Binder

Report of the

LAKE COUNTY AGRICULTURAL ECONOMIC OUTLOOK CONFERENCE

LAKEVIEW, OREGON

OCTOBER 30, 31

1 9 3 6

Table of Contents

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Foreword

This publication contains the findings and recommendations of the committees at the Agricultural Economic Outlook Conference for Lake County held at Lakeview October 30 and 31, 1936, and attended by substantial farmers and livestockmen from all parts of the county. It was the first conference of this nature ever held locally.

The general committee of the Lake County Agricultural Economic Outlook Conference under the able leadership of Ned Sherlock as chairman, cooperating with the Extension Service of the Oregon State Agricultural College, planned and conducted the conference. Sub-committees were assisted in their work previous to the two-day conference by the County Agent. Purposes of the conference were:

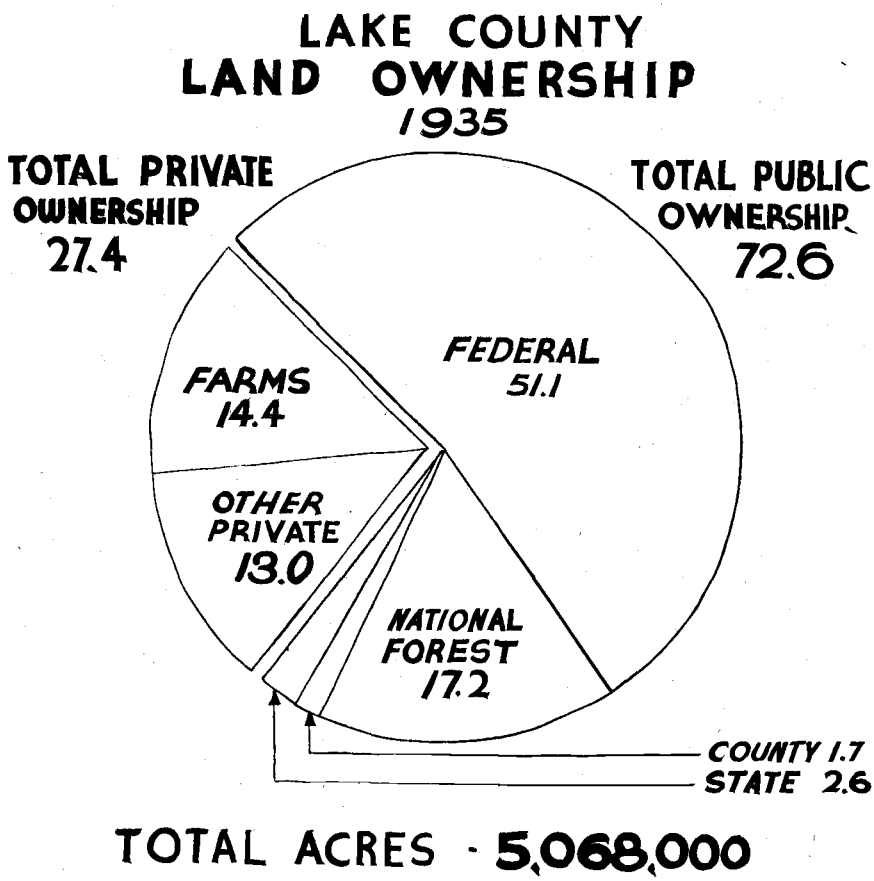
1. Gathering of accurate detailed information on the local and national phases of agriculture.
2. The presentation of this information in a concise, definite form.
3. Making recommendations based upon the assembled facts.

Recommendations herein published represent the best opinions of committees made up of representative producers and are the result of careful analysis and thought. These constitute a program for the guidance of Lake County's agriculture. It is hoped that these committee reports will be studied and used not only by residents of the county but also by new farmers as a basis for the long-time agricultural progress and development of this great Lake empire.

A resolution unanimously adopted at the final session of the conference requested Forrest E. Cooper, J. J. Van Keulen, and C. J. Clause to devise ways and means to print the committee reports. Thus the publication of this report has in a large measure been made possible through the cash contributions of the following:

Lake County Court
Bank of Lakeview
T. R. Conn
Lakeview Building Material Company
Hotel Lakeview
Lake County Chamber of Commerce
Home Supply Company
California Public Service Company
Forrest E. Cooper
Fetsch's
First National Bank of Portland, Lakeview Branch

Respectfully submitted,
Victor W. Johnson, Secretary,
Lake County Agricultural
Economic Outlook Conference.


LAKE COUNTY
LAND OWNERSHIP
1935
TOTAL PRIVATE OWNERSHIP 27.4
TOTAL PUBLIC OWNERSHIP 72.6
FEDERAL 51.1
FARMS 14.4
OTHER PRIVATE 13.0
NATIONAL FOREST 17.2
COUNTY 1.7
STATE 2.6
TOTAL ACRES - 5,068,000

Agricultural Economics Committee Report

LAND OWNERSHIP

The ownership of real property in agriculture determines, to a very large extent, possible developments and may serve also as an element of stability in agricultural production and income. Roughly, only slightly more than 25 per cent of the entire land area of Lake County is privately owned, while nearly 75 per cent is the property of the public. Of the privately owned land approximately half is land in farms while the other, for the most part, is timber land. Undoubtedly in the future privately owned land will decline in total area inasmuch as there is a marked tendency for cutover timber land to revert to public title. Note later recommendation relative to disposition of county title timber lands.

In contrast to most other Eastern Oregon counties, the holdings of national forest properties in Lake County are not high, only 17 per cent of the total area being of this classification. Unappropriated public domain makes up slightly more than one-half of the total county area. State lands and county lands together account for only a little more than four per cent of the total. These land data are carried in greater detail by Table A attached.

SOURCES OF AGRICULTURAL INCOME

Based upon the average cash farm income for the five-year period 1926 to 1930, amounting to the total of $2,807,000, slightly less than 10 per cent of such cash farm income was derived from the sale of products of the soil, and somewhat more than 90 per cent was obtained from the sale of animal products. Of the crops accounting for the approximate 10 per cent, of course, grain and hay was outstanding. Your committee believes that there has been a material increase in the proportional revenues from crop products over the figures indicated for the five year period and a corresponding decline from the sale of animals and animal products in proportion to the total county income. Among the field crops that are showing increases in acreage and in revenue are potatoes and small seeds such as red clover and alfalfa.

Beef and sheep account for the largest item in the agricultural revenues of Lake County for the five-year period, amounting to over 80 per cent of the total agricultural income. Dairy products returned but slightly more than seven per cent of the county total while other sources of agricultural income were very low. Detailed cash income data are carried by Table B attached.

Your committee believes that there already has been some rise in dairy production as compared to beef cattle and sheep.

Trends in production of beef in Lake County since 1920 are indicated as follows:

BEEF CATTLE, ALL, INCLUDING CALVES

1920 (census)	38,655
1925 (census)	38,526
1930 (census)	42,627
1931	40,000
1932	45,000
1933	46,000
1934	46,800
1935 (census)	48,515
1936	49,000

Your committee believes that the numbers of beef animals now carried in Lake County, when coupled with present sheep numbers, just about balance the supply of summer range and give no encouragement for an increase in total numbers either of beef or of sheep.

The trend in sheep numbers in Lake County since 1920 is indicated as follows:

SHEEP, ALL, INCLUDING LAMBS

1920 (census)	108,046
1925 (census)	102,788
1930 (census)	160,397
1931	160,000
1932	155,000
1933	175,000
1934	197,000
1935 (census)	149,017
1936	159,953

The 1936 figure of 159,953 is regarded as about right for the county over a long period.

The total number of dairy animals in the county has fluctuated considerably in the last 26 years, showing a low of 1123 in 1925 and a high of 2667 in 1935. The committee believes that there will be an increase in dairy animals in the county for reasons developed later.

Hay production must be keyed very closely to the production of hay-consuming animals and, conversely, the production of livestock other than hogs is very closely dependent upon the hay supply. In the tabulation immediately below are shown the trends in hay production in Lake County since 1909.

HAY CROPS, OF ALL KINDS HARVESTED

1909 (census)	59,575
1919 (census)	88,665
1924 (census)	33,240
1929 (census)	83,205
1930	
1931	
1932	91,127
1933	78,335
1934 (census)	65,253
1935	100,000

In contrast to the situation with animal numbers, particularly range animals, there has been a tendency for hay production to rise.

AGRICULTURAL DEVELOPMENT BY TYPES OF FARMS

Land in farms nearly doubled in acreage between 1910 and 1935, reflecting the great activities in the homestead era. The number of farms in Lake County, however, has not followed the total area of land in farms. In 1910 there were over 700 individual farms in this county while in 1935 there were shown only 513. At that, the low point in number of farms was in 1925, when there were but 478.

The average size of Lake County farms rose sharply from 1910 to 1930, the average being multiplied approximately by three during that period. The last six years there has been a slight decline in the average size, which according to the 1935 census, was 1422 acres.

The improved land in farms has not followed the total area in farms nor does it show much relation to the total number of farms. In 1900, 26 per cent of the land in farms was classified as improved. This decline in improved percentage reflects, of course, the taking up of grazing lands and to some extent the reclassification of lands as certain properties have been abandoned for cropping purposes. Additional detail on agricultural development in the county will be found in Table C attached hereto.

Trends in farm sizes, aside from the general average figures quoted above, show some very significant changes in the type of agricultural operations. Lake County operators are to be congratulated that there has been scarcely any development of agricultural property of less than 50 acres in extent, this situation being in sharp contrast to the marked trend to be noted in most of the irrigated counties and to a much greater extent in Western Oregon.

The number of farms ranging in size from 100 acres to 500 acres in 1920 totaled 321. Farms of this classification today number only about 200, again reflecting the heavy abandonment of properties homesteaded prior to and during the World War and later largely abandoned as dry land tillage proved unprofitable. During the same period of 15 years the number of places ranging in size from 1000 to 5000 acres rose from 77 in 1920 to 148 in 1935. Likewise the number of

ranches of 5000 acres and more increased. These changes in farm types are regarded by your committee for the most part as basically sound. Following the decline and readjustment of dry tillage operations involving the abandonment of heavy acreage totals, there has been a recombining of properties into a more economic unit not only for cropping purposes but more particularly for livestock grazing. While some of the larger stock ranches could be subdivided to advantage, generally livestock operations in Lake County must be regarded as on a proper basis insofar as spread of operations is concerned. Additional detail in trend of farming sizes in Lake County will be found in Table D in the appendix of this report.

A study of the type of operation on individual farms and ranches in the county reflects a very heavy grazing interest, as every local resident would anticipate. Of the 448 agricultural units recorded by the census of 1930, 165 were classed as stock ranches pure and simple. Another group featuring livestock but mostly dairy animals and hogs numbered 109. Of the specialized crop farms, a group which would include most of the small seed and potato growers, there were 44. Only 19 places were booked as grain farms.

Your committee wishes to emphasize the fact that at the time of the 1930 census, 57 general farms were recorded for Lake County. It is our conviction that agricultural development in this county in the future will trend to emphasize farms of this type rather than the larger stock ranches. We wish to be understood, however, as appreciating the fact that no heavy acreage of land is available for new development. Our position is that there is room for a reasonable number of additional general farms and possibly there should be anticipated some change from cash crop operations to what is classified as a general farm operation. Much more data on kinds of agricultural units in Lake County and the revenue from these several types will be found in Table E which is made a part of this report.

ANTICIPATED CHANGES IN AGRICULTURAL OPERATIONS

The revenue from crops, as suggested, doubtless will continue to rise for some time in proportion to the revenue from livestock, as potatoes and small seeds and possibly other specialized crops come into increased production, since range livestock already is restricted by the extent of summer grazing, it is not reasonable to assume that there can be any marked increase in range animals, either beef or sheep. The lack of summer grazing lands results in an appreciable surplus of hay on irrigated land. Were the summer grazing for range animals available this hay would be used to supplement range grass. As it is, your committee is of the firm conviction that this surplus hay will be used more and more by dairy animals. This belief is expressed in spite of the fact that the last year or so there appears to have been a decline in the number of dairy cattle. Increased dairying would call for a greater development of irrigated pastures. Both the land and the water are available to make this development possible and feasible.

There is no reason to believe that any great changes in average size of farms will occur during the next decade. For reasons indicated above there was a very great abandonment of land by individual operators following the homestead era.

Prices on agricultural products during the war were high, property was considerably higher than can be anticipated over a long period, settlers were tilling virgin soil, and other conditions of a temporary nature prevailed. The abandoned lands very generally have been recombined into economic operating units. These economic units for the most part should be regarded as a permanent type of agriculture in this county. Another factor that has served to bring about the set-up of these new and more economic units is the desire of all agricultural people to own their own grass. This is more noticeable as the supply of grass on forest land and unappropriated public domain has become more restricted.

OPPORTUNITIES FOR LAND SETTLEMENT

Your committee is disposed to face the realities of the situation in Lake County including some of the handicaps in the tillage of land. The elevation is high, the length of the growing season is 127 days on the average. There are some distinct advantages, however, including the lower capital value of lands of comparable production and, when compared to many other areas, the tax rates on agricultural land in this county are low.

Without disturbing the economy of operations a few of the larger stock ranches may be subdivided, not into general farms but into moderate-sized stock outfits. There is an opportunity for a limited number of livestock people of experience and capital.

There are some very desirable general farm and livestock ranches for sale to people of substance and experience. While your committee believes there should be no general and aggressive bid to new settlers, it is of the conviction that there is room for a few more farmers in Lake County, especially those interested in developing general farms. There are no homestead lands of any merit left in this county. It is the belief of your committee that 100 acres is the practical minimum in size for irrigated farms in this county, to enable any profitable operation.

AGRICULTURAL CREDIT

The availability of credit for agriculture within the county has been very much improved the past few years and, at present, there are ample funds available to meet all legitimate demands for loans that will qualify as sound from the standpoint of requirements of commercial banks and other lending institutions, based upon laws governing these institutions and their experience as to what constitutes a good loan policy.

In addition to two banks in Lake County, specializing in agricultural loans, our principal industry, a National Farm Loan Association was organized in 1932, which to date has made loans within the county of approximately $277,000, and in connection has closed Commissioner Loans through the association of approximately $130,000. To date there is no delinquency on any of these loans.

The Production Credit Associations have relatively few loans in the county, largely for the reason that local banks and other sources of credit are available to extend all necessary accomodations.

The principal difficulty of Lake County farm and ranch operators in past years has been related to the general practice of renewing real estate loans without any payment to principal. A slow amortization gradually reduces principal amounts and builds up the equity of the borrowers. The farmer borrower should be encouraged and required to make payments on principal annually or semi-annually. In periods of prosperity, larger payments on principal should be made. Had payments on principal been made, rather than additional purchases, and existing mortgages reduced, or retired, when income permitted, many who lost their farms or are heavily in debt would be in good financial condition today.

The agricultural credit situation, insofar as low interest rates and terms of repayment on farm loans are concerned, is in a more satisfactory condition that it has been at any time in the history of the country. A larger percentage of farm loans are now on an amortization basis than ever before.

Insofar as governmental and semi-governmental loan agencies are concerned, the position of your committee is that their operations should be so conducted that the integrity of the bonds, or the debentures, issued by them to secure funds for agricultural loans may never be brought to question. Emergency crop loans by the federal government are believed to be an emergency only. The committee believes that loans should be extended with the full expectation on the part of both parties that they are to be repaid. If there is little possibility of repayment, clearly such assistance should not be rendered by any loan, but rather by grant.

Your committee wishes to make the general suggestion that in Lake County, as elsewhere, there is a disposition on the part of borrowers to emphasize the value of collateral. While it is true that loaning agencies must ask for a pledge of collateral, the purpose of this procedure is to protect the loan only in case of emergency, when the regular funds for the liquidation of the loan do not materialize.

All legitimate loans made to agriculture are based upon repayment from the earnings arising incidental to the loan. If those earnings are not in sight, then there is no justification for the loan, regardless of what and how much collateral may be offered.

Your committee believes it is important for the borrower to plan on liquidation of a crop loan yearly, and his livestock loan over a period not to exceed three years—that is, the capital portion of his loan, taking into consideration the value of the increase, either retained or sold. If numbers have been increased to an advantage to the operations and there are ample facilities for caring for this increase, then the added value of security would permit some longer delay in the period for capital loan liquidation, providing necessary restocking is maintained. Loans for operating expenses are naturally assumed to be liquidated seasonally. Unless the above, or some similar plan, is followed, there is a risk that with either declining prices or poor seasons, his business and future credit may be jeopardized.

Your committee realizes that Agricultural Credit has many problems and that farm operators do not continuously bask in sunshine. May be illustrate by using the following verses:

"DOWN ON THE FARM"

Down on the farm 'bout half past four
I slip in my pants and slip out the door,
Down to the barn I run like the dickens
To milk ten cows and feed the chickens.
Then I cean out the stable, curry Nance and Jiggs,
Separate the cream, slop the pigs;
Work two hours, then I eat like a Turk,
And by heck! I'm ready for a full day's work.

Then I grease the wagon, put on the rack,
Throw a jug of water in an old grain sack,
Hitch up the horses, hustle down the lane,
Must get in the hay, for it looks like rain.
Look over yonder! 'shore's you're born
Cattle's on a rampage, cows in the corn.
Start across the meadow, run a mile or two,
Heaving like I'm wind broke, wet clean through,
Get back to the horses, and then for recompense,
Nance got a-straddle of the barbed-wire fence.
Joints all a-aching, muscles in a jerk,
I'm fit as a fiddle for a full day's work.

Worked all summer 'till winter's nigh,
Figure up my books and heave a big sigh.
Worked all year, didn't make a thing
Got less money than I had last spring.
Now some folks say, "There ain't no hell,"
But they've never farmed, so they can't tell.
When spring comes 'round I'll take another chance
While the fringe grows longer on my old pants.
Give my suspenders a hitch, and my belt another jerk,
And by heck! I'm ready for a full year's work.

FARM AND RANCH RECORD KEEPING

Due to the fact that credit rests upon earnings and not collateral, we recommend that producers keep farm accounts on their business. In this way, an accurate record can be kept of past earnings and a fairly reliable estimate made of prospective earnings in connection with the farm or ranch business.

Only from good records, on which reasonable estimates can be made of future income and expenses, can any budget control be prepared as a basis towards what is necessary to achieve.

It is reported that financial institutions have found that income and expenses of operations can be fairly accurately anticipated, and where budget systems

have been in use, they have proved of inestimable value to the borrowers.

Farm accounts are needed to supply the facts with respect to yields and costs, which are of value in making budgets accurate. In addition, farm accounts give a measure of the accomplishments of the various enterprises and act as a check on the budget plans. Those records will also point out mistakes and point toward improvements which can be made.

We wish to call the attention of the producers of the county to the fact that farm account books can be purchased from the Argicultural Extension Service, O. S. A. C., through the county agricultural agent at nominal cost. It is also pointed out that one of the best ranch and range account books coming to the attention of your committee is published at reasonable cost by the Montana Wool Growers Association, Bozeman, Montana.

TAX SITUATION

As indicated early in this report, your committee believes that the total of private lands in the county will decline while there will be a corresponding increase in lands under county title. Approximately 45,000 acres of private timber land has been cut over during the past few years and will soon revert to the county due to non-payment of taxes. As the ability of the forest lands to pay a share of the cost of government declines there is automatically an increase in the tax burden upon the balance of the private timber and upon the ranches and farms of Lake County. Your committee believes that very generally the best interest of the local residents will be served if such logged-off lands pass to the federal government. Our reasoning is related to the development of grazing on some of these lands and to reforestation of others. The water supplies for irrigation are largely contingent upon the management of these logged-off lands and our belief is that these items will be safeguarded and developed better under federal ownership.

It is the opinion of this committee that our County Court, together with all organizations consisting of producers of agricultural products within the county, together with the Lake County Planning Board, should unite their efforts in placing this situation before the State Legislature and the United States Congress with the recommendation that cut-over forest lands be consolidated under federal ownership, with the county to receive a substantial percentage of the ultimate value thereof. And furthermore, that the present system of taxation be adjusted in such a manner as to make it financially advantageous for the remaining private forest lands to remain for the most part in private ownership, producing a sustained yield of forest products and also leaving a sufficient forest cover to prevent erosion of soil needed for the growing of summer pasture and to prevent the drying up of springs and water holes.

TIMBER RESOURCES

The original stand of timber in Lake County is estimated as having been 12 billion board feet. Depletion from cutting, insects, disease, and fire has reduced

this amount to approximately 11 billion feet. The past 3 years 10 sawmills with a total capacity of 85 million feet have been operating in Lake County. These mills have not operated continuously and their cut has amounted to about 60 million feet per year.

On account of distance, topography and other logging factors, Lake County timber has to be considered from two angles. The timber that is tributary to Lakeview and timber that may be milled at some other location, either within or outside the county. All timber tributary to Lakeview is within an area known as the Lakeview Working Circle, which contains the following estimated amount of timber:

National Forest	3,225,000 M. Ft. B.M.
State, county, other federal	41,000 M. Ft. B.M.
Private	1,225,000 M. Ft. B.M.
	4,491,000 M. Ft. B.M.

The sustained yield capacity or average annual growth produced by this volume of timber is approximately 51,500 M. Ft. B.M. This amount of timber will permit the continuous operation of 3 sawmills having a capacity of 80 M. to 85 M. per day, or 4 sawmills having a capacity of 40 M. per day. In connection with the operation of these sawmills it is believed 1 or 2 remanufacturing plants could be operated continuously.

The estimated amount of Lake County timber located outside of the Lakeview Working Circle is as follows:

National Forest	3,032,000 M. Ft. B.M.
State, county, other federal	709,000 M. Ft. B.M.
Private	2,775,000 M. Ft. B.M.
	6,516,000 M. Ft. B.M.

The sustained yield capacity or average annual growth produced by this volume of timber is approximately 75,000 M. Ft. B.M. This amount of timber will permit the continuous operation of 3 sawmills having a capacity of 75 M. to 80 M. per day, or 6 sawmills having a capacity of 35 M. to 40 M. per day. In connection with the operation of these sawmills, 2 to 3 remanufacturing plants (depending on their capacities) could be operated continuously.

The total estimated amount of timber within Lake County is as follows:

National Forest	6,257,000 M. Ft. B.M.
State, county, other federal	750,000 M. Ft. B.M.
Private	4,000,000 M. Ft. B.M.
	11,007,000 M. Ft. B.M.

The sustained yield capacity or average annual growth produced for the entire county is approximately 126,500 M. Ft. B.M. This amount of timber will permit the continual operation of 5 sawmills having a capacity of 75 M. to 80 M. per day or 10 sawmills having a capacity of 35 M. to 40 M. per day. From 4 to 5

remanufacturing plants (depending on their capacities) could be operated continuously.

As mentioned previously, 10 sawmills have been operating in Lake County for the past three years. All of these mills have utilized timber from the Lakeview Working Circle. The annual cut within this area has been approximately 8.5 million feet more than the amount of timber produced. Considering the county as a whole the annual cut has been approximately 66 million feet less than the amount of timber produced. If cutting on a sustained yield basis is put into effect for all of Lake County the result should be a reduction in the number of sawmills and a corresponding reduction of employment within the Lakeview Working Circle; but for the county as a whole there may be a small increase in the number of mills, periods of operation should be lengthened and employment increased.

MARGINAL LANDS

We recommend that the government, through the Rural Resettlement Administration, proceed to purchase marginal lands in the Fort Rock area at the earliest date possible, in line with the program that has been developed by the Administration with the residents, settlers, and land owners of that district.

WATER AND POWER DEVELOPMENT

This committee believes that electric power and an increase in water development would add greatly to the advancement of agriculture and better living conditions in this county.

Electric power should be made available throughout the county wherever practical and feasible.

The water level in some of the producing sections is comparatively close to the surface and of ample supply, and with reasonable electric power rates for pumping, new lands could be put into profitable cultivation. Nearly every major stream has suitable dam sites for storing the spring run-off and conserving water now wasted, and it is a proven fact that reservoirs at the head of valleys tend to raise the water level in those valleys.

Respectfully submitted,
C. F. Snider, Chairman
Paul Carpenter, Secretary
F. S. Fisher
Milton Hammersley
Ernest Robnett
Fred Reynolds
J. J. Van Keulen
A. L. Travis
B. C. Robinson
Ermole Carlon

TABLE A.—LAND OWNERSHIP, LAKE COUNTY OREGON
Source of data: Forest Statistics and 1935 Census of Agriculture

	ACRES	Per Cent of County Area
*Total County Area	5,068,800	100
Privately owned land, total	1,390,793	27.4
Land in farms	729,810	14.4
Other private owned land	660,983	13.0
Public lands, total	3,678,007	72.6
State lands	134,115	2.6
**County lands	156,058	1.7
National forest	868,543	17.2
Other federal lands	2,591,549	51.1

*The total area for the county as determined by this survey does not always agree with hitherto accepted total area data.
**As of March 1, 1936, from land in farms and other.
Tabulated by the Oregon State Agricultural College Extension Service

TABLE B—1926-1930 AVERAGE CASH FARM INCOME, LAKE COUNTY
Tabulated by the Oregon State Agricultural College Extension Service

1926-1930 Average Cash Farm Income	$2,807,000.00
Per cent from sale of all crop products	9.6
Field Crops	9.6
Per cent from sale of all animal products	90.7
Poultry and eggs	2.9
Dairy Products	7.3
*Livestock and products	80.3
**Other animal products	.1

*Includes cattle and calves, sheep and lambs, hogs, wool, horses, mohair.
**Includes rabbits, fur animals, honey.

TABLE C—LAKE COUNTY, OREGON, AGRICULTURAL DEVELOPMENT

Census of	All Land in Farms Acres	All Land in Farms Per Cent	No. of Farms	Average Size of Farms, Acres	Improved Land in Farms Acres	Improved Land in Farms Per Cent	Improved Land in Farms Acres per farm
1880	....	....	....	....	....	....	....
1890	151,968	3.0	372	408.5	115,382	75.9	310.1
1900	249,288	4.9	397	627.9	95,824	38.4	241.3
1910	401,555	7.9	712	564.0	104,419	26.0	146.6
1920	526,218	10.4	549	958.5	183,396	34.9	334.0
1925	484,678	9.6	478	1,014.0	123,062	25.4	257.4
1930	749,788	14.8	495	1,546.0	133,310	17.8	274.8
1935	729,810	14.4	513	1,422.6	132,813	18.2	258.8

Note: Part of Lake County taken to form Klamath in 1882. Total area of county is 5,068,800 acres.

Source: U. S. Census of Agriculture, retabulated by O. S. C. Extension Service from "Statistics of Agricultural Development in Oregon."

TABLE D—TREND IN SIZE OF FARMS, LAKE COUNTY, OREGON

	Number of Farms	Per Cent of all Farms	Average Acres Per Farm (Total)	Average Acres Harvested Per Farm
All Farms				
1920	549	100	958.5	....
1925	478	100	1014.0	75.0
1930	485	100	1546.0	185.5
1935	513	100	1422.6	140.2
Under 3 Acres				
1920	6	1.1	2	....
1925	3	.6	1	....
1930	10	2.1	1.2	.2
1935	2	.4	1.0	....
3 to 9 Acres				
1920	2	.4	8.5	....
1925	1	.2	3	....
1930	5	1.0	6.6	4
1935	7	1.4	5.9	....
10 to 19 Acres				
1920	1	.2	10	....
1925	5	1.0	14.6	10
1930	7	1.4	11.8	6.9
1935	9	1.8	11.7	....

TABLE D—TREND IN SIZE OF FARMS, LAKE COUNTY, OREGON

	Number of Farms	Per Cent of all Farms	Average Acres Per Farm (Total)	Average Acres Harvested Per Farm
20 to 49 Acres				
1920	14	2.6	36.2	....
1925	10	2.1	35.4	14.4
1930	10	2.1	31.2	13
1935	21	4.1	33.7	....
50 to 99 Acres				
1920	29	5.3	75.8	....
1925	36	7.5	75.7	30.6
1930	32	6.6	76.7	41.1
1935	32	6.2	73.7	....
100 to 174 Acres				
1920	112	20.4	153.0	....
1925	87	18.2	151.4	48.2
1930	69	14.2	171.0	67.5
1935	71	13.8	148.7	....
175 to 259 Acres				
1920	39	7.1	216.9	....
1925	41	8.5	216.4	53.3
1930	34	7.0	217.8	103.8
1935	38	7.4	217.8	....
260 to 499 Acres				
1920	170	30.9	354.5	....
1925	99	20.7	360.0	64.3
1930	94	19.3	368.2	89.3
1935	98	19.1	367.0	....
500 to 999 Acres				
1920	85	15.5	714.5	....
1925	94	19.6	712.1	54.3
1930	78	16.1	711.1	124.3
1935	87	16.9	724.0	....
1000 to 4999 Acres				
1920	77	14.0	1982.4	....
1925	91	19.0	2169.9	121.2
1930	117	24.1	2130.6	210.3
1935	148	28.8	4113.5	....
5000 Acres and Over				
1920	14	2.6	16011.4	....
1925	11	2.3	14492.5	514.5
1930	29	6.0	12355.1	1295.3

Source of data: U. S. Census of 1920, 1925, and 1930.
Tabulated by Oregon State Agricultural College Extension Service.

TABLE E—VALUE OF FARM PRODUCTS SOLD, TRADED, OR USED BY OPERATOR'S FAMILY, 1929*. LAKE COUNTY, OREGON
Tabulated by the Oregon State Agricultural College Extension Service

	Total No. of farms reporting	VALUE OF PRODUCTS PER FARM											
		Under $600		$600-$1000		$1000-$1500		$1500-$2500		$2500-$4000		$4000 & Over	
		No. of farms	% of type	No. of farms	% of type	No. of farms	% of type	No. of farms	% of type	No. of farms	% of type	No. of farms	% of type
All Types	448	63	14	42	9.4	43	9.6	77	17.2	73	16.3	150	33.5
General farms	57	5	8.8	7	12.3	4	7	21	36.8	11	19.3	9	15.8
Cash-grain	19	4	21.1	2	10.5	2	10.5	4	21.1	6	31.6	1	5.3
Crop specialty	44	8	18.2	5	11.4	10	22.7	6	13.6	10	22.7	5	11.4
Fruit farms	....	....	....	....	....	....	....	....	....	....	....	....	....
Truck farms	....	....	....	....	....	....	....	....	....	....	....	....	....
Dairy farms	59	3	5.1	5	8.5	8	13.5	17	28.7	16	27.1	10	16.9
Animal specialty	50	4	8	7	14	6	12	12	24	6	12	15	30
Stock ranches	165	6	3.6	6	3.6	10	6.1	14	8.5	21	12.7	108	65.4
Poultry farms	6	1	16.7	1	16.7	1	16.7	1	16.7	2	33.3	....	....
Self-sufficing	9	7	77.8	2	22.2								
Abnormal farms	39	25	64.1	7	17.9			4(1)	10.3	1	2.6	2	5.1

*Includes crops sold or traded, livestock sold or traded, livestock products sold or traded, fruit products sold and farm products such as milk, meat, eggs, garden produce used by the farmers' family. It does **not include money** received for labor off the farm, receipts from boarders, lodgers, etc., pensions, or interest on notes, stocks or bonds, and does not record changes in farm, food or livestock inventories.
(1) $1,000-$2,500
Source of data—1930 census.

Sheep Committee Report

NATIONAL SITUATION

Production Outlook

In order to show the trend of sheep production in recent years a table is presented herewith showing the estimated number of breeding ewes, the percentage of lamb crop, and the number of lambs saved, for the years 1930 to 1936, separated between the native sheep states and the western sheep states.

	Breeding Ewes 1 yr. and over Jan. 1 (thousands)			Lambs Saved per 100 Ewes			Indicated Lamb Crop (thousands)		
	Native	Western	Total	Native	Western	Total	Native	Western	Total
1930	10,081	25,533	34,614	99.2	79.4	85.1	9,997	19,470	29,465
1931	10,509	26,005	36,514	100.3	81.1	86.6	10,537	21,078	31,615
1932	10,803	26,155	37,958	104.3	71.2	80.8	11,264	18,771	30,035
1933	10,837	26,195	37,032	104.1	70.6	80.4	11,286	18,497	29,783
1934	10,976	26,251	37,227	102.4	73.7	82.2	11,243	19,355	30,598
1935	11,019	24,650	35,669	104.9	70.4	81.0	11,559	17,348	28,907
1936	11,216	25,081	36,297	101.4	79.9	96.5	11,376	20,037	31,413

As indicated by this table, there was a moderate downward trend in ewe numbers in the western sheep states from 1932 to 1935, but most of the decrease in lamb production was caused by the smaller percentage lamb crop. This smaller percentage was a result partly of the financial situation in the industry, but the more important factor was the succession of years of deficient rainfall in the western sheep states, a deficiency which culminated in the disastrous drought of 1934.

Although the effects of the 1936 drought for the country as a whole may be almost as serious as those of the 1934 drought, the sheep industry will be much less affected this year than in 1934. Only a small part of the western sheep region is included in the drought area this year—the plains section of Montana, Wyoming, and South Dakota—while conditions over the rest of the regions are average or better. In 1934 nearly all of the region was in the severe drought area.

The trend of sheep numbers in the western states over the next few years will be determined to a considerable extent by the grazing policies to be followed by the Grazing Administration of the United States Department of the Interior in controlling grazing on the public domain. As a result of the amendment to the Taylor Act adopted at the last session of Congress, some 62,000,000 acres of additional

public domain were added to the area to be established in grazing districts, thereby bringing the total to 142,000,000 acres. The number of livestock to be grazed in these districts will be controlled in the interest of preventing range deterioration and encouraging range improvement. More than any other species of livestock, sheep in a number of western states are dependent upon the use of the public domain. Decreases in the number of animals permitted to graze on the public domain probably will be relatively greater with sheep than with other species. Permits for grazing on the national forests probably will be somewhat smaller than they were in 1936. Although some of the sheep that may be excluded from the domain as a result of the probable reductions required may be relocated elsewhere in the western area, it seems that these reductions will prevent any further expansion in the numbers of western sheep and probably, over the next few years, will cause some decrease in numbers.

The number of breeding ewes in the native sheep states increased moderately from 1930 to 1935 and the native lamb crop has reflected this increase. Although the shortage and high prices of feed may prevent any further increases in numbers in the native states in 1936, it is not expected that it will reduce the numbers in farm flocks. Such conditions, however, may reduce the number fed for market, as compared with a year earlier. If the Soil Conservation activities of the Agricultural Adjustment Administration result in a considerable shift in acreage from feed and food crops to hay and pastures in the Corn Belt states over the next few years, a continuing increase in sheep numbers and in lamb and wool production in the native sheep states seems likely.

In view of the probable changes in sheep numbers in the western and native states and the proportions of the total sheep poulation in the two areas, it is expected that sheep numbers in the entire country will decline somewhat in the next few years.

WOOL

Production and Stocks

Information now available indicates little change in world wool supplies; i.e., production plus carry-over for the year beginning July 1, 1936, compared with the preceding year. As yet very few estimates of wool production in the several important producing countries for 1936 are available, but those available indicate a probable slight increase in world production of wool compared with last year. This increase, however, will be offset by a decrease in stocks of wool at the end of 1935-1936 in nearly all countries.

THE SITUATION IN LAKE COUNTY

There has been a reduction in sheep numbers during the last few years. The drought of 1934 together with a succession of dry years has in a large measure been responsible for this reduction. At present the figures indicate a total of 159,953 sheep in the county, as compared with 197,000 during the drought year 1934.

The average lamb crop in Lake County is estimated to be around 65 per cent.

GENERAL RECOMMENDATIONS

The committee discussed the figures on livestock income for Lake County and stated that the average wool clip per sheep is about seven pounds and the average wight of lambs sold sixty-five pounds.

It was agreed by the Sheep committee that the wool growers of Lake County for the future should keep such numbers of sheep as will properly utilize their ranges and feed produced on commensurate property. No further reduction in sheep numbers was deemed necessary in order to comply with this condition.

In discussing the game situation it was believed by the sheepmen present that there has been a very rapid increase in the number of antelope, and that such increase was seriously depleting the grass on the ranges for livestock. In view of the fact that the government has now established a game refuge for antelope, it is recommended that the Game Commission be requested to establish an open season on antelope outside of said game refuge with an idea of reducing the number of these animals on the outside.

The committee discussed the matter of the proper type of ewes to run under Lake County conditions. Lake County in the past has been known as a source of supply of fine wool sheep and the sheepmen from Idaho, Wyoming, and Washington have been coming to Lake County and other central and southern Oregon counties to purchase their Rambouillet foundation stock. It was pointed out that some years back the old type wrinkled Rambouillet ewe was not considered suitable from the standpoint of producing lambs and wool and the sheepmen of Lake County had tended to practice cross breeding; i.e., using coarse-wool bucks on the Rambouillet ewes. The committee believes, however, that the smoother type of Rambouillet now available might be used in Lake County, and that it might be an advantage in breeding Rambouillets for the purpose of supplying the demand for fine wool lambs.

In view of the fact that coyotes are a source of heavy losses to sheep owners of Lake County and that the coyote numbers have been increasing rapidly during the last few years, it was believed that Lake County should support the Oregon Wool Growers Association and the National Wool Growers Association in a move to establish a federal bounty system. It is recognized that a bounty system in Oregon alone would not be satisfactory and until such time as a federal bounty system could be established it is believed desirable to support the government hunters in every possible way to make their work more effective in destroying these predators.

The matter of improving the ranges in Lake County for all types of livestock was discussed and it was believed that this was extremely important for the future welfare of the county. It is therefore recommended that the following practices be established with the idea of improving the grass on the range:

While a number of the sheepmen of Lake County are now practicing rotation grazing insofar as it is possible, they believe that this should be given very careful consideration by all sheepmen with an idea of improving the grazing land. By rotation grazing in this instance is meant keeping the livestock off certain portions

of the range long enough in the season to allow for the maturing of the grass so that it may re-establish itself.

It is the feeling of the sheepmen present that it is possible to bring about a considerable amount of improvement by seeding certain forage grass such as crested wheat, slender wheat, and smooth brome grass on dry lands. Members of the committee believe that it will be an excellent policy and that sheepmen will be repaid for their trouble if they attempt a seed bed for these grasses. Implements such as disc plows or similar tools of cultivation might be used to advantage in this seeding.

As a further means of improvement to the ranges it is recommended that the Division of Grazing and Forest Service be requested to initiate control of such pests of jackrabbits, kangeroo rats, and gophers in view of the fact that they are destroying a large amount of forage.

As a means of utilizing certain of the ranges on the public domain to better advantage it is recommended that a program be instituted to develop water on these dry lands. It is pointed out that many of these lands cannot be used to advantage at present because of the lack of stock water. These suggested water improvements were dams and reservoirs in the center of the old lake beds where water can be stored for stock.

As a further means of improving the carrying capacity of ranges in Lake County, particularly on the forest reserve, it was recommended that the Forest Service be petitioned to practice regulated burning, with the idea of removing underbrush; it is believed that such a practice would also remove much of the fire hazard. It is pointed out that many of the grazing lands have been greatly reduced in carrying capacity because of the encroachment of the underbrush.

It is recommended that the Sheep committee go on record as favoring consideration of the possibility of fattening some of the Lake County feeder lambs on the West Side. It was felt that this would be of mutual advantage both to the sheepmen and to those who grow feed in this area. It was felt that the market outlet in California was satisfactory for any lambs that might be fattened in Lake County.

In view of the long haul requiring a great deal of extra time in moving lambs from Lake County points to the California markets as compared with the time when there was connection with the Western Pacific, it is recommended that the conference go on record as favoring a movement to re-establish a connection with the Western Pacific at a point near Amedee, California. This would allow for a more direct haul and require no stops for feeding in transit in going to San Francisco.

It was recommended that a program be inaugurated in the county by the stockmen to secure properly fenced driveways through the agricultural sections in the county. At the present time poorly fenced driveways, or no fences at all, are a source of great expense to the stockmen in moving stock through such areas. In this connection it was further recommended by the Sheep committee that the county and state be requested to set aside state and county owned lands along such driveways as stop-over places in moving stock through.

The committee wishes to go on record as favoring an appropriation by the State legislature for the purpose of studying sheep diseases in the state, particularly such diseases as stiff lambs, convulsions, etc. It is recommended that this work be done by the Veterinary Department of Oregon State College.

Respectfully submitted,

John C. Flynn, Chairman
H. A. Lindgren, Secretary
Con Taylor
Robert L. Weir
J. W. O'Keeffe
R. M. Chandler
W. H. Leehmann
Earl Small
Jere O'Leary

Beef Cattle Committee Report

The committee on beef cattle devoted its attention primarily to questions relating to the Taylor Grazing Act, a balance between feed supply and numbers of livestock, more careful selection of breeding stock and the use of better bulls, the application of the 1936 Agricultural Conservation Program as it relates to range improvement, improved brand inspection both within the States of Oregon and Nevada, and the improvement of livestock shipping facilities at Lakeview and Bly as well as the reduction of rates to California markets.

A general opinion prevails among cattlemen that there is a shortage of cattle. The committee wishes to point out that the reason for the common opinion that the numbers of cattle are low at present is that drouth prevailed during 1934 and 1936 and that a relatively large number of cattle have been slaughtered because of the Bang's disease program. The number of cattle (all cattle, both beef and dairy) on farms and ranches in the United States on January 1, 1936, was 68,213,000. This compares with 70,435,000 in 1920 and 61,003,000 in 1930.

The present large numbers of cattle are even more startling when we consider that much of this increase in cattle is due to the increased numbr of breeding cows. In 1930 there were 9,104,000 beef cows and heifers two years old or over as compared with 10,912,000 on January 1, 1936.

In Lake County the trend in numbers of beef cattle has been upward since 1920. The 1920 census shows there were 38,655 beef cattle in the county, while on January 1, 1936, it is estimated there were 49,000.

The provisions of the Taylor Grazing Act were investigated thoroughly by the committee. It is recommended that the present provisions which permit the use of the public domain for seven months, at the producer's option, with the exception of the period January 15 to March 15, with five months off the public domain, be supported until experience proves that this practice is inadvisable.

The committee recommends that the Advisory Board for District No. 2 and the administrators of the Taylor Grazing Act use funds available from grazing fees first to eradicate poisonous plants, particularly larkspur and death camas, and second, to develop water supplies through construction of reservoirs for storage of stock water, and the drilling of wells in areas where reservoirs are not practical. Consideration should be given to the development of watering places north of Abert Lake and on other areas where now it is not possible to use range for lack of water.

It is evident that the policy of the Division of Grazing, Department of the Interior, which requires winter feeding of hay, is a sound policy. The committee wishes to point out that pursuance of this policy will require some beef outfits that have wintered on the public domain to purchase hay for winter feeding, which should tend to increase the demand for hay in the county.

Improved enforcement of the present brand inspection laws within the State of Oregon and better cooperative relationships with the State of Nevada, would tend to reduce livestock thievery and give proper protection to the beef cattle

operators of Lake County. At present Oregon cattlemen shipping from Nevada points have very little protection so far as brand inspection is concerned and are subjected because of lack of brand inspection in Nevada to increased losses through thievery resulting from the movement of cattle across the state line. To correct this situation the committee recommends that the General Chairman and the Secretary of this conference communicate with the Oregon Cattle and Horse Raisers Association, the State Wool Growers Association, the State Department of Agriculture, and Lake County's representative in the state legislature, in an effort to correct this situation and to request that the next session of the Oregon legislature memorialize the legislature of the State of Nevada to adopt a suitable and satisfactory brand inspection law that will tend to curb livestock thievery in the states involved. It is further recommended that the state police be commended for their efforts toward curbing livestock thievery through inspection of truck shipments of livestock and that the state police be urged to stop trucks transporting livestock in order to ascertain definitely that such carriers conform strictly to the provisions of the state brand inspection law. This recommendation should be conveyed by the General Chairman and Secretary of this conference to the State Director of Agriculture and the Commissioner of State Police.

While the Beef Cattle committee appreciates the fact that the quality of cattle in Lake County is very good at the present time, yet the more general use of good, carefully selected, purebred bulls will tend toward the further improvement of the quality of cattle in the county. We urge that particular attention be given to the careful selection of heifers that are added to the breeding herd and that cattlemen generally consider the spaying of heifers of inferior quality. The use of better bulls is only one step in the improvement of cattle and another important step is the culling out of cows that are not of good beef type and not good milkers.

It is fundamental that livestock numbers in Lake County be maintained at a balance with winter feed supply. Winter hay requirements, depending upon the particular ranch situation, vary from ¾ tons per head to 1¼ tons per head with an average for the county of about 1 ton. Depending upon moisture supply between 1920 and 1936 annual hay production has varied from 33,000 tons to 100,000 tons, with an average of approximately 66,000 tons. With a minimum requirement of 1 ton per animal unit—considered as 1 horse, 1 cow, or 5 sheep—it is evident that the numbers of livestock in the county, at present 49,000 cattle and 160,000 sheep, represent an approximate balance with the average hay supply. Any increase in the numbers of cattle, if the livestock industry is to be maintained on a sound basis, should mean a corresponding reduction in the number of sheep, or vice versa. The wide variation in hay production from year to year suggests that there is no better insurance to the beef cattle operator than to carry over a supply of hay from year to year such as will insure him against a short hay crop or a severe winter.

The average calf crop of Lake County, in the opinion of the committee, is about 65 per cent. An increase in this percentage would be one means of lowering the cost of production. The committee recommends a minimum of one bull to 25 cows. With the exception of cattlemen who can breed in fenced pastures for spring

calving, under average range conditions it was deemed advisable that year around calving was the means by which a maximum calf crop could be obtained.

The committee believes that the beef ranges of Lake County can be improved by rotation or deferred grazing so that native bunch grasses have a chance to mature and produce seed, resulting in natural reseeding and better stands. To facilitate this practice, division fences and more adequate stock water may be necessary. To aid in financing such range improvement practices, the committee urges that all beef producers give careful study to the provisions of the range improvement phase of the Agricultural Conservation Program now being offered the stockmen of the county. This program provides for benefit payments to stockmen who follow such range building practices as the development of springs and seeps, construction of reservoirs, drilling or digging of wells, construction of range fences, reseeding of depleted range lands, and gopher control.

The committee recommends that bronco grass, sometimes called cheat or wild brome, should be conserved, as it has proved a valuable feed in Lake County for early spring months and again in the fall.

Better livestock shipping facilities are recommended. The Southern Pacific Railway is to be commended for its prompt response to the request of stockmen in the vicinity of Lakeview and the Lake County Chamber of Commerce in improving the Lakeview yards. From the long range viewpoint, however, it would be helpful to the livestock industry as a whole, particularly to cattle producers, to have these yards removed from the industrial district. Large numbers of Lake County cattle and sheep are shipped from Bly. The location of the stockyards at Bly is too close to the mills and the cattlemen experience difficulty in loading cattle at that point. It is recommended that the General Chairman and Secretary of this conference communicate with the stockmen's organizations in Lake and Klamath counties, the chambers of commerce in Lakeview and Klamath Falls, in an effort to obtain a more suitable location for the yards at Bly.

Livestock shipments originating at Lakeview must unload at Sparks, Nevada, for feeding, in transit to San Francisco markets. There is need for improvement in this livestock shipping service. It is recommended that the General Chairman appoint a committee of livestock men, with the County Agent acting as secretary, to investigate the possibility of a shorter route to a market by the Southern Pacific to Flanigan and thence over Western Pacific to San Francisco. Such improved service might result in a reduction of rates, reduced shrinkage and reduced yardage and feeding costs to Lake County livestock shippers.

The committee recommends to the general conference that reciprocal trade agreements that lower protective tariffs on beef animals and beef products are detrimental to the interests of livestock producers and that the conference should go on record in favor of preserving the American market for American producers.

The Forest Service should take definite steps to clear up underbrush and accumulation and down timber in a number of areas to cut down on the fire hazard and increase the carrying capacity of livestock.

Cattle are not coming off the forest summer range in as good condition as they did ten years ago. There appears to be considerable feed on the sheep range

that sheep do not consume but that would be eaten by cattle. We therefore favor trading ranges for one year in certain areas where cattle and sheepmen agree, in order to try out such a system. Some possibility of alternating sheep and cattle ranges in some instances might also be tried.

Some cowmen might well consider leaving a hole in the stack yard to allow calves to slip through and eat hay, or the construction of a creep so calves could enter and eat hay.

Respectfully submitted,

Paul J. Brattain Sr., Chairman
Wm. L. Teutsch, Secretary
Vancil A. Withers
W. P. Vernon
C. D. Arthur
William Harvey
J. B. Elder
F. H. Williams
Sam Baty
W. B. Snider

Irrigation and Soil Conservation Committee Report

The agriculture of Lake County is founded on the production from an area of over 3,000,000 acres of range lands and approximately 100,000 acres of crop land. The Soils committee wishes to emphasize the fact that a permanent agricultural program is dependent upon maintaining the production of the soils in these areas and that any major expansion is dependent upon the improvement in production of these soils. Your committee has considered this problem under the headings irrigation, soil fertility, drainage, and erosion.

IRRIGATION

Because of the arid climate, crop production, with minor exceptions, is dependent upon irrigation. At the present time the direct flow of all of the streams in the county is utilized. Any expansion of irrigated acreage is dependent upon increased storge facilities or in some localities upon pumping from wells.

The Soils committee recommends that a study be made of possible reservoir sites, and that those that may be constructed on an economical basis be built, in order to furnish a uniform supply of irrigation water throughout the season. The committee believes that there is some possibility of expanding the irrigated acreage by pumping from wells in the Goose Lake Valley, and recommends that a careful study be made of this possibility.

The farmers obtaining water from the Goose Lake Valley Irrigation Company have the opportunity of purchasing the irrigation system for $75,000.00. The committee feels that this purchase should be made to insure a continuous water supply. Some type of organization is necessary to complete this purchase. Organization under the Oregon irrigation district law is impossible because the land does not lie in a contiguous body, but it would be possible to organize as a Mutual Improvement district.

After careful consideration of all the factors involved, your committee recommends that the following procedure be followed to put the Goose Lake Valley Irrigation District on a sound operating basis:

1. Immediate steps should be taken to form a Mutual Improvement District.
2. The district should apply to the United States Reclamation Service asking that this service take over the present system contracting with the district for the repayment of the cost of the project and cost of necessary improvements. The Reclamation Service should operate the system until such time as complete payment is made by the district.
3. Should the district fail in obtaining aid from the Reclamation Service, an attempt should be made to secure the necessary funds as a loan from the Reconstruction Finance Corporation.

Complete reorganization of the Summer Lake Irrigation District should be effected. There is a debt of $232,000.00 against a possible irrigated area of 1800

acres. The Silver Lake Irrigation District has an outstanding debt of $525,000.00 against an irrigable area of 7,000 acres, of which only 600 acres were irrigated in 1934. Your committee recommends that steps be taken to refinance these districts on a basis that would allow the farmers to clear up these debts. The committee believes that the bond-holders and other creditors should write down the indebtedness to a point where the total indebtedness would not exceed $30.00 per acre.

There is a possibility of increasing the area of land under irrigation in the Fort Rock Valley by pumping from wells. We recommend that future expansion be made only with due caution. Any individual attempting to start an irrigated farm in that section should have capital enough to buy an economical farming unit, drill a good well, and purchase an efficient pumping plant.

On many farms better use of irrigation water could be made through the improvement of irrigation methods. On level or gently sloping land the strip border system of irrigation would mean more effective irrigation with less waste water. Narrow strips 20 to 30 feet wide are recommended. Flooding from field ditches as generally practiced is a good system of irrigation where properly handled. The ditches should be carefully laid out on the contour. Enough ditches should be used to permit picking up waste water, reusing it in the next lower ditch, without excessive loss from seepage. On steep land the corrugation method of irrigation is recommended. Care should be taken where irrigating to apply only water enough to saturate the soil only to a depth penetrated by the roots of the irrigated crop. Excess water beyond this point is harmful to the plants, causing a loss of plant food by leaching and a possible accumulation of alkali. In many instances excess irrigation may cause the water table to rise to a point where roots are actually destroyed.

Farmers, especially newcomers, are urged to make use of the service offered by the County Agent's office when preparing new fields for irrigation or before installing farm irrigation systems. This engineering assistance is needed to design a proper system of ditches and to work out the most practical method of irrigation.

SOIL FERTILITY

It is an obvious fact that Lake County farmers cannot maintain crop yield forever without providing some means of maintaining soil fertility. The present soil fertility should be maintained insofar as possible. Your committee offers the following suggestion for maintaining soil fertility:

1. Rotate annual crops such as grain and potatoes with legume crops such as clover, alfalfa, or pasture.
2. Harvest not more than three annual crops without returning the land to clover, alfalfa, or pasture.
3. Return all barnyard manure to the land. The use of a manure spreader is recommended. Greater returns per ton of manure will result if applications do not exceed fifteen tons per acre.
4. Over irrigation should be avoided to prevent loss of plant food by leaching.
5. The practice of rotating stock yards and feed lots is recommended to

allow more land to receive the benefit of the manure which might otherwise be wasted.

The Soils committee wishes to point out that, even with the best possible program of conservation of fertility, eventually the addition of mineral fertilizers will be necessary to maintain yields. We recommend the general use of sulphur on alfalfa and clover, since it generally returns profitable increases in yield.

Realizing that other fertilizers will eventually be necessary, the committee recommends that the County Agent's office continue to conduct fertilizer trials on irrigated farms in the Goose Lake Valley. We also suggest that similar trials be placed on wild meadow hay lands.

DRAINAGE

The Soils committee feels that drainage is largely an individual problem. The production of many farms could be greatly improved by draining wet areas. On sloping land intercepting drains to cut off the seepage water may often be used to advantage. Your committee recommends that individuals make use of services available through the County Agent's office in working out the solution to drainage problems.

It is the belief of the committee that drainage trouble may often be avoided by careful irrigation.

EROSION

Loss of soil by wind and water erosion has been quite serious especially on the grazing land in Lake County. Many small deep gullies have been washed out, causing a lowering of the water table which causes a reduction of grazing capacity because of decreased moisture supply. According to a preliminary erosion survey made by the Soil Conservation Service of Lake County, 80 per cent of the range land has suffered some loss of soil by wind or water erosion. This loss is especially serious since the soil on most of the range land is very shallow. This erosion has been aggravated through the loss of natural grass cover because of drought, overgrazing, or both.

The Soil Conservation makes the following recommendation regarding erosion control:

1. Livestock operators should adopt grazing practices that permit the growth of an adequate cover to prevent soil loss.
2. Check dams should be constructed in many gullies to raise the water table and cause silt deposits to fill up the gullies.
3. Timber harvest should be placed on the basis of sustained yield in order to assure watershed protection, prevent erosion, and assure a uniform water supply.
4. On irrigated land care should be taken to provide adequate structure to

prevent the washing of soil in the ditches. Irrigation methods should be followed that prevent washing of soil by irrigation water.

Respectfully submitted,

Stanley R. Hanson, Chairman
Art King, Secretary
E. E. Bond
C. H. Buck
Hubert E. Koons
C. W. Ogle
E. G. Favell
W. H. Leehmann
Les Elder
Jimi Ozamis
Chas. Jamieson

Farm Crops Committee Report

HAY

A. The Situation.

1. Hay occupies 90 per cent of cropped area.

According to the 1935 census, there are 71,936 acres of cropped land in the county; of this, hay occupied 65,253 or a total of 90 per cent.

2. Wild Hay Leads.

Wild hay occupies 71 per cent of the hay acreage, as shown by the following tabulation, using the 1934 census figures.

Kind of Hay	Acres
Alfalfa	6,337
Timothy and clover	687
Small Grain	13,380
Wild	46,628

3. Yields per acre are low.

The average yield of all varieties of hay in the county is approximately one ton per acre. In good years it exceeds one ton slightly, and in poor years falls below one ton.

4. Balance between livestock and hay.

Lake County has a delicate balance between livestock and hay supplies. In good years hay is carried over. A succeeding poor year, sooner or later results in the using of all of the reserve supply. When two or three poor years occur in succession, feed is shipped in and occasionally some livestock must be moved out.

5. Possibilities of increasing hay supplies.

The main possibilities seem to be:

a. Substitution of alfalfa for some of the wild hay acreage.
b. More levelling to provide better use of water.
c. Use of early spring flood water in miscellaneous locations.
d. Improvement of wild meadows.
e. Greater alfalfa acreage on the irrigated project.

6. No outside market exists for surplus hay.

If the hay supply should ever outstrip livestock numbers, there is no place to dispose of the surplus in a normal year. While every livestock man agrees that he should carry over at least one-half of his hay crop into the following year as a reserve, it is apparent that farmers on irrigated land cannot be expected to carry over hay supplies for the benefit of someone else.

7. Cost of production.

On the large wild-hay meadows it is likely that costs of hay are as low as

they are any place in the west. Costs of alfalfa hay production in the state as a whole average about $7.00 per ton. In Lake County it is likely that costs are slightly under this figure, because of lower land values. Costs in any case depend largely on yield per acre, the farms with the low yields uniformly having the highest costs.

B. Recommendations

1. Alfalfa expansion recommended.

At least a 25 per cent increase in alfalfa acreage is recommended. By rearranging irrigation to avoid flooding, some land in wild hay could be put in alfalfa, if owners feel there is an advantage to be gained.

2. Ladak and Grimm only should be planted.

Ladak alfalfa should be substituted for other kinds in all the regions short of water and for all dry-land plantings. It will stand more cold and stand late spring frosts better. It does not tend to die in drought years. It is longer lived than other kinds and is resistant to alfalfa wilt and some other diseases.

Grimm alfalfa should be used wherever Ladak is not, because alfalfa winter killing occurs in one year out of every five or six, and the Grimm is more resistant to winter killing than most strains of common alfalfa. Seed cost of certified Grimm is usually about one dollar per acre above common, and at present the seed cost of Ladak is about $1.00 per acre above Grimm. The cost of plowing up and reestablishing a stand of common, which winter kills, is six or seven dollars per acre. For one dollar, a man can thus avoid the necessity of spending six or seven dollars later.

3. On irrigated farms alfalfa should be grown only in rotation.

Part of the value of alfalfa lies in its soil-enriching habits. To take advantage of this, it should be rotated with potatoes, grains, or seed crops.

4. Production of alfalfa for sale is not usually profitable.

The committee recommends that farms on the project growing alfalfa should aim to feed the alfalfa on the farms. Members of the committee find that no irrigation farmers has ever made money by growing large amounts of alfalfa for sale off the place.

5. Alfalfa recommended for hog pasture.

Every hog raiser should have an alfalfa pasture.

6. Flooding wild meadows sometimes damages them.

Some of the wild meadows are low yielding, due to damage by overflooding in seasons when water is plentiful. Overirrigation kills the good, more palatable grasses, and their place is taken by sedges, rushes, and other types of water grasses that are both less palatable and less nutritious.

PASTURES AND RANGES

A. The Situation

1. Grass is the greatest resource of the county.

Nearly 98 per cent of the land area of the county is devoted to grass, and this produces directly at least 60 per cent of the cash income of the county. Stock are on grass somewhere in the county every month of the year in most seasons. The more of the weight of the animal which can be put on by grass, the better of the stockowner is.

2. Classification of ranges.

Slightly over 50 per cent of the county is public domain and another 17 per cent is national forest, practically all of which is used for grazing. About 30 per cent of the land area is in privately owned range.

3. Condition of range.

Much of the public domain is almost barren of the best range grasses. Some of the privately owned range is in excellent condition, and that within the national forest is in fair shape. The wise use of the grass will determine to a large extent the amount of the income in the county in future years.

B. Recommendations

1. Mixed grasses for irrigated pastures.

In most cases introduced grasses on irrigated land will give greater returns than native grasses. The mixtures used should depend upon water supply. The committee advises consulting with the county agent before seeding.

2. Crested wheat grass for dry land.

It is recommended that crested wheat grass be seeded on lands plowed at one time but now abandoned for crops. Those intending any range reseeding should use crested wheat grass. Stockmen intending to use seed in quantity are urged to plant a few acres of this grass in a good location, putting it in rows for seed production. In this way, the cash expense of seed can be partly avoided.

On ranges ovverrun by bronco grass, where plowing is impossible, often the only practical method of starting crested wheat grass, is to seed in contour furrows.

In cases of burned-over forest land, it is fairly simple to get a start by seeding in ashes in the late fall.

3. Range management.

We urge livestock to take advantage of A. A. A. benefit payments by developing springs, building drift fences, providing wells, etc. These measures will result in spreading livestock on the range, thereby giving the grass a better chance. No dry land grass of the bunch grass type will live very long if eaten down constantly. It must have a chance to grow to its full height occasionally, in order to replenish the root system. Each clump of bunch grass has a root system normally extending many feet in each direction. This huge root system cannot exist without top growth every other year or at the worst every third year. If the top growth is kept down, the roots will die.

POTATOES

A. The Situation

1. Acreage low and production small.

The potato acreage varies from 80 to 175 acres. Production is commonly only nine to ten thousand bushels. In most years, the county imports part of its potatoes.

2. Good growers secure good yields.

Committee members report as high as 200 sacks of salable potatoes per acre, with an average from all irrigated fields of about 100 sacks.

3. Land is available for expansion.

The committee estimates that there are 3000 acres of sandy loam irrigated lands on which potatoes might be the principal cash crop. In this case, for low cost production and high quality, they must be grown in conjunction with clover, alfalfa, and grain, thus insuring a good rotation and the maintenance of soil fertility.

4. Cost of production and prices.

The average price of potatoes in the San Francisco markets over a long period of years is about $1.40 per hundred for Number Ones. Including payment for the farmer's time, interest on investment in land, up-keep of equipment, taxes, the cost of a 200 sack yield is approximately $100.00 per acre. The cost of a 100 sack-yield is about $75.00 per acre.

5. Lack of certain water supplies has curtailed acreage.

In past years growers have started to produce potatoes systematically once or twice, only to be halted by one or more years of insufficient water. No one should engage in quantity production of potatoes in a year of low irrigation water.

6. Freight rates not prohibitive.

With a freight rate of 35 cents per hundred to San Francisco, (only 2½ cents more than the Klamath Falls rate) our shipping costs are less than those of many principal producing areas. The rate to Los Angeles is 53 cents, to Portland, 41½ cents, to Sacramento, 35 cents, and to Denver 75 cents. We thus have the advantage of Idaho, Deschutes, Yakima, Colorado, and the Willamette Valley in shipping to California.

B. Recommendations.

1. An acreage increase recommended.

We recommend an increase of acreage up to about 700 or 800 acres. These should be grown only in rotation with clover and grain or with alfalfa.

2. In-and-outers warned.

We urge that no one grow systematically for outside shipment unless he plans to grow ten acres or more each year. The man who jumps in because others have profited, almost invariably gets into the game in time to produce low-priced potatoes, and gets out of it just in time to miss good prices. If one starts to grow potatoes at all, the only reason for stopping in any year should be the prospect of inadequate water.

3. Cultural practices recommended.

We recommend:

a. Large sized seed pieces in order to avoid damage from spring freezes.

b. The use of good seed. If seed is to be bought outside the county, only certified seed should be obtained.

c. Single drop seed (whole potatoes) weighing two to four ounces, should be used only if they come from fields known to be comparatively free of disease. If from fine seed stock, the whole seed is superior.

d. Potatoes should be grown only after clover or alfalfa.

e. They should be planted by May 15.

f. If frost threatens immediately after the potatoes have emerged, they should be covered up by using a cultivator equipped with disks or with wide shovels which will throw the dirt over the newly emerged potatoes.

g. Irrigation should begin long before most inexperienced growers start. From the time of beginning watering, the soil beneath the plants should be kept moist all the time.

h. Eel worms or nematodes must be avoided, and if they appear in a potato field, the field should be summer fallowed dry, taking care to keep all weeds off completely.

i. Seed should be treated, preferably with corrosive sublimate.

j. Only netted gems should be used except for local markets.

k. Digger injury should be avoided by running the digger deep and handling the crop carefully afterward.

l. Farmers can construct storage houses cheaply by cutting poles and uprights, but even if all materials are bought, the cost may be less for a good cellar than the losses incurred in one year's time by poor storage.

m. The entire success of the Klamath deal has been built up by paying attention to the production and marketing of a high-class product. If an industry develops here, it can only succeed by working on the same basis.

A community interest should be developed among the growers, so that everyone will take pride in sending his Lake County potatoes to market. The best California trade takes high quality stuff only. In doing the sorting, the grade should always be considerably better than strict market requirements for that grade.

GRAINS

A. The Situation.

1. Only small amounts of grains are produced in Lake County.

The 1934 census reports grains as follows:

Kind of Grain	Acres
Wheat	2,764
Rye	1,588
Barley	1,513
Oats	381

2. Shipping costs for grain are high.

The rate on grain from Lakeview to San Francisco is 39 cents per hundred and from Lakeview to Portland, 34 cents per hundred. The average long-time price of grains in terminal markets is only slightly over $1.00 per hundred. The freight on grain thus takes more than one third of the terminal selling price. In years of low prices, freight rates do not change downward with selling prices, so that in seasons of abnormally low prices the freight may amount to 50 per cent or more of the price received.

3. Corn occasionally shipped in.

On the average, sheepmen have imported as much as 5 carloads of corn for winter feeding. Experiences of many of the men, some of whom served on this committee, indicate that locally grown barley gives just as good results as imported corn. The only disadvantage with barley is that it must be fed on troughs; but these can be made inexpensively from two-by-fours.

B. Recommendations.

1. Grain should be fed within the county.

There are two outlets for the grain produced here:

a. For feeding to dairy cows, hogs, and poultry.

b. For feeding to range livestock, particularly sheep.

Committee members testified that 450 to 500 pounds of grain fed with skim milk or with skim milk and alfalfa, produced as much pork as 700 pounds of grain fed alone.

2. Milling wheats recommended for dry land.

For dry land, lower yields are compensated for by lower costs, and they can be still further compensated for by growing varieties that usually carry milling premiums. The Oro strain of Turkey Red is high yielding, very smut resistant, and of good milling quality. For spring seeding on dry land, Hard Federation is recommended.

3. Light seeding for dry land winter wheat.

We urge that winter wheat on summer fallow be seeded at 45 pounds per acre. This light seeding results in allowing more moisture for each individual plant, and therefore reduces frost damage and delays maturity, thus helping to avoid late spring frosts.

4. Varieties recommended.

No better wheat for irrigated land exists than Federation. Victory and Markton oats are still standard. Trebi is the highest yielding barley (Hannchen is heavier and is liked better by feeders). Hannchen has an additional merit in that if thrashed so as not to break the kernels, it can be sold in some years at a wide premium for brewing. Atlas barley is a good brewing barley. Union beardless barley is the best of the beardless barleys for hay.

SMALL SEEDS

A. The Situation

1. Lake County growers have had experience in producing seed crops.

Seeds which have been produced here include alfalfa, red clover, alsike clover, white clover, brome grass, crested wheat grass, and timothy. All of those who have produced seeds, agree that seed production is one of the best paying branches of farming tried locally. Years with inadequate water supplies have interfered with seed production in the past. Returns from seed production have varied all the way from $10.00 per acre up to $100.00 with an average of perhaps $30.00.

2. Lake County has natural advantages in seed production.

The advantages of the county are as follows:

a. Seed yields here are from two to five times as high as average yields throughout the United States.

b. The combination of cold nights and warm cloudless days days during the summer gives seeds a plumpness and lustre unknown in most seed-producing areas. Seeds here, therefore, tend to outsell those from other places, so that the quality compensates for freight rates.

c. High seed yields and lower land values and taxes result in lower production costs than in most places.

d. Freight rates east from Lake County average $1.70 per hundred on seeds. This is only 10 to 15 per cent of the value of seed crops. Contrasted to this, freight rates on grain absorb from 30 to 50 per cent of the value of the crop.

e. Seed crops do not deteriorate quickly with age. They can be kept readily until the following year if prices are unsatisfactory in any certain year.

f. With most seeds, there are valuable by-products, such as pasture, hay, or straw, or low grade seed suitable for range seeding.

3. Average prices of seeds.

The average long-time prices of some of the seeds are as follows: (These are prices paid to growers) alfalfa common 14 cents, alfalfa Grimm 25 cents, red clover 18 cents, alsike clover 14 cents, sweet clover 5 cents, white clover 30 cents, Ladino clover 50 cents, timothy 5 cents, red top 10 cents, orchard grass 15 cents, meadow fescue 10 cents, chewing fescue 25 cents. There is no way of knowing what prices will rule in the future, but if the above average prices hold true, indications are that these seed crops as a group will return more to Lake County farmers than grain can be expected to return.

B. Recommendations

1. Additional alfalfa seed recommended.

While alfalfa does not give as consistent yields as red clover, it is a very profitable crop under favorable conditions. Land with an evenly distributed supply of sub-surface moisture from three to eight feet below the surface seldom fails to give good yields. Most Lake County alfalfa seed produced in the past has sold at a low price, because it has been non-certified seed. Certified Ladak or Grimm seed should be planted even for hay production and necessary records should be kept to safeguard the grower if he wishes to produce seed in the future. Such records are simple and cost nothing but insure top prices in the event of later

seed production. Often the alfalfa seed yields are better on old stands; and the thin stands should be worked up, and a light seeding of barley made on them in the spring. (Wheat should not be used for this purpose, because the grain cracks and is then inseparable from the alfalfa seed.)

Ladak seed at present sells for about 15 cents per pound higher than Grimm.

2. Alsike clover recommended.

Alsike fits our conditions better than any other of the clovers. It makes better yields, suffers less insect and disease damage, and has fewer losses from frost. If one set of bloom is lost from frost, another comes on and makes seed.

3. Red clover averages higher in price but lower in yield.

Lake county growers have produced more red clover seed than other kinds of seeds except alfalfa. It is a better soil builder than alsike and will make more hay if not used for seed. Fields are usually clipped about the middle of June, or pastured until this time, thus giving as a by-product some pasture or a very light hay crop. Red clover does not make as much seed per acre as alsike clover, which ordinarily yields nearly twice as much.

4. Ladino clover not recommended.

The market for Ladino clover is extremely limited; it occasionally winter kills in this climate, and the seed mixes easily with alsike and cannot be separated.

5. Bees help clover.

Surveys made in other states indicate that bees close to an alsike clover field often double the seed yield per acre.

6. Grass is recommended.

Nearly any of the grasses produce seed readily here, but the committee believes the following to offer the most promise, brome grass, meadow fescue, chewing fescue, crested wheat grass, orchard grass, and tall meadow oat grass. Grasses for seed production should be planted in rows three feet apart. On irrigated land yield may be expected to vary from 200 pounds to as high as 900 pounds depending on the variety and the year.

The new range program is apt to have some stimulating effect on grass sales as will also the Agricultural Conservation Program if extended. Returns from grass seed may be expected to run from $25.00 to $75.00 an acre.

The cost of production of grass seed after the first year is ordinarily less than with grain, because the above grasses will produce seed for several years thus avoiding the annual plowing and seeding expenses.

6. Austrian winter peas and other pea varieties.

While peas of all kinds yield well here, the market for Austrian winter peas is somewhat limited and the growing of other pea varieties is dependent upon contracts with the large seed companies. Peas are an annual crop with a higher cost per acre than the common grasses and clovers, and net returns will probably average lower; therefore we do not recommend peas unless unusually favorable contract prices are available. These prices should be 3 cents per pound or higher to insure a profit comparable with clover or grass.

7. Profitable seed growing depends upon pure seed.

Only the best seed and that freest from weeds should be planted. We urge growers to avoid those sellers of seeds advertising seed at less than the market price. For example, if the wholesale price on alfalfa seed is 20 cents per pound and a grower advertises to sell seed for 10 cents, it is obvious that he would not be resorting to this method if he could sell in large lots to wholesale seed companies for more money. Such seed is invariably low in purity or germination, and very frequently contains weeds such as white top, Russian Knappweed, or Canadian Thistle.

8. Native grasses and clovers recommended.

Numerous range livestock men of this and other counties wish every year to buy seed of the native wild meadow clovers or grasses. No one in the United States is producing such seed, and we call this to the attention of the progressive Lake County farmers.

WEEDS

A. The Situation

1. Lake County is not infested with weeds.

We are at the stage where money and labor judiciously expended may prevent serious losses resulting from spread of weeds.

There are between 8 and 9 acres of Canadian Thistle which is scattered over about 150 acres of land. This is being controlled and eradicated by the application of sodium chlorate, the costs being paid out of appropriations by the County Court. This is a very satisfactory way of controlling thistle. Small patches of thistle or other root spreaders may be killed by smothering, if the job is thoroughly done.

B. Recommendations

1. Morning-glory infested land should be kept in permanent pasture or alfalfa.

This prevents roots being dragged to other parts of the field. Morning-glory is a palatable feed when pastured but the yield is very low.

2. Death weed and wild oats are eradicated by heavy stands of alfalfa.

This is cut for hay. Some small patches of Russian Knappweed are being poisoned.

3. White top should be eradicated.

It covers only about 3 square rods in the county but is the most serious of all weeds in many irrigated counties.

4. We commend the educational work being carried on in granges and other organizations of the county.

This work should be continued until every farmer is familiar with all of our noxious weeds and the means of eradication.

5. **We commend the County Court for their manifest interest in weed eradication and urge their continued support.**

Respectfully submitted,
Roy Perry, Chairman
E. R. Jackman, Secretary
George Stockburger
N. K. Lantsberger
Sam Olmstead
Wm. Pfrang
P. W. Hotchkiss
Ralph Powell
H. E. Shults
Chas. Abramson.

Dairy, Hog and Poultry Committee Report

GENERAL DAIRY CONDITIONS

The number of dairy cows of milking age in the United States, as shown by the census, has increased steadily since 1890, and there have been a number of changes between the last few census periods. From 1928 until 1934 the number of cows of milking age on farms in the United States increased about 3 per cent per year, reaching an all-time peak of an estimated 27,059,000 early in 1934. During that period pastures and feeding conditions were below normal in all or parts of the majority of the dairy states of the nation, so that production increased only 1 per cent per year. The 1934 drought started a decline in cattle numbers, which brought them down to an estimated 25,622,000 on January 1, 1936.

The following table shows the number of dairy cows by census periods in the United States in the eleven western states, the State of Oregon, and Lake County:

NUMBER OF MILK COWS ON HAND

Year	United States ooo	Eleven Western States ooo	Oregon ooo	Lake County
1890	16,512 (1)	721 (1)	114 (1)	1751
1900	17,136 (1)	867 (1)	109 (1)	1529
1910	20,625 (2)	1,341 (2)	152 (2)	1733
1920	21,455 (3) (4)	1,541 (3)	200 (3)	1675
1925	22,575 (3) (4)	1,623 (3)	217 (3)	1123
1930	23,106 (3) (4)	1,814 (2)	222 (3)	2687
1935	26,236 (3) (4)	2,264 (3) (4)	270 (3)	2667

(1) June 1
(2) April 15
(3) January 1
(4) Estimates by B.A.E.
Source: (of U. S. and 11 Western States) U. S. Census Reports.

The eleven western states have for a number of years had about the same per cent of human population as they have had numbers of dairy cattle and there has been little net movement of butter between the Pacific Slope and the East. The State of Oregon produces a surplus of cheese and butter which is largely marketed in California. Any increase in dairy production of the State should be made with a view of producing high quality butter for that market rather than increasing cheese production.

During the past sixteen years for which records are available there has been a very close relationship between the price of manufactured dairy products and the industrial payrolls of the nation. If consumers' buying powers should in-

crease, as indicated by industrial payrolls, the demand for dairy products should make further improvement, while if industrial payrolls decrease, the demand for dairy products would probably fall off and prices decline.

Oregon has about 1 per cent of the cows of the nation and Lake County has about 1 per cent of the number of cows in Oregon so that any change made locally would have little effect upon the general dairy situation.

According to figures gathered by the committee 282,000 pounds of butter fat was sold in the county during 1935. Of this total, 229,000 pounds was sold to creameries located in the county and a little over 52,000 pounds was shipped out of the county, most of which was shipped to California markets. It was estimated by the committee that 250 gallons of whole milk per day is marketed in Lakeview and nearby camps. There is no surplus of market milk produced in the county at the present time. Surplus butter is shipped to California markets and prices to Lake County dairymen are generally in line with outside butter markets.

RECOMMENDATIONS

1. The committee believes that dairying is a sound enterprise in the county where adequate feed and pasture are available. There is no exception however to the necessity for observing sound principles of dairy management, if the enterprise is to be successful on the individual farm. The profitableness of the enterprise depends upon a low cost of production, which, in turn, depends upon healthy cows, high production per cow, cheap feed, and good dairy management.

It is the opinion of the committee that with the present feed resources in the county there is little room for expansion in the dairy enterprise except as additional forage and pasture are obtained, either by increased acreage or increased yields or carrying capacity per acre.

2. It is the belief of the committee that dairymen should plan for feed requirements with a view of feeding hay seven months of the year and using a minimum requirement of three tons of hay for each mature animal per year.

3. The breed of dairy cows kept depends upon the individual likes of the operator. The majority of dairy cows in the county at present are Jersey, Guernsey, and Milking Shorthorns. It is not practical to cross breed or use beef bulls on dairy breeds unless replacements are purchased. The committee believes that as much attention should be paid to the selection of bulls of good milk-producing ancestry by those who engage in the dairy business in Lake County as is paid in the selection of good bulls in the more developed dairying sections. Only purebred bulls of high producing ancestry should be used.

4. For some years a mail order testing association was conducted in the county but was not supported enough to justify its continuance. It is recognized that no one can successfully engage in the dairy business without paying attention to the relative producing ability of the different cows in the herd. Next to continued testing, the best method of doing this is weighing and keeping a record of milk from each cow daily or at least monthly. It is urged that all dairymen provide themselves with a set of milk scales and keep records of the milk production of all cows in the herd. This will also give a basis for feeding according to production

and getting more efficient production out of the individual cows in the herd.

5. Putting on the market high quality dairy products is becoming regularly more important. High quality butter not only means more money for the producer but larger consumption of butter by the consumer. It is the responsibility of the producer to sell to the manufacturer only the highest quality dairy products. but it is the responsibility of the manufacturer to pay for these products on the basis of quality, so that the dairymen producing high quality cream will be paid for the extra care and trouble involved. We recommend grading of cream and the paying for cream on grade.

6. Lake County is a modified accredited tuberculosis-free area and testing should be continued to keep this rating. Excellent progress has been made also in eliminating Bang's disease from the county's dairy herds and testing should be continued with a view of entirely eliminating this disease.

POULTRY

The production of eggs in Lake County is not sufficient for local consumption, except during the spring. There is little room however for expansion of egg production without putting the county on an export marketing basis. At the present time egg prices tend to be the San Francisco prices plus the freight, but if production were expanded to more than the local needs they would become the San Francisco prices less freight and commission.

Most of the poultry kept in the county are White Leghorns and are shipped in from outside hatcheries.

Feeds and supplies are usually higher in the county than in intensified poultry districts where competition is keener and cooperative buying is practiced. Freight rates are unfavorable for shipping in feeds and shipping out eggs.

RECOMMENDATIONS

1. For Lake County farms desiring small home table flocks, from which eggs do not enter trade channels, it is recommended that only flocks of two or three dozen hens be kept.

2. For the farm which plans a sideline cash income from poultry, and from which eggs will go into trade channels, it is recommended that a flock of not less than 400 to 500 hens be the objective.

3. A farm which expects to derive its major source of income from poultry should develop a flock of approximately 1500 to 2000, as a one-man unit. When additional family help is available, the unit may be increased accordingly. It is recommended further that a beginner, having no experience in the industry, start on a moderate scale and build his business up to the standards mentioned, rather than start with a unit in advance of experience and capital.

4. For a well-rounded specialized poultry farm program operated under natural conditions of ranging young stock, an acreage of 10 to 20 acres is recommended. Where artificial confinement throughout is practiced, less acreage is

needed. Rearing under artificial confinement is successful for the few but not for all.

5. It is recommended that from 50 to 60 per cent of the laying flocks be replaced each year with pullets.

6. In purchasing day-old chicks caution should be observed. They should be from pullorum-free parent stock when possible, or from accurately blood-tested parent stock with all reactors removed.

7. Chicks under average conditions and equipment should all be purchased at one time. March, April, and early May are the three months in which the majority of chicks are purchased.

8. Green feed should be provided throughout the growing period and fed liberally until the pullets are in production. Alfalfa is the main green feed crop, with carrots supplying winter succulence.

9. More capital is required to develop a safe poultry enterprise than the amateur anticipates. Exclusive of land and the home, it will require a first year investment of approximately $2.50 to $3.00 per pullet before the flock starts production. This expenditure when prorated will include cost of brooder, fuel, litter, cost of chicks, mortality losses, houses and equipment. The laying house is used as a brooder house the first year.

TURKEYS

It is estimated that 600 to 700 turkeys per year have been raised in the county. At the present time this is not a commercial enterprise and should not be developed as a commercial enterprise except after a thorough survey has been made of the desirability of making this development. The possibility of using turkeys as a method of grasshopper control should be checked by the County Agricultural Agent.

HOGS

According to a survey made by the committee about 1620 hogs are purchased annually by Lakeview killers. A small quantity of fresh pork cuts is shipped in and about 28,000 pounds of cured pork is brought into the county each year. Some hogs are shipped out by truck to Klamath Falls and Susanville by growers and stock buyers.

RECOMMENDATIONS

1. The committee believes that a good rule for Lake County raisers is to keep one brood sow for every five dairy cows unless the skimmed milk is used for some other class of livestock or poultry.

2. We recommend that the average farm maintain enough hogs to consume waste feeds except when excess feed grains are available and can be marketed

best through hogs.

Respectfully submitted,
R. E. Fisher, Chairman
R. W. Morse, Secretary
Eston Ahlstrom
Heman Price
H. R. Bradley
M. R. Ayres
Alex Jamieson
J. E. Branch
Mrs. Burt Tatro.