herd is considered the best and cheapest source of replacements.

Mineral supplements: Information assembled at the Astor Experiment Station over many years well establishes the need for mineral supplements of particularly copper, cobalt, magnesium and phosphorus to the cattle diet in this area. These ingredients are required in relatively small amounts but are very necessary to herd health and production. Dairy concentrate feeds sold in the area usually contain the recommended amounts of these minerals through special mixing by the manufacturers. However, if concentrates do not contain the recommended amounts of these minerals it is advisable to supply them by other means.

Good carrying capacity: An intensive forage production program is necessary to minimize the capital investment in land. While average carrying capacity is considered to be two to three acres per cow, it is possible to reduce this to nearly one acre per cow under intensive pasture management.

Pasture Improvement

Pasture management and forage production practices currently being encouraged include:

1. Initial land improvement through drainage; lime applications; and addition of essential plant food elements, nitrogen, phosphate and in some cases potash. Over 62 per cent of the soil samples analyzed at Oregon State College from Clatsop County showed a lime requirement of 4 ton or more per acre, and over 87 per cent were low or very low in phosphate. These materials are best applied prior to seeding of the improved varieties of grasses and legumes recommended for this area. An annual fertilizing program is also necessary to maximum

- yields.
2. Grasses and legumes considered most suitable to productive permanent pastures, silage cuttings, and hay include:
 - Meadow fxtail
 - Orchard grass (S-143)
 - Alto fescue
 - Perennial ryegrass
 - New Zealand white clover
 - Sub clover
 - Big trefoil
 3. Pasture utilization through fencing, controlled grazing and clipping. Cross-fencing for daily rationing has added 25 to 30 per cent to the production from pastures at the Astor Branch Experiment Station.
 4. Conservation of manure is still a money saving practice and can be accomplished through protected storage such as beneath the bedding of loose housing units, in manure pits, liquid tanks, or in as steep piles as possible to minimize leaching by rain. As a farm fertilizer, manure is one of the best. It can be made better by adding phosphate to make it a well balanced source of plant food.
 2. Support the American Dairy Association of Oregon for promotion of dairy products at the national and local level and encourage concentration of advertising funds in as few agencies as possible.
 3. Support the local Grade "A" milk producers association as members.
 4. Request and cooperate with economists of Oregon State College on a cost study of Grade "A" milk production in Clatsop County.
 5. Request more specific study of economical and easily adopted methods of DHIA testing on farms with pipeline milkers.
 6. Support youth programs in dairy husbandry through 4-H and FFA organizations. Be responsible as a source of 4-H dairy club leaders, and assist local dairy organizations participating in the 4-H Spring Dairy show and County Fair.
 7. The supply of bedding material, particularly wood shavings for use on dairy farms is often limited during winter months. The committee recognized this problem, but had no suggestions other than to point up the need for more storage and continued cooperation with the mills supplying bedding.

Recommendations of the Dairy Committee

1. Strive toward efficient production that will insure markets locally and outside the county as transportation and processing methods continue to make fluid milk more competitive between areas. Meet competition for fluid milk market by efficient production.
8. Continue to support the Brucellosis control program in general and in Clatsop County where a modified certified Brucellosis free status has been attained.

LIVESTOCK COMMITTEE

The beef industry in Clatsop County is second only to dairy in livestock numbers, and like dairy it is an adopted enterprise which utilizes the county's main crop, forage.

Sheep are also an important part of the livestock industry in Clatsop County, but are managed as relatively small farm flocks, usually in conjunction with other livestock operations.

The approximate numbers of beef and sheep in Clatsop County over the past several years according to census data are listed in the following chart:

	1920	1930	1940	1945	1950	1955
Beef Cattle	3200	800	1100	2900	3200	3800
Sheep and Lambs	750	1100	1100	557	1300	1100

The number of beef cattle increased considerably in Clatsop County after 1940, not only as a result of favorable prices, but also due to less labor and building investment being required for beef animals than for dairy cows.

Beef production has filled a need for forage utilization on many of the smaller farms, as well as many larger farms not equipped for Grade "A" milk production, or where the operator chose beef production because of less labor and building investment. Also a part time operator is able to keep beef animals and work off the farm.

Most of the 50 or so livestock producers in Clatsop county are not deriving their living from beef production alone, but depend on off the farm work, other livestock, or the production of Astoria bentgrass seed.

Beef cattle production is a full time enterprise for a few of the producers with large farms capable of carrying a hundred or so head of brood cows from which good quality market steers or weaner calves can be produced on pasture, home grown silage and hay.

On several farms beef production is carried out in conjunction with the production of Astoria bentgrass seed. The bentgrass provides pasture in the fall and spring, as well as hay and straw from the seed crop. Since bentgrass is not a good forage producer, its carrying capacity is fairly low, and also other forage must be available for the cattle from May to September when the bentgrass seed is allowed to mature.

Sheep a Double Crop

Sheep production may show a continued increase in Clatsop County in the future. Breeds used in the county usually include ewes of the long wool type which are bred to bucks of medium wool or mutton-type breeds for a better mutton-type lamb. The long wool ewes such as the Romney are considered best adapted to the wet coastal conditions and provide a good crop of wool in addition to fair market lambs.

The lamb crop plus the wool crop provided by the sheep enterprise returns a comparatively good income per acre. Price wise over recent years, sheep have returned as much or a little more per hundred weight than beef cattle. Through the use of good milking ewes that drop a high percentage of twin lambs and yield about 10 pounds of wool, the farm flock of sheep can be made to pay its way.

Adequate pasture that allows for rotational grazing and supplies of winter silage and hay is important to sheep production here. The wet bottom land pasture should be avoided in winter to reduce the

common ailment of foot-rot, bothersome to sheep in this area.

Internal parasites, stomach and intestinal worms need control in most flocks and control with phenothiazine is recommended. A two-ounce dose to adult sheep is often given as a drench in the spring of the year, followed by keeping phenothiazine and salt, one part to nine, before the sheep at all times. Having adequate pasture to permit pasture rotation of about 3 week intervals is very important to control of internal parasites.

The farm flock size of 20 to 100 ewes seems most suited to farms of the county and can usually be managed under enough supervision to minimize losses from predators, parasites and disease. As a type of livestock for part time farms, and as an added enterprise for dairy or beef operators, the outlook for sheep production seems favorable.

Management Trends

In discussing the average requirements of an efficient beef set-up in Clatsop County, the committee pointed out several items of particular importance to operators in this area:

1. The cow-calf system was considered to be the soundest operation, on the average, for best utilization of the pastures, silage and hay produced locally. There are the two possibilities here of selling market steers or heifers at about 18 months of age, or weaner calves the first fall.

Early calving in January or February has the advantage of early marketing ahead of normal heavy marketing periods. Early calves are also large enough by spring pasture to fully utilize the increase in milk from the dam.

Some fall calving is being done by a few operators, and this can supply a good weight veal calf the following July or August when this item is less plentiful on the market.

When producing market steers from a cow-calf operation, the committee pointed out that it is important the first fall to save the best steers, bring them in early before losing gain to good silage and hay and possibly some grain, and keep them in until plenty of good pasture is ready for them to finish on.

2. The number of cows needed for a full time operator may vary from 50 to 100 head, according to the committee, depending on the number of calves kept over their first winter. Acreage for an economical beef set-up would need to be at least 150 acres, although intensive forage production under irrigation, fertilization, and rotational grazing practices could lower land requirements to nearly one cow per acre.

Smaller farm operators and those on a part time basis are cautioned against over-stocking ahead of pasture improvement and provisions for winter feed of silage and hay. One disadvantage of small units is the inefficient use of equipment or the dependence on custom operators for pasture improvement.

3. The practice of buying feeders in the fall to carry over on home-grown silage and hay, and for finishing for the following fall on pasture is a second system used by livestock producers in the county. The committee pointed out that this system is most successful on a rising market and for that reason has not been very popular since 1951.

Its success is also dependent on good supplies of high quality home-grown silage and hay, and convenient feeding and shelter facilities helpful to steady growth and condition of the steers during the winter.

Feeding grain the last 90 to 120 days that the steers are on pasture before marketing may be profitable some years, according to the committee,

in order to assure finish for July or August marketing. However, this does not assure the top price in their grade in competition with feed lot steers. The safest and most competitive enterprise for local beef producers is based on use of home-grown feed and a minimum of purchased grain.

4. Forage production is the basis of the livestock enterprise, and management practices that develop a good supply of forage as well as an efficient and economical means of handling and feeding forage is very important.

Over stocking that depletes and kills out desirable grasses and legumes should be discouraged. Though the area is a natural grass provider, full production is usually dependent on drainage, liming, fertilizing, and seeding of improved grasses and legumes adapted to the area. These include: Meadow Foxtail, Orchard grass (S-143), Alta fescue, Perennial rye, New Zealand white clover, Sub clover and Big trefoil.

New trends in posture management include less grazing and more cutting of ensilage, and also more intensive grazing for short periods which cuts down on waste of tramping and allows more time for regrowth.

5. The committee also pointed out that supplemental mineral feeding of copper, cobalt and phosphorus, according to John Jacob Astor Experiment Station studies, is very essential to healthy livestock. This is fed free choice or with the concentrate feeds, and can be purchased in mixes supplying the recommended amounts.
6. Control for both internal and external parasites is another phase of management particularly important to this area, according to the committee. Phenothiazine treatment for stomach worms is proving very helpful to better gains in both beef and sheep. Body parasites such as lice can cause

cattle to winter poorly and cattle should be sprayed in the fall and winter to stop build-up of lice. Bulletins on the control of livestock pests are available from the Extension Service.

7. The committee pointed out the prevalence of foot rot among sheep raised in this county, and suggests sheep be kept out of wet bottom lands as much as possible.

Cattle producers are particularly cautioned to stay on guard for control of Brucellosis. The county has been proclaimed a modified-certified free area through the efforts of producers and many others, and caution is needed to maintain this status.

A further point of importance is the vaccination for shipping fever, recommended for use at time calves are weaned and brought into barn feeding.

8. Buildings for both cattle and sheep are needed to provide shelter from storms, calving and lambing facilities, and also covered feed areas. Most new buildings for this purpose are of pole-frame construction.

9. The committee further recognized the need for herd improvement techniques whereby cows producing the best off-spring are made record of. Permanent records of birth, weaning, and market weights can do a great deal for the efficient operator in both dam and sire selection. Other factors being equal, cows unable to produce a 350 to 400 pound calf at weaning time should be culled.

The use of records is proving very helpful, also, to the improvement of sheep flocks.

Recommendations

The committee considered the following items as being important to the improvement of the livestock industry in Clatsop county and in need of further study or

encouragement:

1. The livestock committee has recommended that a committee of livestock and dairy people work with members or representatives from sportsmen's groups in the county to discuss such mutual problems as:

a—Improving relations between farmers and sportsmen in the area toward the best use of wildlife resources in the county with a maximum respect of property and recreational facilities involved.

b—Mutual understanding of the need for control of predatory animals, including sheep killing dogs.

c—Further consideration between the former, sportsmen, game commission and other interested agencies on the possible feeding or management of deer and elk to relieve farms from damage and also

preserve this game resource in the county.

2. The committee pointed out that beef prices are now near to the 1944 level, while property taxes have increased approximately 2½ times since that time. Assessed values should follow market values more closely.
3. The committee pointed out that the gross fed cattle finished to market grades do not usually bring prices equal to feed-lot cattle of comparable grades. The committee felt that the price difference is usually more than accounted for in shrink or dress-out percentage. The committee also felt that high quality gross cattle when dressed are retailed at prices more equal to feed-lot cattle, and therefore encourage studies be made if possible by Oregon State College as to comparative quality, or consumer demand, of meat from gross and grain fed cattle of equal grade.

POULTRY COMMITTEE

Poultry farming has been an important part of the agriculture in Clatsop County since the early "twenties". By 1920 there were some 21,000 chickens listed in census data in Clatsop County. At this time eggs were produced primarily for the local market with poultrymen pretty largely maintaining their own egg routes and market contacts. In 1922 the first organized marketing started and by 1930 numbers of birds in Clatsop County hit an all time high of over 100,000 birds. Production at this time was considerably in excess of local consumption and eggs were marketed outside the county, principally in New York markets.

Egg Production

The number of hens four months old or over then began to drop until about 60,000 were being kept by 1935, and from 1940 to 1950 the number has been at the 70 to 80,000 level. In 1955 the number of birds over four months old was reported at 65,000 and an additional 35,000 broilers were being raised annually for the local markets. In 1956 the number of birds over 4 months old remained at 65,000. However, the number of broilers and fryers increased to 90,000.

Improved breeding and feeding methods over the past several years have resulted in a large increase in the rate of lay. The 50 to 60 thousand actual layers on farms today produce approximately 30 per cent more eggs than the same number in 1930.

County Well Suited

Clatsop County is well suited to the production of eggs due to its moderate climate. Birds are not bothered with weather extremes and maintain a good rate of laying.

There are approximately 35 full time poultrymen in Clatsop County and another

120 farms reporting sale of eggs, according to U. S. census data. The same hundred cases of eggs per day being produced are sold both locally and outside the county. The Oregon Egg Producers Cooperative handles most of the eggs sold locally and to nearby markets in Columbia and Pacific counties in Washington. This cooperative, along with the Brentwood Company, also handle eggs going into the Portland market. Individual egg routes by some producers in Clatsop County account for a percentage of local marketing. Clatsop County producers are presently supplying eggs just slightly in excess of the local and nearby consumption. During peak production in fall and winter between two and three hundred cases per month are sold to the Portland market. Considering the close relationship of production to consumption in the spring and summer months, coupled with the fact that eggs are brought into Clatsop County markets from other producing areas, makes the local egg production about equal to consumption.

This situation would indicate that expansion of the Poultry industry in Clatsop County is likely to be about equal to increases in local demand through better marketing methods and to some extent through population increases. At the same time, however, it would indicate that, if produced profitably, more eggs could be produced locally for the outside markets of Portland and other points. State wide, Oregon is consuming nearly 10 per cent more eggs than are being produced. This is further indication that the future of this industry in Clatsop County will remain comparatively favorable in view of the climatic advantages, the established marketing facilities, and the fact that the statewide production is below consumption.

Management Trends

Size of full time poultry units in the county vary from 1,500 to nearly 5,000

birds with some of the larger units using the cage system for confining layers. Labor saving devices go along with the larger management systems, and both cages and mechanical equipment represent a present trend in the county.

An economic unit, or one providing living for one farm family, is considered by the poultry committee to be at least 3,000 laying hens. This is double the 1,500 birds recommended as a minimum full time operation as recently as 1947.

Replacement flocks are being raised twice during the year by most producers. One brood is started in February or March for July and August lay, and a second brood is started in August or September for January pullets. This tends to level out egg production during the year and permits maximum use of equipment and buildings. A few operators including those with cage systems often raise a third brood starting in December or January. Operators using cage systems often start a third brood to supply a steady source of layers to replace culls and keep cages as nearly full as possible.

The committee also pointed out that 70 to 80 per cent lay is achieved by some producers and all producers should consider 60 per cent lay as a minimum production level for staying in business.

Buildings are a very important part of the poultry farm. Changes in management practices, helpful to an efficient economical operation, often mean changes in poultry building. Recent changes are toward cheaper construction and mechanization. The type of houses used primarily at present under the floor management system have an area through the center of the house, raised a foot or two off the floor, and covered by wire mesh. On this the roosts are placed and also the birds are fed and watered. This eliminates much of the droppings otherwise falling into the litter, and helps to keep the litter as dry as possible.

Houses built for cages are little more

than roof and sides to enclose two or four banks of cages, either one or two layers deep. The square foot cost of cage buildings is considerably less than the former floored type buildings, but this is offset largely by the cost of wire cages.

The practice of raising range pullets is not considered necessary at present and the amount of land required for poultry operation is considerable less than formerly necessary under range management. Except for having pasture or garden acreage on which to spread the poultry manure, the acreage required for a full size poultry unit would probably not be in excess of 5 acres. With the greater use of poultry manure by dairy and livestock operators the need for storing this on the poultry farm should be lessened.

Those establishing a poultry operation on farms with old buildings are particularly cautioned by the committee. An operator tied to old buildings and possible heavy indebtedness may never get ahead enough to remodel and install labor saving equipment. The investment required for establishing a poultry farm varies of course with the management ability of the operator. In general members of the poultry committee felt that most operators have an investment of at least \$5.00 per bird, including building and equipment costs. Feed alone, to raise a bird to the age of four or five months is estimated at \$2.00 per bird. Cost of land, buildings other than the poultry houses, and most of the major mechanical devices for handling feed and water would be in addition to these costs.

Egg Quality

Also, the committee felt that more attention needs to be placed on egg quality and its improvement through cool room storage between gathering and marketing, and through use of mechanical egg cleaning devices. Dry cleaning of eggs is practically mandatory as almost all markets refuse washed eggs.

Egg quality is a big item with poultrymen. Consequently any management

system should include facilities for cleaning eggs and storing them under cool conditions at relatively high humidity, as soon after they are gathered as possible, and until they are sold or moved off the farm. From the management standpoint regardless of where eggs are cleaned the operator producing as clean eggs as possible from the nests or cages has a considerable advantage in costs over the operator who is careless about keeping conditions for clean egg production at all times on his farm.

As stated earlier, the local Egg Co-op recommends the eggs to be dry cleaned. Many egg buyers over the state are also requiring that eggs be dry cleaned rather than washed. Until such time as a fool proof method can be established there is too much evidence of egg quality being destroyed by washing.

Disease control on poultry farms was not considered in detail by the Poultry committee. However, it was pointed out that sanitation is the first and big step to be taken on any poultry farm toward disease control. Producers are also finding it advisable to purchase chicks from hatcheries that are well established and have a good reputation among the poultry industry. In the case of a disease outbreak of unknown origin and severity, the poultry diagnostic laboratory at Oregon State College has been helpful to ranchers sending in their birds for diagnosis.

Recommendations

Recommendations of the committee for improvement of the poultry industry in Clatsop County include:

1. Poultry manure is of value to forge crop production. The committee felt that steps should be taken to increase the use of poultry manure from Clatsop County poultry farms by neighboring dairy and livestock operators.
2. Recommend bulk feed bins on farms. This will aid in efficient handling of

grain, making it easier for the poultry men to install mechanical feeders or self-feeding hoppers, which will eventually facilitate a saving in bulk feed delivery. New buildings should provide for bulk handling and truck dockage.

3. The committee recognizes the value of youth work through 4-H and FFA programs for developing an interest in poultry, and encourages poultrymen to serve as leaders if possible.
4. The committee would further encourage foster handling of diagnostic cases going to the poultry disease laboratory. Much improvement can be made in sending birds promptly with all possible information and asking for return information by telephone. The Oregon Egg Producer plant in Astoria offers its services in helping to express birds quickly.
5. Continue to investigate cooperative means of buying straw for litter in volume during the grain harvesting season, to be stored locally for winter use. This would help to remedy the ever present problem of wet litter during winter months when litter materials are more expensive.
6. Continuation of the day school held annually the past several years to review current management and disease programs with Oregon State College Poultry Specialists was recommended.
7. The committee recommends that shell eggs in interstate movement be labelled as to state of origin.
8. The committee recommends that poultrymen buying started pullets avoid bringing in pullets vaccinated for fowl pox and newcastle disease, as vaccinated birds are known to infect home reared, non-vaccinated birds.
9. The committee recommends a two price system on wheat,

FUR FARMING COMMITTEE

The production of high quality mink pelts is a very important part of the agricultural industry of Clatsop County.

Mink farming first started in the early 1930's when the standard dark mink was used for pelt production. By 1945 the first mutation mink pelts were being marketed and these new color shades resulting from skilled breeding became quickly popular to consumers. By 1945 sale of mutation mink for breeders in addition to expanding demand for the furs gave a new impetus to the industry in Clatsop County.

From an estimated 20 farms of an average size of 100 breeders in 1945, ranches in the county grew to about 40 in number with an average of 350 breeders at the present time.

Clatsop County presently produces the greatest share of mink from the five major producing counties of Oregon, including Tillamook, Columbia, Marion and Multnomah. According to the reports of the National Board of Fur Farm Organizations, Oregon ranks 6th in the nation with the northern states of Wisconsin, Minnesota, Michigan, Illinois, New York being larger producers in that order.

Oregon is producing approximately 4 per cent of the national production of nearly 3 million pelts annually.

Mink are raised primarily for pelting, but some market for superior breeding animals also exists. The furs are sold primarily through auction houses located in Seattle, Minneapolis and New York City. Though mink furs depend on a luxury market, that market has a favorable outlook as long as consumer's spendable income remains high.

The industry is also exporting about 12 per cent of the total U. S. production, but at the same time almost 1½ million

pelts were imported into this country from Scandinavian countries and Japan.

Requirements of Business

In addition to being dependent on a luxury market subject to fast changes, the man producing mink must specialize to a very technical degree in nutrition, genetics, and fur quality know-how. A knowledge of mink diseases and their control is also important.

An economic unit or the size of a mink ranch necessary to provide one family a living is at least 200 breeders. In starting out to establish an economic unit, at least 50 breeders are considered necessary. Sheds, cages, feeding equipment, and generally cold storage facilities are required in the initial investment.

Established ranchers estimate it cost 100 dollars to increase a herd by one female breeder. Land requirements are nominal. It is estimated that five to ten acres of usable land is required for a satisfactory ranch size. Well drained sites for buildings located away from noise and congestion are desirable.

A primary requisite for new-comers to the business is a background of experience most economically gained from hiring out on an established ranch for at least one year. Without such background a beginner is apt to suffer unnecessary losses. New-comers should also make advance arrangements for a source of mink feed. Membership in the producer co-op is advisable as feed and other supplies are their particular business.

As evidence of the highly specialized nature of this business, it was pointed out by the committee that of the some 5,000 ranches nationally, there are some 850 operators going in and out of the business each year. The turnover has also been noticeable in Clatsop County where the committee estimated that about 20 per

cent of those starting stay with the business. The committee also pointed out that a drop in pelt price from one year to the next such as occurred in 1955-1956 can easily break ranchers just getting started in the business.

Advantages of Clatsop County for Mink Production

Two main factors leading to a sizeable mink industry in Clatsop County have been the nearness to a source of marine fish making up 60 per cent to 80 per cent of the mink diet, and a mild climate favorable to winter care of the animals as well as protection from summer heat.

Much research has gone into replacing the once predominantly horse meat diet for domestic mink with other meat by-products and fish. Fish wastes from canneries and the tonnage of non-food or scrap fish brought in by fishermen have made the local mink business possible. With cost of fresh scrap fish increasing steadily, however, there is danger of this advantage being lost.

An indirect advantage of this area is the experience of most ranchers in the production of mutation mink. Oregon has led in the development of new fur colors and quality that is recognized nationally, and though other states are capable of similar production, some lead may be maintained by alert producers.

Of a general advantage to the mink industry, is the affiliated and active membership existing among ranchers at the local, state and national level. Their organizations are well established in marketing, research, and advertising programs that are supported by withholding a small percentage of the pelt prices paid to producers.

Disadvantages of This Area

Since this fur business has grossed more income to Clatsop County in the past two or three years than other agricultural enterprises, with the possible ex-

ception of dairying, it is a much talked about business to get into. However, even with normal increase of breeders among established ranchers, there is evidence of a limiting supply of fish.

The cost to the mink rancher for fish feed has increased in the last few years more than three fold. Price per pound for fresh and frozen fish has ranged from one-half to as high as 6 cents the past several years. The cost of scrap fish has increased about 20 per cent the past year and nearly $\frac{1}{3}$ over the past 3 years. Feed costs to produce one pelt may range from five to ten dollars with the higher food costs tending to produce the better quality pelts. Other costs of labor and overhead added to this brings the average cost of producing a pelt to approximately twenty dollars. National average selling price is currently slightly over twenty dollars.

The committee believes there is grave danger of a short supply of fish and mink feed. That, along with higher prices for the fish poses a real limiting factor to the growth of this industry in Clatsop County. A few mink ranchers now own fishing boats in order to be more assured of adequate supply.

Also, presenting some disadvantage in this area are the transportation costs of materials, and the high cost of farm labor. The climate, though uniform, does add to the deterioration of the cages and to the care of damp cages to prevent discoloration of furs. These disadvantages have been off-set in the past because of the above average value of mutation mink. However, other mink producing areas are capable of equally good pelt production as well as in many cases being closer to by-products of the packing plants, cereals, transportation centers, etc.

Other Fur Bearing Animals

Many inquiries about producing Chinchilla and also Nutria come to the attention of the Extension Service, Chamber of Commerce and growers. It is the opinion

of the committee that production of these animals for fur must depend eventually on the sale of pelts, and since no dependable market in line with high cost of breeders has been established, the businesses are considered highly speculative at present. The committee would encourage anyone interested in these enterprises to contact established auction companies dealing in furs for the most recent market situation.

Recommendations

1. The committee believes a wider source of protein feed is needed, and look to such items as canned by-products of the meat packing plants, by-products of poultry meat processing, and additional fish products to supply the increased need.
2. The Fur Breeders research laboratory at Oregon State College is encouraged by the committee to set up mink feeding experiments using wheat, and also to further consider the possibilities for use of fish meal in conjunction with cereals. They also expressed need for the experimental laboratory to carry out some means of feeding so that at least some of the animals are fed whole fish rather than cleaned in order to duplicate ranch conditions.
3. The committee also called attention to the need for further study on the practicability of utilizing mink carcasses as a fish hatchery feed.
4. A recommendation was also made to make known the needs of the mink industry for a galvanizing plant near Astoria. At present cages are being regalvanized in Portland at a cost of 45 cents to 65 cents each and if a local plant were feasible it would save high transportation costs for the bulky cages. Also, such a plant might serve other local industries needing galvanizing work.
5. The committee also suggested that mink manure be analyzed for its fertilizer value and that this value be made known to livestock operators for pasture fertilization. It is estimated that about one half of this some 4 million pounds of mink feed prepared and fed in the county is left available as a valuable fertilizer by-product.
6. The committee recommended that fur breeders in Clatsop County continue to support the 4-H Mink Project, and assist with obtaining a leader and eligible club members.

FAMILY LIFE COMMITTEE

LEADERSHIP TRAINING

The major interest of the Family Life Committee was youth. The number of young people in Clatsop County is rapidly increasing. One of the greatest needs is for adult leadership in youth activities in the church, school, and youth organizations. Other problems as seen by the committee were:

1. The need for training of youth leaders for work in church and organized youth groups.
2. Lack of parent interest in youth activities.
3. Need for teaching youth and adults safety in driving.
4. Need for marriage counseling.

The Family Life Committee formulated a questionnaire, in an attempt to discover the amounts of interest that exists in youth activities. Each member of the committee asked five people to complete the questionnaire. The reports were compiled and the results are as follows:

1. Do you participate in youth activities?
 - a. As a leader or teacher? Answers Yes 9, No 19.
 - b. As an interested parent? Answers Yes 24, No 15.
2. Have you ever worked in youth activities as a leader? Yes 17, No 14.
3. Would you like to work as a leader? Yes 4, No 27, Later 1.
4. If the answer to No. 3 is "Yes", what type of a group would you be interested in working with? Answers: 4-H 1, Just any 1, Girls groups 1, and no specific group 1.
5. If the answer to No. 3 is No, give reasons why they have not participated. Answers: 13 answered, no

time; 4 health doesn't permit; others are as follows:

- a. Was a teacher but children make her nervous and are too demanding. Parents should teach children to respect older people.
- b. Leave that to the younger generation. My occupation keeps me around youths, therefore I like to relax in my spare time. Difficult to get parental and community support.
- c. I have a baby at home.
- d. Doesn't feel that she has necessary patience.
- e. I would have to give up my other activities.
- f. Can't seem to find enough ideas of my own to keep youth interested. Not enough cooperation.
- g. Children make her nervous.

Over half of the group had worked as leaders at some time but very few had continued as active leaders.

The survey indicated that many people were willing to help with youth activities but not as a leader.

Lack of time seemed to be an important reason for not participating as a leader.

Over half of the group answering the questionnaire said that they had participated in youth activities as interested parents.

The Family Life Committee summarized the reasons for lack of participation in youth activities as follows:

- a. Lack of training on how to work with boys and girls and how to involve parents in the youth activity.

- b. Lack of training in subject matter.
- c. In some cases capable community people have not been invited to become leaders.

Recommendations on Leadership Needs

1. The committee recommends that special training on how to work with boys and girls be made available to leaders, present and prospective.
2. Youth organizations such as 4-H Clubs, Scouts and church groups provide training courses in subject matter for their youth leaders.
3. Since many parents seem to have had very little contact with youth groups, an effort should be made to inform them of the nature and purposes of young people's organizations.
4. An effort should be made on the part of county and community leaders to discover and involve all possible local people in the activities of a youth organization. This can lead to the discovery of new leaders as well as relieve the responsibility of some of the present leaders.

FAMILY COUNSELING

An investigation was made of the possibility of a family counseling service in Clatsop County since members of some families have problems requiring professional services. Reports were given by Gordon Storaasli, Council of Churches; and Mrs. Bertha Roth, County Welfare Office, on the situation in the county and possible ways of handling the problem.

It is difficult to determine exactly how much need exists for counseling, however. Following are a few facts that give some indication:

1. The county welfare office has frequent requests to help people who are facing marriage problems.

2. Some people need help but their problems never come to the attention of an agency. A few people with problems are being assisted by a psychiatrist of the Oregon State Board of Health. Many youth are also assisted by this service. This indicates that there is some need for counseling help among young people.

3. Clatsop County has approximately seven divorces for ten marriages. These statistics may include the transient population who are married elsewhere and obtain divorces in Clatsop County. These figures do indicate that some folks might need help in the area of marriage counseling.

The Astoria Council of Churches is considering opening an office for family counseling in Astoria. The ministers who have been trained in counseling will work with people requiring help. Details of this plan have not been worked out. The other possibility is to employ a professional person on a full time basis to handle this work.

Recommendations for Family Counseling

1. Support should be given to efforts to set up a family counseling service for Clatsop County. Counseling help should be available for anyone who needs the help. An effort should be made to fill the needs of high school students.
2. Community study groups should be organized. These groups would be led by local people and would study any area of interest that the group wished. It is especially important that young married people be offered information which will assist them in raising their family.
3. Lectures on Family Life should be given by professionally trained people. A series of sessions on a specific subject such as Preparing for Marriage, and Child Development is desirable.

4. Family Life courses should be offered in schools. It is important that those teaching these courses receive adequate training.

DRIVER TRAINING

A need exists in the county for training for those learning to drive.

A course is offered to adults in Seaside. Fourteen lessons are required at a cost of \$28.50 per person. The lessons are two hours long with four people attending each class. The course in Seaside will not be available after June 1956.

A program for driver training is also being offered for sophomores at the Seaside high school. The high costs of this training presents a budget problem in the schools.

The high school in Astoria offers classroom work in driver education. The

school board is considering a course which would offer driver training to students in Astoria. Parents will have an opportunity to vote on whether or not this program should be established. At present the only driver training program available to adults is in Seaside.

Recommendations for Driver Training

1. A committee should be appointed to explore the possibilities of setting up a driver education program for adults in Clatsop County. This group would need to consider costs, the number of people who might need the training and ways in which this training might be set up.
2. When it is financially feasible, driver education courses should be provided to high school students. These courses should include both classroom study and driver training.

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