

Report of the
**DESCHUTES COUNTY
AGRICULTURAL
OUTLOOK
CONFERENCE**

Conducted In
REDMOND, OREGON
FEBRUARY 27 AND 28
1936

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FOREWORD

This report is published as a result of a resolution unanimously adopted at the final session of the 1936 Deschutes County Agricultural Outlook Conference. The resolution directed a committee of three, Verne F. Livesay, James Short and Phil F. Brogan, to devise ways and means to print the various committee reports. This committee met with a generous response to requests for assistance in publishing the reports.

Publication of this report has in a measure been made possible by the cooperation of The Bend Bulletin, which first published the committee reports and then saved and donated the type to the committee, and the following Bend and Redmond concerns, which contributed cash:

Deschutes County Pomona	Deschutes County Court
Bend Chamber of Commerce	Redmond Chamber of Commerce
Copeland Lumber Co.	Dairyman's Bank, Redmond
Bend Hardware Co.	Central Oregon Cooperative Creamery
Midstate Hardware Co.	Deschutes Grain and Feed Store
Erickson's Store	Redmond Motor Co.
Safeway (Bend)	C. O. Production Credit Corporation
Deschutes Farmers Warehouse	Farmers Hardware Co.
Bend Dairy	Bone Implement Co.
Medo-Land Creamery	E. O. "Clover" Adams
The Bend Bulletin	Swift & Co.
Miller Lumber Co.	
First National Bank of Portland, Bend Branch	

The conference was planned and conducted by the Deschutes County Agricultural Outlook central committee, with Fred C. Shepard as chairman, cooperating with the Extension Service of the Oregon State Agricultural College. The sub-committees were assisted in their work previous to the conference by Gus Hagglund, county agricultural agent. Purpose of the conference were (1) to gather accurate and detailed information on the local and national phases of agriculture, (2) to present this information in concise and definite form, and (3) to draw conclusions from and make recommendations based upon the assembled facts.

Recommendations of the conference constitute the best opinions of committees made up of representatives and practical producers, and constitute, in the aggregate, a program for the guidance of Deschutes county agriculture. All the reports herein published were formally adopted at the Redmond conference.

The various committees put painstaking effort into the preparations for the conference. Notwithstanding this, and the fact that the best available data were at hand to aid in the formulation of the conclusions, the recommendations herein set forth should not be considered final. It is not assumed that the farmers will completely change their systems each year to meet changing conditions. On the contrary, there should be greater stability, more gradual adjustment and less violent fluctuation.

It is hoped that all persons interested in the agriculture of Deschutes county will individually and through their organizations study the reports that comprise this publication and use them as a guide for the best development of the agriculture resources of Deschutes county.

REPORT OF THE COMMITTEE ON AGRICULTURAL ECONOMICS

Sources of Agricultural Income:

For the five year period 1926-30 the average cash farm income of Deschutes county was \$1,186,000. Approximately 29% of this income was derived from the sale of crop products, while about 71% came from the sale of animal products, chiefly livestock and dairy. Since the 1926-30 period, however, the trend has been toward an increase in income from turkeys through rapid expansion of this industry and from field crops in the form of materially greater production of potatoes, alsike clover seed and Austrian winter field peas. It should be noted, however, that Deschutes county farm and ranch people derive more than half of their income from the sale of animals and animal products. It is likely that this will be the case for an indefinite period. The predominance of livestock is related to the acreage of irrigated land especially adaptable to the production of alfalfa hay, and to the very large acreage of grazing lands in native grass used by beef and sheep.

Land Resources: In connection with agricultural development in any area the ownership of land to a large extent is a governing factor. Of the nearly 2,000,000 acres total in Deschutes county less than one-fourth is in private ownership with the balance in public ownership. Of the 23% of the county area owned privately two-thirds is non-agricultural land being mostly timber holdings. Land in farms accounts for but 7.3% of the county total of which only one-third is improved, amounting to slightly in excess of 48,000 acres.

Of the public lands national forest and unappropriated public domain together make up 70% of the county total, 5.6% is owned by the county, and 1.5% by the state.

The total area of improved land in farms has not changed much in the last 15 years. During that time the number of farms has risen from 751 in 1920 to 924 in 1935. With the acreage of improved land remaining rather constant, it is clear that there is a movement to subdivide farms in as far as the improved land is con-

cerned. While your committee does not regard this subdivision as having progressed to a serious extent as yet, experience in other counties shows that there are limits beyond which this subdivision should not go. Minimum farm sizes are discussed under the topic settlement.

Grazing Within Irrigation Districts:

Your committee is in full agreement that federal, state and county lands, unimproved in character and lying within the boundaries of irrigation districts, should be reserved for the use of settlers on those districts for grazing purposes. Further, we urge that driveways across irrigation districts be reduced to a minimum and that such driveways be clearly defined to protect grazing land, crops and the domestic water supply. Watering places should be established. It is our belief also that lands within and adjacent to irrigation districts should be reserved to the settlers thereon for grazing purposes and permission granted settlers to fence and otherwise improve such lands.

We are disposed to condemn the practice of commercial woodcutting on these grazing lands within and adjacent to irrigation districts. This cutting is done more or less promiscuously and the time is not far off when wood supplies of occupants of irrigation districts will be depleted.

Disposition of County Lands: Your committee takes the position that lands now under county title should be disposed of in such a way as to lead to the most desirable use, looking at the matter over a long period. For instance, lands that are obviously of grazing value only should not be disposed of to those people who plan upon plowing them up. The small amount of soil survey work which has previously been done in Deschutes county, clearly demonstrates the need for prompt expansion of this work to cover the county, and ownership classification work now under way should be of material assistance to the county court in following out this policy if adopted.

We feel that there is no hurry in

disposing of county properties of an agricultural nature. Better to consolidate county holdings by trades with the state and with the federal government in order that county lands may pass into economic agricultural units, grazing or other.

There are some truly submarginal lands under irrigation in this county. Under the same ditches are areas of county owned land not supplied with water. Your committee believes that an effort should be made to transfer the water in question from the submarginal lands to the better lands in county ownership all to the end that the income of the community may be increased.

Soil Survey and Land Classification: One of the great needs of Deschutes county long has been more information as to the nature and depth of the soil, and as to the proper uses to which land should be put. A start has been made in a soil survey and in classifying land ownership. A land assessed valuation is in the course of preparation. Although these tasks promise not to be completed for several years, your committee heartily approves of such public work and calls the attention especially of new settlers to the value of more accurate information as to the nature of soil and as to the appropriate use of lands. We trust this work will be continued by any means feasible.

Land Settlement: The committee has made a rough survey of desirable lands available for new settlement. There is room in Deschutes county on irrigated lands for a minimum of 200 additional farm families. There are opportunities for a still greater number if consideration is given those local people who are disposed to sell places they are now operating.

The conclusion has been reached that a Deschutes county irrigated farm of from 55 to 65 acres under ditch may be regarded as the minimum for an economic unit, provided that a diversified type of agricultural pursuit is to be followed. Production for sale on such a farm would include field crops, dairy products, livestock and livestock products and poultry.

It must be borne in mind that this

farm unit is for the average operator under average conditions both as to season and prices.

Capital costs are very little higher for the operation of a 60 acre farm in Deschutes county than one of small size. The equipment of farms of 60 acres or less must be the same size and of comparable value. Livestock needs are the same relative to horsepower, and other stock from which products are sold to maintain ordinary living expenses of the farm.

Fixed charges per acre, while increasing as the size of the farm unit decreases, tend to decrease in proportion to net return as the farm unit nears the economic size of the one family farm.

Recommendation is made by this committee that a balanced, diversified method of production be followed. Looking forward to a long time program no radical deviation from regular cropping practices should be made in order to attempt to take advantage of speculative high prices.

Recommendations to New Settlers: Minimum capital cost for a complete set up in Deschutes county will run to about the figures shown in the table below.

Number of acres	60
Land cost	\$3900
House cost	800
Outbuilding cost	800
Equipment cost	420
Livestock cost	675
Land preparation	60
Total	\$6405

Land cost for comparative unimproved irrigated farms will run about \$60 to \$65 an acre. This will be a place with fair location regarding schools, social activities and roads.

Outbuildings costs including one barn, a small amount of fencing, and perhaps other improvements such as cisterns will run to not less than \$550.

Land preparation cost will vary, but a dollar an acre would be the minimum that could possibly be expected.

This summary for an individual farm will vary greatly according to the conditions of the farm being purchased. An individual could easily

ascertain whether the proper charges are being made by analyzing the purchase price and comparing with the above values which are based upon present prices.

The new settler should have as a minimum sufficient capital to cover needed livestock, equipment, seed, and for living costs until such time as returns from the first year's crops are available.

While your committee is disposed to frown upon renting as a type of land occupancy, it must be admitted that it has two advantages for many individuals: (1) the newcomer is enabled to get acquainted with the district to the end that he may make a more intelligent selection of land, and (2) one keeps himself in a safe position financially by putting his limited capital in stock and equipment until such time as earnings may justify purchase of land. There is no place in Deschutes county for settlers utterly without capital.

It is felt that fair rental values are from \$6.75 to \$13.00 per acre depending upon the state of cultivation, improvements, and location.

It is felt that experience needed for the successful operator in the Deschutes county farming area need not be confined to irrigation farming. Industry and adaptability are the essential factors necessary for those farmers who have not followed this type of agriculture previously. It can normally be expected that an efficient operator in one type of agriculture will be sufficiently capable in another, provided the enterprise be not too specialized. This would warrant the statement that good farmers from other sections will be successful in Deschutes county.

Part-Time Farming: Experience points to the feasibility of the development of part-time farming to a limited extent only, in the vicinity of Bend. Approximately 80 mill employes live upon garden tracts, and their average ability to care for themselves seems to measure up very well with the general average of farmers in Deschutes county.

The development of part-time farming by all means must be keyed very closely to the industrial payroll which is to provide for the "other time" of such operators. A maximum of three acres is suggested by your

committee, if the land is to be cared for and not force the operator to sacrifice his tillage operations in order to safeguard his job. Of course, the size of the family will have a bearing on the amount of land that may be cared for. It is our conviction that part-time farmers should operate upon their own capital and should borrow for no purpose related to their farming operations. We realize that this qualification forces a modest start, but we feel that the very fact that the job is of major importance brings about special risks in connection with extending credit to such operators.

Cooperative Marketing and Buying: Your committee looks upon cooperative marketing and cooperative buying as proper and wholesome developments in this community. A record of the Central Oregon Cooperative Creamery at Redmond is an excellent example of successful cooperation.

With respect to future development of either cooperative marketing or cooperative buying we urge very earnestly that the need for any organization or special service be studied fully, carefully and without prejudice, and that the possibility of effecting savings be explored before any definite organization proposal is made. Your committee is in a position to urge upon any group interested in setting up a cooperative unit that they consult private operators in the same or in similar fields and we can vouch for the fact that most such operators will be more than glad to open their records with no reservations to any authorized investigating committee.

A condition in Central Oregon that has a bearing upon the success or failure of cooperative enterprises is the still shifting population. Cooperatives have a better opportunity to effect savings for their members where the population is more stable than it is in this community. Your committee favors cooperative enterprise but merely wishes to point out such safeguards as should be observed by any business concern before investing anywhere or for any purpose.

Credit—Sources of Credit: The farm credit administration has been expanded to service nearly all types of agricultural loans. Of the four

units making up the farm credit administration the federal land bank, organized in 1916, is the oldest. It makes loans to individuals on farm lands. It makes loans only to organized groups.

The bank for cooperatives was set up in 1933 to provide specialized credit service for regularly organized cooperative associations, with three types of loans. It extends facility loans for the purpose of buying or erecting buildings or equipment, operating loans of short term for conducting the seasonal business of a cooperative, and a third type of loan covering commodities in storage, usually in connection with the issue of warehouse receipts.

The production credit associations, of which the Central Oregon Production Credit association with headquarters in Redmond, is one, were established in 1934. Loans are made for all types of production which includes range livestock, the financing of breeding operations, the feeding of livestock, finishing livestock for market, dairy operations, for the purchase of cows or otherwise financing a dairy enterprise, and general purpose loans for general farming operations, crop loans for crop production and for finishing poultry or turkeys for market, and practically any other type of farm production credit.

The federal land bank, the bank for cooperatives and the production credit associations are cooperative institutions and either are, or ultimately will be, owned by the borrowers.

The four institutions making up the farm credit administration, contrary to prevailing opinion, do not loan government funds but handle private capital exclusively. It is therefore vital to the interest of all agricultural borrowers that the integrity of land bank bonds and intermediate credit bank debentures may never be questioned.

Interest rates charged by the four governmentally sponsored credit institutions must rest basically upon the prevailing interest rates in the nation, or, in other words, upon the money market. Rates paid by borrowers in turn are effected also by the risks that must be taken by any institution extending credit, and by any necessary services in connection

with making loans and effecting collections.

Separate from the farm credit administration is the loan service of the rural rehabilitation section of the rural resettlement administration. This type of credit is available only for those who have exhausted all other credit sources. These funds are available for the purchase or repair of equipment, the buying of seed, fertilizers and, if absolutely necessary even for the payment of rent.

Your committee feels that the farm credit administration should be highly commended for the effective manner in which it has set up nation-wide institutions and met so quickly the principal credit needs of agricultural borrowers.

With reference to the several sources of credit available in agriculture we feel that there exists a heavy duplication of personnel with respect to the service of loans. We urge upon the farm credit administration and other government credit agencies the need for coordinating their activities, especially in the field, to the end that over head expense may be lessened and the cost of credits lowered to the borrowers. It is also recognized that there should be an effort by private credit agencies to reduce interest rates where the risk would justify such procedure. Present conditions would seem to warrant an investigation of this nature.

QUALIFYING FOR CREDIT: This committee does not subscribe to the view that every citizen with collateral has an "inherent right" to credit. The hazard incidental to the individual is so important in the extension of credit by anyone that any such view cannot be sound.

We wish to call the attention of Deschutes county farm people to the fact that loans are made basically upon the earnings of an enterprise and not upon the value of security offered. This is a fact not widely understood among farm people. The security is required by public and private credit agencies solely in order that payment may be made should the regular plan of liquidation out of earnings fail. In this day there are no creditors who are interested in taking possession of collateral in as much as such procedure

almost invariably results in loss.

This repayment of loans out of the earnings of a business points out the absolute necessity of prospective borrowers and lenders knowing what earnings have been in the past to anticipate earnings in the future. We urge Deschutes county farm people the maintenance of such records as will show from time to time the financial position of the operator. This includes the total property owned, the total of all creditor claims against that property, and the balance, equity or net worth remaining to the credit of the owner or operator. However, such a record is not sufficient for credit purposes nor does it furnish a safe guide in the operation of a business. Even more important than what one has is what his business has earned in the past. Records should show fully the earnings of a farm or ranch year by year. These earnings statements are required now by virtually all creditors. The farther back the records extend the better.

Your committee again points out that records of this kind are of value to any operator whether he uses them for the obtaining of credit or not.

TAXATION: The committee refers again to the fact that only 7.3% of the total land area of the county is in farms and the improved farm land in the county is but 48,101 acres. Approximately 15% of the county area is in private ownership other than agricultural, being mostly timber properties. As such lands are logged off there is a strong tendency for them to revert to county ownership and to gradually pinch off tax revenue from lands formerly in timber. In addition to these forces tending to narrow the tax base we point out the fact that marginal agricultural lands for the most part must be taken by the county. There is also a program for purchase by the federal government taking off the tax roll other properties which may or may not be delinquent in taxes. A result of the operation of these forces is to leave a larger and larger part of the tax load upon that narrow base, namely, the 48,101 acres of improved farm land in Deschutes county.

A substantial area of farm land in this county is owned by the state as a result of the operations of the

World war veterans state aid commission and the state land board. These properties pay no local taxes whatever so long as the title rests with the state. Even though such lands may be leased or purchased on contract by private operators still local taxes are not collectible. There are no less than 47 farms of this description within the Redmond union high school district alone.

Your committee is in no position to pass upon any constitutional questions that may be raised, but we feel that the holding of lands under state title and exempt from local taxation is highly inequitable to local taxpayers. Two suggestions are made within the committee to remedy this situation in part. One is that, in line with forest service practice, a certain percentage of the gross revenue from such state lands be left with the county in lieu of what otherwise would be taxes. Further, we believe that state land should become immediately taxable once it is sold on purchase contract. We recommend and urge that a qualified agency study this entire state land situation with special reference to the problem of maintaining local public services and to recommend action to the legislature.

Tax delinquency had grown to such alarming proportions that the 1935 special session of the legislature passed a drastic and sweeping act designed to stimulate tax payments. Your committee is inclined to wait for results from this legislation but should it fail of its purpose we favor a redrafting of the tax laws in such a manner that taxes not only will be paid but in such a manner that the taxpayer who actually does pay his taxes is not penalized because of the failure of his neighbor to make payment. Your committee takes the position that lax collection methods have raised levies on actual taxpayers by probably about 20%. This is an indefensible situation and, should the 1935 act not serve as anticipated by its advocates, we insist upon tax legislation that will relieve this inequitable relation among taxpayers themselves. As legislation has become so involved and intricate that few understand what is required and what may be their privileges, we recommend a program of simplification or tax legislation.

DAIRYING COMMITTEE REPORT

The Situation in Deschutes County:

It is believed that the production per cow in Deschutes county improved steadily until 1930 and since that period has declined. This is believed to be caused by low butterfat prices and relatively high prices for feed. During these years the numbers of dairy cows have declined as shown by local estimates.

The cost of producing butterfat on well-managed farms in Deschutes county is relatively low as compared to most of the state of Oregon. The committee lists the following advantages of dairying in Deschutes county:

1. Dry climate.
2. Sunshine most of the year.
3. Cheap high grade feed.
4. Irrigated pasture.
5. Expensive buildings and equipment are not necessary.
6. Cooperative marketing of dairy products.
7. Regular income.

Recommendations

There is no exception to the necessity of following principles of good dairy management if dairy enterprises are to be profitable in the county.

Marketing and manufacturing facilities, both cooperative and independent, are adequate and no new marketing developments are needed at the present time. Prices have been well in line with outside markets during the past few years.

The committee believes that the principal problem of the dairy industry in the county is the further reduction in the cost of producing butterfat through increased production per cow, improvement of stock, cheaper feed, improvement of pastures, elimination of disease, and further quality improvement.

Expansion of the dairy industry of the county should be made by higher and more profitable production per cow rather than through increased numbers of cattle.

It is believed by the committee that the average farm has a better opportunity of utilizing home grown fertilizer through dairy cattle than through any other kind of livestock. When a crop is taken from the soil, fertility can be maintained only by

returning the equivalent in the form of manure or organic matter.

On many Deschutes county farms there are areas of rocky unplowable ground which will produce an excellent pasture when irrigated. Such lands represent almost a total loss if not used by dairy cattle or some other form of livestock. When a crop is fed to the dairy herd there is an income from the product and also in the return of the manure to the soil.

To improve production per cow it is recommended that dairy herd improvement association be organized.

It is believed by the committee that about 15% of the dairy sires in use are grades or scrubs. These should be replaced with purebred sires from high producing families. It is also recommended that consideration be given to forming a cooperative bull association especially among the members of the Dairy Herd Improvement association when it is formed.

There has been a marked improvement in the quality of dairy products produced in the county the last few years. The committee recommends further improvement in quality. It is therefore recommended that legislation be enacted to provide for the payment of butterfat on the basis of quality and that butter be sold to the consumer on the same basis.

Butter grades which can be understood by the housewife such as A-B-C, such as those in use under the former Oregon state butter marketing agreement should be established. It is recommended that a local committee be appointed to contact committees in other counties and present to them a legislative program on quality improvement. It is further recommended that Mrs. P. J. Marnach, C. C. Vice, and D. B. McKenzie be the committee from this district and that they confer with the director of state department of agriculture in regard to this proposed legislation.

While it is impossible to tell a dairyman the number of cows he should keep, attention is called to the fact that production costs are lower in larger herds and that a sufficient number of cows should be kept to utilize to the best advantage the feed

and labor resources of the farm.

The present active California market for surplus cows will probably not be continued when the present tuberculosis eradication campaign there is completed, although the market milk sheds of Los Angeles and San Francisco will probably continue to purchase outside replacements. The market price for surplus cows, except where they are produced cheaply, usually does not cover the cost of producing them. The committee recommends that heifers be raised primarily for local replacements and only from the best cows.

The United States department of agriculture reports indicate that there is a swing towards spring freshening over the country as a whole. The committee wishes to call attention to the advisability of more fall freshening in this county to get cheaper production costs and take advantage of the higher prices usually obtainable through the winter when butter is moving out of storage.

The committee believes that there is an opportunity for much improvement in the quality and carrying capacity of pastures in Deschutes county. The use of fertilizers, especially barn manure, rotation grazing and better pasture mixtures will increase returns from this crop. Pasture mixtures recommended by the county agricultural agent should be used in new pastures.

Deschutes county is a modified accredited tuberculosis free area and testing should be continued to keep this rating. It is recommended that all cattle owners take advantage of the federal Bang's disease program

and eliminate this disease while federal indemnities are available. It is also recommended that steps be taken to put the county under the state compulsory Bang's disease testing act, when it becomes effective in January 1937.

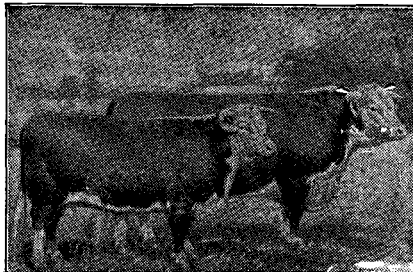
One of the problems causing serious loss to the dairymen of the county is sterility. Little is known about this problem. We recommend that the Oregon State college experiment station make a thorough investigation of this problem so that present large losses can be eliminated.

At the present time butter is indirectly taxed much higher than butter substitutes. We endorse the present movement to put a national excise tax of five cents a pound on butter substitutes believing that this will tend to correct this situation and also provide a national revenue producing measure.

There is much competition between many highly advertised food products. To increase the consumption of dairy products we recommend educational work such as is being carried on by the Oregon dairy council. Dairy producers and manufacturers should give increased attention and support to this work.

The present operation of the Oregon milk control act has been of real service to the fluid milk producers of the county in the marketing and distribution of their products. There is now an adequate supply of fluid milk and no new production is needed at this time.

Your committee endorses 4-H dairy club work.



SMALL SEEDS COMMITTEE REPORT

REPORT OF SEED COMMITTEE

I. Situation in Deschutes County:

1. Acreage—The acreage of the small seeds is about 4000, three-fourths of which is Alsike clover, the balance is mainly Austrian winter peas.

2. Markets—Because of the small percentage of the value of the crop taken by freight charges, the Alsike clover from here can be shipped to any point in the United States. Deschutes county Alsike clover must be sold in the middle west in the same counties which produce clover seed back there.

3. Competing Sections—A study of United States department of agriculture figures reveals that Oregon yields of Alsike clover seed are the highest of any state, being 310 pounds per acre for the 1924-34 average. Deschutes county yields are above the state average and several times as high as in the other districts.

4. Prices Here and Other States—Due to the superior quality of Deschutes seed the growers here customarily receive about as much money as the growers receive in the middle west where our seed is shipped. The difference in quality therefore nearly erases the three thousand mile rail shipment.

5. Cost of Production—The committee, after careful study, estimated that the average cost of producing Alsike clover seed was 8.6 cents per pound.

It will be seen therefore that with a return of the average of cleaned seed at the average price of 15c per pound, Alsike clover is one of the few crops which has consistently returned a profit over all growing expenses for the past ten years. In only one year during the 1919-34 period has the crop sold for less than the 8.6 cent estimated cost. It must be realized that not every grower gets a return of 370 pounds of seed. One grower may get 50 pounds and another one 900. The above costs are given only to guide the grower in figuring his own costs since these costs will differ on every farm. They also differ from year to year on the same farm.

6. The Outlook—Unfavorable facts for the future prices are:

- (a) The trade agreement with Canada which cuts the 8c tariff to 4c.
- (b) The substitution of lespedeza for clover over all of the southern part of the Alsike clover area.
- (c) The tendency of farmers during low prices to produce their own seed even at extremely low yields in order to cut cash expenses.

Favorable factors are:

- (a) The new government plan which will provide cash bonuses to farmers for seeding their land to clover and grasses.
- (b) The apparent improvement in farm prices following re-employment in industries.
- (c) Inflationary measures which may raise prices temporarily.

7. Comparative Advantages of Central Oregon—It is likely that Central Oregon growers can continue to displace clover seed from other sections because of larger yields here and better quality, just as Deschutes and Klamath counties have replaced other sections in potatoes and forced Yakima to curtail their acreage. So it is likely that Central Oregon can force middle western people to curtail their clover seed acreage. So far as competition is concerned there appears to be no limit to the possible acreage here. From a practical farming standpoint with only 31,000 acres available for other crops it is not likely that the present acreage could increase more than 2000 acres without upsetting either the dairy or livestock business.

8. Yield Decrease—All of the committee members agreed that yields are steadily decreasing but they were not agreed as to why. Some thought it due to a soil fertility problem, others to insects while some thought that yields in former years were abnormally high and in recent years perhaps unusually low due to weather conditions.

9. Weed Increased—All committee members agreed that weeds are an increasing menace causing loss in yields, greater harvest expense, additional cleaning charges, greater loss of good seed in cleaning and lower

prices for the product. The premium prices enjoyed so far by Central Oregon growers have been due, first, to color and plumpness, and second, freedom from weeds. There is no point in shipping weedy seed to the middle west because they have plenty of that on hand already. If the district is to maintain its name and is to continue to receive good prices, greater attention must be paid to weeds.

10. Nematodes in Some Fields — Some growers reported that nematodes were beginning to reduce yields. This is not general throughout the county.

II Recommendations:

1. Acreage—The committee recommends that the clover seed acreage be increased some but only so far as good farming practice will permit. The crop should be grown in a rotation including a cultivated crop, which in this county will probably be potatoes. The clover seed acreage should be more than twice the potato acreage.

2. Clover Straw—We recommend that greater attention be given to the clover straw. Much of it is now wasted and some growers are selling it to sheep men for \$2.00 per ton or thereabouts and are then paying cash for commercial fertilizer for their potatoes. At the going prices for fertilizer a ton of the clover straw is worth \$8.00 for fertilizer. Stating it another way, when this by-product is sold at \$2.00, a grower is trading away eight silver dollars for two. On most farms this straw turned under can be depended upon to increase potato yields from 25 to 150 sacks per acre.

3. Source of Seed—Some growers handicap themselves to the extent of \$15.00 to \$20.00 per acre by planting seed which is full of weed seeds. They look at a lot of seed grading say 95% Alsike, and that sounds pretty good, but if the other 5% is inseparable weed seeds such as sorrel, a grower may save 25c per acre in his seeding clover and lose \$25.00 per acre when he comes to sell the crop.

4. Weeds—The committee recommends that every effort be made to produce weed free seed. In addition

to using clean seed the following possibilities are mentioned:

- (a) Use oats rather than wheat or barley as a nurse crop. They shade out weeds better. Plant the oats thick and cut for hay. In this way the cutting is done before the weeds go to seed.
- (b) Grow in a rotation with potatoes.
- (c) If planting is done in the late summer, follow a system so that the clover can be planted early. If planted in the late fall it will not get started well enough to combat weeds in the following year. Early planting may be possible through either cutting the grain crop for hay or by growing a winter wheat instead of a spring variety.

The committee realizes that the above recommendation may not be practical on some farms, for example: A man may have no use for grain hay or he may be farming in a region where winter wheat will invariably freeze about the time it heads out in the spring. Or perhaps he cannot grow potatoes because of frost.

5. We would like to see experimental work carried on in order to try to establish reasons for decreasing yields.

Austrian Winter Field Peas

I The Situation:

1. Price—The price of Austrian winter field peas depends upon two things:

- (a) The price of cotton in the south.
- (b) The supply of peas and hairy vetch in western Oregon. Oregon supplied about fifteen million pounds of these seeds in 1934 and a little more than that in 1935. There are very few supplied from other sections.

2. Demand Increase—The southern states are all increasing their acreages and will eventually use twice as much as they are using now.

3. Supplies for 1936—The acreage of winter peas in the Willamette valley has been nearly doubled and acreage of hairy vetch (which is interchangeable with peas in the south) is more than doubled. Some

complaints of winter injury are occurring.

4. Advantages of Peas—The main advantages of peas are:

- (a) They are a legume and tend to improve the soil.
- (b) The straw is a good feed and, like the clover, is an excellent fertilizer.
- (c) They distribute labor on a seed growing farm.
- (d) The cost of production is reasonably low compared with grain and the returns per acre have been greater than is the case with grain.
- (e) Weevil which ruined the crop in some sections have not as yet been a factor here.
- (f) Average yields here are very good.
- (g) Nearly all of the peas are fall planted in the Willamette valley and since the crop is spring planted here growers have a chance to watch the acreage and watch the winter survival and increase or decrease their acreage here in accordance with the crop in prospect west of the mountains.

5. Cost of Production—One of the members of the committee submitted the figures showing a cost of production of \$23.24 per acre. This is submitted merely that the reader may check them against his own costs.

Peas so far have been quite profitable and made a greater return than the costs of growing.

Recommendations:

1. We recommend additional work by the Oregon experimental station in Aphid control since this is the most serious growing problem in the county.

2. We recommend that pea growers do not follow the practice of a certain acreage every year but that they watch the cotton market and pea acreage in the Willamette valley. When cotton is abnormally low and when the pea and hairy vetch crop is abnormally high we should reduce the winter pea acreage and increase it when the opposite conditions occur.

Red Clover

1. Alsike Better Adapted Here—The average yield of Red clover on the average farm is lower than the Alsike clover yield and Red clover is bothered by insects and diseases

more than Alsike is. Yields are much more uncertain.

2. Red Clover Fits Better on Some Farms—Red clover has the following advantages:

- (a) It is a better soil improving crop than Alsike.
- (b) Where a hay crop is desired the red clover can be cut for hay about the first of June when it will yield from one-half ton to a ton per acre. The second crop can be cut for seed.
- (c) Those people wishing to improve their soil can do so by cutting one crop of their clover for hay and then by plowing the second crop under in the late fall.

3. Eastern Seed Recommended—Those growers who plant red clover are urged by the committee to use only seed from the eastern or mountain states or locally grown seed. Seed from the Willamette valley should on no account be used.

Ladino Clover

1. Market Restricted—The present market for Ladino does not justify the production of more than 100,000 pounds per year. If more than this is produced here the price is badly damaged or some seed remains unsold. California is at present the only market which takes seed regularly.

2. Alsike clover and Ladino can not be separated—Ladino clover grown in an alsike district is a menace to the surrounding alsike and in turn the alsike gets into the Ladino field and reduces the grade of the latter. These two seeds therefore do not fit well into the same community.

3. We believe that because of restricted markets and danger of mixtures, Central Oregon would do well to let the Ladino be grown by other people unless the market conditions for the two crops change.

Grass Seed

1. Several grass varieties will yield well under irrigation. Indications are that meadow fescue, chewings fescue, crested wheat grass, brome grass, slender wheat grass, orchard grass, and tall meadow oat grass will all produce seed here in paying quantities.

2. New government program will create grass seed demand. It is likely

that the new government program, with its policy of paying for seeding land to grass and legumes, will create a demand for all of the above

grass seeds. Probably returns from them can be expected to run from 25 to 160 dollars per acre for the next several years.

REPORT OF POTATO COMMITTEE

The Situation in Deschutes County:

1. Acreage: The Deschutes county potato acreage increased 188% for the 1929-34 period.

Year	1919	1924	1929	1934
Acres	1250	899	1174	3377

2. Markets: In former years nearly all of that part of Deschutes county crop which went from the county went to Portland. In recent years completion of the Great Northern railroad has resulted in widening market possibilities so that when the Portland price is markedly under the San Francisco price, a large percentage may go to California. During the period 1924-35 70% or more of the Portland carlot receipts came from the state of Washington.

3. Freight rates: Deschutes county has an advantage in freight rates to San Francisco over every other district except Klamath.

4. Carlot shipments: Official figures indicate that during the past four years Central Oregon has furnished 10% or more of the total shipments of the state. No attempts has been made to segregate Deschutes and Crook county shipments.

5. Grades: In 1933 86% of the Central Oregon shipments graded No. 1s and 14% No. 2s. In 1934, 75% graded No. 1s, 22% No. 2s, and 3% graded culls.

6. Yield per acre: In 1929 the entire acreage of the county averaged 109 bushels per acre. In 1934 the census report showed an average yield on about three times the 1929 acreage of 170 bushels per acre. This is equivalent to almost exactly 100 sacks per acre or about 80 sacks of No. 1s. This yield is considerably above the Oregon average and the United States average, but is below Klamath, Yakima, and the main potato producing counties of Idaho.

7. Cost of production: The committee reports a cost of production on a 180 sack yield per acre of \$83.45. This is approximately in line with costs in other sections where similar yields are obtained.

8. Comparative advantages of district:

The advantages of this district over competing sections are:

- Lower freight rates to Portland market and to California.
- Higher percentage of No. 1s.
- Better shape with less peeling loss.
- Attractive light color. Potatoes with this bright color are called buckskins or blonds in the trade. Central Oregon has a higher percentage with this desirable color than any other section.

The disadvantages in competition with other irrigated sections are:

- Smaller size.
- Lower yield.
- Too small a production to warrant offices here of a large number of buyers and hence somewhat of a curtailment in market outlets as compared with Klamath and Yakima. This does not result in much of a price disadvantage to growers here, but the distribution is not as wide as that from the larger sections and usually the market is not so active. It is often difficult to sell large numbers of potatoes in any one day. At times more competition would probably help prices.

II. Recommendations: 1. Acreage per farm: Potatoes should be grown on a large enough acreage so that the growers can afford to own potato machinery and a good cellar. The minimum should be ten acres. It is recognized that some farms are too small to maintain ten acres and such places should aim to have close to one-tenth of their land in potatoes each year. These small farms should own machinery in cooperation with neighbors.

2. Acreage in county: It is believed that the maximum desirable acreage was in 1934 with 3377 acres. In that year more than 10% of the harvested

crop land was in potatoes, and nearly 30% of all land not in hay was in potatoes.

3. Quality: Since the main market is Portland, and since Yakima dumps huge amounts of low grade potatoes on the Portland market, it follows that the only chance to market the crop here profitably is to maintain and improve quality. Demonstrations should be continued to develop best methods of accomplishing this end.

4. Marketing: The committee believes cooperative marketing is a desirable goal but since Klamath and Deschutes furnish nearly all of the carlot shipments in the state, no statewide marketing agency is possible. Cooperative marketing here could do very little without the assistance of Klamath. If the Klamath district should ever decide to try cooperative marketing on a substantial scale we recommend a unit of the same organization in Central Oregon.

5. Packaging: The committee condemns the trend in recent years toward small containers and fancy packs. Potatoes are a main food of working men and are not the main food of moneyed people; consequently packs which tend to raise the price to the consumer result in the long run, in decreasing consumption and are an additional source of expense to the producer.

6. Rotation: The committee recommends as the most economical rota-

tion—one year of potatoes, followed by one year of grain, followed by two years of clover. With this rotation only one plowing is needed in the four years. The clover tends to enrich the soil for the potatoes and potatoes in turn tend to free the land of weeds for the clover seed.

7. In-and-outers: Potatoes are a speculative crop in that prices in the past 10 years have varied from 10 cents to as high as \$3.00, a difference of 30 times. Other farm products such as butterfat, hay and grain do not fluctuate more than a tenth as much as potatoes. Those who go into potatoes one year and out the next invariably manage to jump in during the year when prices are low and crawl out the year when prices are good. Potatoes should therefore be grown only in a rotation and part of the plan of farming, so that approximately the same acreage will be produced each year. From three to four thousand acres in potatoes each year in Deschutes county would be about right with the present acreage of irrigated land.

8. We recommend that a continued fight be kept up to get rates to interior California points on a basis with Klamath. For example, there is only 3½c difference between the Klamath and the Redmond rate to San Francisco, while the difference to Sacramento is 8½ cents.

9. We commend the work of the Central Oregon Potato council and urge all growers to support it.

LIVESTOCK COMMITTEE REPORT

PRESENT SITUATION

It was believed by the committee that in a normal year we have a surplus of feed in this county, but we are not set up properly for wintering range livestock because we do not have close available adjoining range for such livestock to run on and if the livestock is wintered where the range is available the livestock is then located too far from the irrigated sections where the feed is to be had. The surplus feed available consists of alfalfa hay, small grains (principally oats and barley) and clover straw and screenings. In short the situation might be summed up by saying that we are long on

winter feed and short on range. There are therefore apparently no reasons why range livestock numbers should expand in Deschutes county because of the natural range limitations. Increase in range livestock numbers therefore can only come through range improvement.

In view of the above conditions it was the opinion of the committee that livestock development in Deschutes county should be in the direction of feeding and finishing livestock for market. The committee feels that there are a number of reasons why feeding offers advantages in this county which are in addition

to those cited above of a surplus of feeds.

1. Dry conditions and not so cold. It was stated that hay costs are less in some other sections but that it required more hay where the weather is cold, and where wet and muddy conditions prevail in the feed lots.

2. Feeding of livestock offers the feeder an opportunity to use his own hay and grain on his own farm and have the advantage of fall pasture and also the clover straw.

3. There is usually no profit in growing hay and grain for sale in this section.

4. There is usually an ample supply of feeder lambs easily available and quite frequently the range operator will deliver the lambs to the farm. The feeder, therefore, saves on freight. In the case of cattle the same advantage does not apply to so great an extent, but feeders are usually available at not great distances.

5. We have railway and highway connections which will permit livestock to move in two different directions—either south or north to good markets.

6. The diversion privileges at Portland were pointed out as an added advantage.

7. We are located fairly close to market—closer than most of the eastern Oregon territory and much closer than Idaho and Montana, from which points cattle are shipped to Portland at higher freight rates. It appeared to the committee that feeders in this territory would have the advantage in this respect.

8. Because of the quick turnover in capital it is much easier to become financed.

9. Not much equipment is necessary and very little capital is tied up in feeding equipment.

10. There is the added advantage of manure to conserve soil fertility.

11. Feeding can be done during the winter months which brings about more economic distribution of labor.

12. Range lambs take on better gains than ranch lambs usually.

For the inexperienced feeder, it is recommended that one car load be tried until he becomes accustomed to the proper feeding practices.

It is recommended that the lamb feeder prepare himself so that he can

feed every year rather on an in-and-out basis.

As in the case of lamb feeding, it is recommended that those engaging in feeding of steers should feed every year rather than on the in-and-out basis.

Farm Flocks

It seemed to the committee that the average Deschutes county farm does not have sufficient pasture area, especially on such farms as are already maintaining dairy herds to accommodate a farm flock of sheep. It was felt by the committee that the raising of purebred sheep to the end of producing bucks for sale to range operators would be preferred over the farm flock operation. The income from the farm flock is likely in most instances not to be sufficient to justify the trouble incurred. Most farms are not equipped to handle enough sheep in a farm flock to permit shipping lambs in carload lots and therefore there are disadvantages in marketing the lambs.

In the raising of purebreds it was pointed out that there are different preferences of range operators on breeds, and it is therefore recommended by the committee that the individual should form his contacts with range operators first and then decide to keep the breed which is more likely to be in demand. It was also thought desirable that this territory should standardize on one breed of sheep and build a reputation for good bucks of that breed. It was pointed out that most popular breeds with range operators are Lincolns, Rambouillets and Hampshires.

Quality Livestock

It is just as cheap to handle high quality livestock as it is to handle poor quality. The committee points out that it is usually more economical to attempt to increase income in this way rather than attempting to increase the volume.

Purebred Bulls

It is recommended by the livestock committee that the existing livestock associations in the county have a committee pass upon the quality of the bulls that are to be turned on the range. This is considered desirable from the standpoint of improving the condition of the cattle on the range and also it will serve as a protection

to those who purchase good quality bulls.

Diseases

The committee recommended that the beef cattle operator cooperate with the dairymen in establishing Deschutes county as an accredited Bang's disease free area. It was also believed that dairy cattle going to the range should be tested for Bang's disease.

In as much as the Taylor grazing act as rapidly being applied to the public domain in Oregon and as it affects Deschutes county stock men to some extent, it is recommended, in so far as possible, that the grazing service be requested to reserve such lands in Deschutes county for Deschutes county stock men.

Hogs

It was suggested that a good rule for Deschutes county on hogs is to keep one brood sow for every five

dairy cows, unless the skim milk is used to feed some other class of livestock or poultry. The committee recommended that the average farm maintain only enough hogs to consume waste feeds. They pointed out the danger of over expansion in hogs and the history of rapid and violent fluctuations which have occurred in the past.

Horses

In raising horses there should be plenty of pasture and low cost of production. The committee believes that horses on the average farm should be raised for replacements only, as the cost of production does not justify raising horses for sale in view of the price. It was pointed out, however, that most of the horses in Deschutes county are aged animals. It was felt by the committee that those having cheap range should raise the horses rather than farmers having expensive land.

POULTRY COMMITTEE REPORT

POULTRY CONDITIONS IN DESCHUTES COUNTY

In 1930 Deschutes county had 824 farms. By 1935, there were 924 farms, or an increase of 100 farms. The average acreage per farm was 155 acres. The smaller farms would indicate that poultry might form a more important part in the agricultural program of the county. A total of 641 farms, or 78%, kept poultry, and 566 farms, of 69%, had less than 100 hens, while 75 farms had flocks ranging from 100 to above 1,000 hens.

The value of chickens and eggs produced in 1930 by Deschutes county was \$164,521.00.

The industry in Deschutes county declined in both number and values during the depression. Deschutes county produces poultry products for home consumption and not for export to outside markets. It is a minor industry here.

Eggs from outside districts are shipped into Central Oregon to meet the requirements of local markets during the fall and winter months. Local producers have to compete in eggs shipped in.

As long as the industry remains on a part time import basis, local prices to growers are usually based upon

Portland quotations plus freight. If the industry expands to where it is a small exporter of eggs the prices will likely be based upon Portland quotations minus the freight.

1. Markets and Feeds: Producers of eggs in Deschutes county have to develop their own markets individually or sell to independent egg and produce dealers. There is no established cooperative egg and feed association to service the poultrymen in the county or to afford the beneficial competition which does exist in many sections of the coast states.

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

2. Breeds and Additional Market Outlets: The state export demand is for white-shelled eggs. This demand naturally results in the leghorn and other white egg breeds dominating the situation. This does not mean the exclusion of the heavy breeds such as reds, rocks and other brown-shelled breeds from Deschutes county farms.

The demand for eggs from well-

managed flocks to supply hatching eggs and dressed poultry meat should be considered by a few farmers as additional market possibilities.

The Poultry Outlook

The poultry industry as a planned industry for a few farms in Deschutes county is sound business. A number of new farms, rehabilitation, resettlement and subsistence farms will keep poultry. If this expected expansion is toward barnyard flocks rather than toward flocks large enough to justify commercial care, it will increase an already existing bad situation on local markets. Approximately 97% of the farmers who keep chickens in the county now have less than 200 hens. These flocks are too small to justify frequent gathering, proper farm storage facilities, frequent deliveries and other factors necessary to the delivery of quality eggs for the consuming public.

The outlook of the industry depends largely upon whether or not the farmers who keep poultry make a reasonable effort to adjust their poultry units in relation to the demands which prevail for quality eggs from the markets.

Recommendations

1. For Deschutes 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. The farm which plans a sideline cash income from poultry, 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 starting 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% 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 big 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 she 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.

With the apparent increase in poultry production in the county the committee recommends a survey of egg marketing conditions.

TURKEY CONDITIONS IN DESCHUTES COUNTY

During the past few years the turkey industry of the county has expanded. It produces a surplus of approximately 40,000 turkeys which must be marketed outside the county as part of the export crop of the state as a whole. The turkey crop brings in an annual gross income in excess of \$120,000.

The depression, aided by the great drouth in the midwest, reduced the numbers of chickens and turkeys. The same causes, aided by agricultural adjustment, resulted in reduced supplies of pork and other meats. Turkey growers who plan expansion

for 1936 must recognize the fact that their product will have to compete against an increased supply of chickens, turkeys and other meats. Only an improved consumers' demand can prevent a depressing effect on prices.

Deschutes county is well adapted for turkey production, and in keeping with general economic conditions should be encouraged, but not exploited.

Marketing and Feeds Situation—

Growers have a choice of marketing their turkeys individually, through established produce firms, or through an established cooperative marketing association, the Central Oregon Turkey Growers' association; a member unit of the Northwestern Turkey Growers' association, which serves nine western states.

The existence of both methods of marketing turkeys is a great factor in stabilizing the industry, affording beneficial competition and protecting the investments of the growers.

The growers before entering upon a turkey raising enterprise should make a close study of costs and average selling prices over a period of years. The committee after a study of costs determined the average cost of raising turkeys in 1935 to be 16 cents per pound. We also found the cost in small flocks to be lower than in large flocks. The possibility of reducing the costs in small flocks is better on account of the greater availability of green feed and milk.

Recommendations—1. Breeding stock should be selected early in the fall and kept separately from the market flock during the fattening periods. The breeding stock should be given a breeder's mash from early January throughout the breeding season.

2. Turkeys should not be reared or ranged with chickens or on ground recently used as a chicken range.

3. The cost of producing turkeys can be materially reduced by providing succulent green feed during the growing period. Turkeys are great consumers of roughage in this form. In addition to rape, alfalfa, clover, etc., row crops such as sun flowers should be provided for both green food and shade on farms where natural shade is not available.

4. Turkey prices are depressed each year through the arrival on the

market of poorly finished birds. No turkeys should be killed out for market until they are properly finished in both flesh and feathering.

5. Ample credit is necessary to properly grow out a band of quality turkeys. Beginners too often think in terms of profit rather than costs. Growers should, roughly, provide finances to the extent of the cost of one sack of feed for each market turkey raised.

6. Credit when extended to the extent of furnishing brooder houses, brooders, fuel, poults, feed and supplies to new beginners is unfair competition against established growers. It results in exploiting an industry to the detriment of all. It is urged that a general credit policy be established of extending credit only to growers who can finance their own poults to eight weeks of age.

7. There are disease hazards which growers must consider. The most common ones are fowl-pox, roup, pullorum, mycosis and coccidiosis. Each of these hazards can be controlled with a minimum of loss to the growers. Growers are urged to protect their investments by having an authentic diagnosis made of disease outbreaks as early as possible.

8. The installation or use of semi-scald equipment on the individual farm as a method of dressing turkeys, which must encounter delays before reaching the consumers, should be discouraged and labelled unsound.

9. Turkey stealing is a growing hazard against which producers must protect themselves. A movement is now under way by the growers to do the following:

a. Make turkey stealing a felony.

b. Require all dealers to display a record of brands registered in the state. The present law requires dealers to record the number of each brand of turkeys purchased. This is an aid to the grower in tracing stolen property.

c. Publish each year a booklet of all registered brands and distribute to every peace officer in the state.

d. Growers purchasing branded birds for breeders would get from that breeder a bill of sale in order that he could later present it when

selling turkeys having a different brand number than his own.

10. The turkey growers recommend that the present law relating to disposition of dog tax license money be amended to include idemnity for

turkeys killed by killer dogs.

11. A greater use of home grown and locally mixed feeds is recommended as a means of lowering overhead costs in the face of increased competition and lower prices.

WEED AND PEST CONTROL

After giving very careful consideration to the weed and rodent situation in the county, we wish to advise that this is believed to be no longer an individual problem but that it is necessary that it be handled from a community and county standpoint.

Due to the fact that the biggest percent of the land in Deschutes county is owned by the federal government and also a large percentage of the land is owned by non-resident owners, the problem of pest, rodent, and predatory animals is seriously increased.

Principal damages caused by these rodents are in the loss of crops and irrigation water. It is also reported that these rodents are capable of carrying serious diseases.

With these facts in mind, your committee wishes to present the situation in regard to the most serious rodents which are namely, ground squirrels, pocket gophers, woodchucks, porcupines and rabbits. These pests will be considered separately.

Ground Squirrels: Your committee believes that the big problem in control of ground squirrels is caused by non-resident lands. Such land provides breeding places from which the squirrels move into the farming districts.

Ground squirrels on the cultivated land could be more easily kept under control were it not for the influx from adjacent lands.

Recommendations: Adequate control should be based on control operations over an entire community at the one time, covering both resident and non-resident land.

It is further recommended that each community set up a rodent control committee and that the chairman of each community committee constitute a county rodent control committee, which will cooperate with the county agent in carrying out the control campaign.

Procedure for Handling Campaign:

1. Since the biggest problem will be to secure material for treating non-resident land, it is believed that the funds in each community can be raised by any one or all of the following methods:

- (a) Individual contributions by farmers within the community.
- (b) By granges contributing as an organization.
- (c) Contributions from the county.

It is recommended that these funds be consolidated in a pool for the purchase of materials to cover the non-resident ground within each community.

2. Labor: Labor for the control work within each community should be handled as follows

- (a) Each farmer distributes the poison on his own place.
- (b) Public work such as WPA for distributing bait on non-resident land where it is not possible to have it done by farmers living within the community. It is strongly recommended that inexperienced relief workers, if employed, be under the supervision of a competent foreman.

3. Time of application: It is recommended that each community, or committee over a period of time start as early in the spring as practicable for the distribution of bait.

4. Cooperation requested from public institutions: It is strongly recommended that cooperation be given by the state highway commission, railroads, irrigation districts and the county court for the purpose of keeping property by these institutions free from these rodents and pests.

Pocket Gophers: Pocket gophers are serious pests on irrigated farm lands. Due to the fact that this pest is found mostly on cultivated land, the problem is up to individual farmers. It is recommended that addi-

tional demonstrations on pocket gopher control be given by the county agent.

Woodchucks and Porcupines: Serious infestations of woodchucks and porcupines are limited to certain areas in the county which provide favorable living conditions for these pests.

Control methods already worked out are very successful. Any of the methods prescribed for the raising of funds and the use of labor described under the topic of ground squirrels can be used in control of woodchucks and porcupines.

Jackrabbits: Jackrabbits are capable of migrating great distances in search of food. We recommend that community committees carry on control campaigns where necessary, using any or all of the foregoing prescribed means for effectively accomplishing the purpose.

Compulsory Districts: Your committee is not in favor of compulsory rodent control districts, believing that the best results can be obtained by voluntary cooperation among all producers within a community.

However, if it should become necessary for the benefit of most producers within a district to use this method, we wish to state that the county can be declared a rodent control district by the signing of a petition of 100 landowners and presenting it to the county court who may then declare the county a rodent control district. Or, the county court can declare a compulsory community district upon presentation of a petition signed by 75% of the landowners within the district.

Predatory Animals: The county court of this county has been willing to cooperate to the extent of appropriating \$500.00 for the control of predatory animals. This fund is duplicated by state and federal money through the U. S. biological survey. There has apparently been some difficulty in maintaining a government trapper, therefore, rather than lose the use of these funds in predatory animal control, your committee recommends that the payment of bounties should be the next alternative.

If it is necessary to use this money for the payment of bounties it should

be paid to residents living within the county only. Satisfactory proof that coyotes were killed within the county should be presented to the county court.

Weeds: The importance of the small seeds industry in this county suggests the need for weed control. In some areas weed control is beyond the possibility of individual efforts and is becoming more dependent upon community action.

Situation at the Present Time: The committee believes that the number of different kinds of weeds appearing in Deschutes county is increasing each year and that the total weed infestation is becoming greater. Some of the new weeds are now confined to certain localities, but gradual spread is occurring. Weeds are responsible for reduction in yields, reduction in seed quality and price, increase in the cost of recleaning, loss of seed in recleaning, reduction in land values, and placing adjacent lands in danger of infestation. Weeds even effect the landowners' credit in some instances. In an irrigated section there is more danger of weed seed spread, and the abundant moisture supply will permit weed seeds to germinate at almost any time during the growing season, and therefore the yield of weed seeds per year is much greater than in a non-irrigated section.

Perennial Weeds: The more serious weeds of perennial nature, at the present time, are quack grass, white top (hoary cress), Russian knapweed, Canadian thistle and wild morning glory.

Annual Weeds: Annual weed seeds are also a very serious factor. Some cannot be removed from clover seed and tend to reduce the quality of seed produced in this district.

In addition to reducing the value of seed sold on the market, other annual seeds are serious factors in yield, causing an estimated shrinkage in cleaning of from 3% to 70%. Investigation has shown that any time shrinkage runs over 10%, it is caused mostly by weed seed shrinkage.

It is estimated that 40% of the small crop seed produced in this county at the present time has a shrinkage of 10% or more.

Your committee considers that the first year the seed produced is generally clean, the second year on the same field weed seed becomes more serious, and following that the weed seed content is greatly increased. The committee recommends seed production not more than two years in succession, unless the fields are known to be free of weeds.

Recommendations

1. This committee wishes to commend the grange on the excellent work done in the past in weed identification and control and recommend that the granges through their agriculture committees continue this work.

2. It is also recommended that these grange agriculture committees be authorized to take such action as may be necessary to have the present state seed laws, and weed law improved.

3. It is also recommended that more assistance be provided the state seed testing laboratory to the end that seed tests can be made more promptly. It is believed that this will enable farmers to plant cleaner seed.

4. It is recommended that oats in

particular be thoroughly cleaned as good evidence is found at the present time that quack grass seed is distributed through planting oats.

5. It is further recommended that with the possibility of the increasing of the feeding of stock in this county, that screenings from seed and grain be run through a hammer-mill, or the germination of this seed otherwise be destroyed before it is fed to stock, particularly on irrigated lands.

6. Threshing machines and clover hullers moving from farm to farm should be thoroughly cleaned before going from one farm to another as serious infestations of weeds have been known to be spread by this method.

7. The committee wishes to point out that weed seeds are found to be more serious on farms where regular rotation practices are not followed.

8. It is recommended that the present county weed control district be continued.

9. The committee favors first voluntary cooperation in weed control, but if this fails then compulsory control is the only alternative.

REPORT OF THE COMMITTEE ON HOME IMPROVEMENTS

Improvement of the farm home surroundings is of great importance. In the recent pioneer period in Deschutes county arrangements of buildings and farmsteads were frequently not made with the idea of permanency. Buildings were put up for quick service when there were natural limitations of time and money, and in many instances the unhandy arrangements remain as they were 15 or 20 years ago.

While the money value of home improvement cannot be measured except in indirect and general terms, the value is there in convenience and comfort. Since farm home improvement will progress only to the extent that interest is developed and sustained, it is the intended purpose of this committee to provide general information and suggestions leading to an extended program which will help to bring about interest in farm and home improvement and assist

home owners in bringing about better and more pleasant surroundings.

Recommendations

1. The committee recommends that improvements be those which are simple and inexpensive and which will add to the convenience.

2. The committee recommends that plantings be limited to the extent that time for attention is available.

3. Each home presents an individual problem which should be given individual study.

4. The committee wishes to point out that there are four main areas to consider in planning the exterior arrangement of the farm home. There are: (1) service area, (2) the entrance lawn, (3) the view lawn, (4) drives and walks.

5. Planning should always precede planting.

6. The tendency is to concentrate on appearance at the expense of utility.

7. Your committee suggests that interest can best be developed through grange and farm meetings, evening schools, garden clubs, libraries and publications. Use of people who have special knowledge or experience on these subjects will be found of value.

8. Community projects are recommended.

9. This committee does not attempt to solve individual problems, but rather to point out a means of cooperation which will develop the interest, leaving the many interesting subjects of planning and development to be worked out as the program gets under way.

List Trees, Shrubs

The following is a list of trees and shrubs that have been tried by and generally found satisfactory for Central Oregon. This is not a complete list of all trees grown in this area. No recommendations have been made for trees not yet sufficiently established. In some instances it has been found that trees that do well in the Redmond community may not do so well in the Bend area.

(N) indicates tree or shrub native to Central Oregon.

Foundation Plantings (5 to 15 ft)—Mock orange (Syringa) (N). Choke cherry (N) attracts caterpillars. Native willows: (such as the red osier and yellow willow). Elderberry: (N). Golden Chinquapin. Alder (N). Snowballs and lilacs (in some parts of the county they freeze).

Small and Medium Foundation Plantings—Spirea (N) pink and white, Oregon grape (N) is an evergreen, currant (N), wild honeysuckle (N) orange and pink, prostrate juniper (N), snow berry (N), Japanese barberry—very good for hedge, Russian sage, good for hedge, wild Clematis, (N), is a good vine for trellis work, Service berry (N).

Flowering Shrubs—Forsythia, flowering almond, golden elder, Japanese flowering quince.

Catalogues list shrubs and trees and give much information on selection and planting; also local nurserymen have an understanding of our conditions and are more than willing to cooperate.

The following are recommendations for transplanting of evergreens

according to local authorities. Can be transplanted from September until just after the frost goes out of the ground in the spring (that is in the location where the tree is found). Mark the north side of the tree before digging and transplant with that side to the north. Do not destroy any more roots than necessary in digging. It is desirable, but not necessary, to include some of the native dirt with the roots.

In all evergreens, and with any other species it is necessary to protect the roots from the air, preferably by wrapping with wet burlap, as the air getting to the roots forms a resin and has the same effect as applying a coat of varnish.

Dig a hole somewhat larger than the roots, spread the roots out carefully. Partly fill the hole with dirt, being careful to disturb the roots as little as possible. Fill the hole with water and puddle in the remaining dirt. Irrigate thoroughly regardless of the time of year. It is advisable to give all evergreens a reasonable amount of winter irrigation.

The transplanting of other native trees and shrubs will follow the same general principles as to care and handling.

The following is a list of trees and shrubs that have been tried by several people and found satisfactory for Central Oregon. Many are native and are marked (N). Some are more suitable than others for certain purposes and one planning to use these should study the characteristics and see if they fit in the plans.

Trees for lawn and shade purposes in the yard—This includes the large branching Canadian poplar; Boleena, tall with slim large white faced leaves; Lombardy, which is also a tall slim tree; balm of Gilead; quaking aspens and others. They are most commonly planted because of quick growth. It is suggested that because they are soil robbers and sucker thought be given before planting them near garden, lawn or cultivated areas. One should study the varieties and their characteristics before planting.

Elms: Siberian, rapid growth, grows compact and shapely; if watered late may top freeze when young. American, spreading branches, a

little slower growing than Siberian and long lived, nice tree for shade. Cork bark.

Willows: Golden yellow bark, good leadscape tree. Weeping willow which aphid badly. If planted next to the house it may become a nuisance.

Locusts: black locust, liable to top freeze if watered late; leaves come on late and drop early; suckers some near the trunk.

Birches: cutleaf weeping and upright branch. Both are beautiful specimens. When young trunk should be protected by wrapping, preferably with burlap.

Mountain ash: (N), grows from 15 to 25 feet high. Blossoms early in spring; orange red berries in the fall; compact head.

Maples: silver or white (box elder) many failures reported. Very shallow roots.

Green ash: nice shaped trees; slow growing.

In addition to the above named trees; fruit trees, especially miniature fruit trees, can well be used for both fruit (in some years) and to beautify the yard.

Conifers:—Tamarack (N), drops its needles in winter. Engleman spruce: (locally called the blue spruce) (N). Firs: white and douglas. Cedars: (N) Incense—Arbor Vitae. Quite hard to transplant. Pines: (N).

Medium Sized Trees:—This group includes trees that are not as large as the above and should be planted accordingly. They are: Russian olive—light green foliage; alder—(N) Russian pea tree or (Caragana), suitable for tall hedge; and many of the small miniature fruit trees.

A list of trees and shrubs adapted to Central Oregon conditions, with suggestions on propagation, has been prepared by the committee and is available at the county agent's office.

HAY AND GRAIN COMMITTEE REPORT

Grain Situation in Deschutes County

1. Varieties Grown—95% of the wheat produced is Federation, 3% Turkey Red and 1% Galgalous. Several miscellaneous varieties make an additional 1%. Most of the oats are Victory, and most of the barley is Hannchen and Trebi.

Recommendations:

Because of its earlier maturity and lower water requirement winter wheat will fit better on some farms than spring wheat. We recommend a substitution of the winter wheat in the lower and less frosty section of the county.

We recommend that a few growers concentrate on producing clean seed of Federation wheat, Victory oats and Hannchen barley and one of the winter wheats, perhaps Hybrid 63.

Hay Situation in Deschutes County

Alfalfa shows a decrease during the past ten years due to the extension of potatoes and seed crops. The cost of producing alfalfa hay in Deschutes county according to the

Oregon State college is \$8.66.

Recommendations:

The committee recommends alfalfa only as a crop for soil improvement and for the local use of the livestock and dairy industries. It does not offer much hope as a crop to be sold outside of the region. With the reduction of livestock on national forests and the reduction of stock in prospect through the Taylor grazing act, it is likely that demand for hay on the part of range livestock, men will decrease. It is possible that the long cycle of dry years has been broken. If this is the case, the stockmen will be producing additional hay of their own in the next few years.

Oat hay is recommended as a crop valuable to use in establishing clover seed stands.

Ladak alfalfa is recommended for all parts of the county due to its longer life, greater yield, disease resistance, cold resistance, frost resistance, and greater feeding value.