

# Oregon Agricultural College

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## Report of the Columbia County Agricultural Economic Conference

Rainier, Oregon, December 11 and 12, 1925

### Suggesting an Agricultural Program for Columbia County

Prepared and Distributed by

Geo. A. Nelson

County Agricultural Agent

Cooperative Extension Work in Agriculture and Home Economics, Oregon Agricultural College, United States Department of Agriculture and Columbia County, cooperating. Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

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# FOREWORD

This bulletin is published in order to preserve a record of the recommendations and statements prepared by the various groups that made up the Columbia county Agricultural Economic conference. This conference was one of a series of 17 similar events that have followed the State Agricultural Economic Conference held at Corvallis in January, 1924. At that time a state agricultural program was adopted, based on a careful study of production and marketing of agricultural products, and a decision was made to hold county conferences in order to adapt the state program to local conditions.

The Columbia county conference was organized along commodity lines and each major agricultural enterprise was represented; namely, dairying, farm crops, poultry, fruits, livestock, and beekeeping. Special committees prepared reports on boys' and girls' club work, logged-off lands and rodents. Committees of local growers planned the conference, arranged for gathering needed information, and took a leading part in their respective commodity groups. These groups were assisted in preparing their reports by representatives of the Oregon State Agricultural College, who made available the information developed at the state conference and other data in the fields of agricultural production and marketing, especially the trends in other counties in Oregon and other states of the nation with which Columbia county products are in competition.

Singly, these reports are a guide to the best practices in the production and marketing of the county's principal sources of agricultural income. Together, they constitute a program for Columbia county agriculture. They represent the best judgment of those who participated in the conference. It is not presumed, however, that the recommendations are final or that they are not subject to revision. On the contrary, it is assumed that as conditions change and progress is made these reports should be adapted to new conditions.

About 180 local producers took part in this conference.

It is hoped that everyone interested in the welfare of Columbia county will individually and through his organizations study these reports and use them as a guide for the best development of local agriculture. The conference was a beginning. Its real value depends upon the extent to which communities, organizations, and individuals make use of its findings.

# Report of the Farm Crops Group

## POTATOES

### I. THE SITUATION

#### 1. Acreage in County.

The potato acreage has not fluctuated much during the past 10 years, showing a slight increase due mainly to the increase in number of farms. For the past five years the acreage and yields have been:

Year	Acres	Yield Per Acre (Bushels)	Total Production (Bushels)
1919	969	118	114,229
1920	900	120	108,000
1921	1200	120	144,000
1922	1500	130	195,000
1923	1320	120	158,400

#### 2. Average Yields.

The yields here average higher than the United States average and higher than the Oregon average.

#### Average Yield per Acre (Bushels)

Columbia county .....	122
Oregon .....	105
United States .....	97

#### 3. More Potatoes Produced than Consumed Locally.

The county produces on the average about 140,000 bushels of potatoes and perhaps a third of these are sold outside the county. Most of those sold go to Astoria, but nearly every year 20 car-loads or more are shipped to California and a few cars to Portland.

#### 4. Average Prices.

Potato prices fluctuate much more than is the case with prices for most farm products. Over a series of years the local price for potatoes averages about \$1.25 per bushel, taking the good years with the poor.

April, May, and June prices average about 80 cents per hundred higher than October, November, and December. This

does not mean that spring prices are always higher; in general the spring prices are lower than the fall prices in years of heavy potato production.

## 5. Cost of Production.

The cost of production is different on every farm. The cost per acre is more uniform than the cost per bushel. The following figures are averages only and are given as a guide for the reader to use in estimating his own costs. They will not fit any one farm as the cost varies with the size of the field, the methods and machinery used, the price of the land, etc.

Investment charges—		Cost per Acre
Interest on land (5 per cent on \$200 land)	\$10.00	
Interest and depreciation on equipment..	2.00	
General farm overhead (fences, ins., etc.)	2.00	
Taxes .....	3.00	
Total investment charges .....		\$17.00
Labor—		
Plowing (twice) .....	6.00	
Disking .....	2.00	
Harrowing .....	.50	
Planting .....	5.00	
Treating seed .....	.50	
Cutting .....	2.00	
Cultivating .....	4.00	
Digging and picking up .....	19.00	
Hauling in .....	3.00	
Sacking and grading .....	8.00	
Hauling to market .....	7.00	
Total labor .....		\$57.00
Material—		
Corrosive sublimate .....	.50	
Seed (5 sacks at \$2.00) .....	10.00	
Sacks .....	8.00	
Land-plaster .....	.25	
Total Material .....		\$18.75
Total Expense per Acre .....		\$92.75

In regions of higher priced land or greater distance to market the cost will be more than the above average figures.

## 6. Yields Necessary to Pay Cost of Production.

With an average price of \$1.25 per bushel and an average cost of production of \$92.75, it would be necessary to grow 123 bushels per acre to pay the cost of production or 74 sacks of salable potatoes.

## 7. Freight Rates.

The freight rates to Astoria, Portland and San Francisco from various points are:

	To Astoria	To Portland	To San Fran.
St. Helens	.18 ½	.10 ½	.45 ½
Rainier	.16	.14	.49
Clatskanie	.13	.17	.52

## 8. Potato Markets.

The only large potato market in Oregon is Portland. In recent years Netted Gems have been coming into this market in increasing numbers due to the large increase in acreage under irrigation in Yakima, Idaho, and Eastern Oregon. In 1924 Washington shipped 669 car-loads of potatoes to Portland and Oregon shipped 105 car-loads. This figure of 105 does not include truck shipments, which are large.

Oregon potatoes can be shipped in normal years only to California and the Southwestern states, due to high freight rates to all other points. The best market for Burbanks is usually in the late spring. The district around Stockton, California, uses about 900 car-loads of seed, much of it shipped in from the Middle West. This would appear to be the best possible outlet for Columbia county potatoes.

## 9. Varieties Grown.

A dozen or more varieties are grown here commercially. Burbanks lead but there are small fields of Netted Gems, Earliest of All, Early Rose, American Wonder, Irish Cobbler, British Queen, etc. It is impossible to market to advantage a large number of small lots of potatoes, each of a different variety. No large buyer is interested in a business of this kind. He can better afford to pay more money to one or two growers with several cars, all of the same variety, than to waste his time running around buying a few sacks here and a few more there.

## 10. Few Large Growers in County.

Most of the growers in the county have only one- or two-

acre fields. A buyer usually has to include potatoes from several farms in order to get a car-load. This condition is due to the fact that this is a county of small farms and also to the fact that it is a dairy county and most of the dairy farms need all of their land for growing feed crops.

## **II. POTATO RECOMMENDATIONS**

### **1. A Small Increase in the County.**

We recommend a small increase in the potato acreage. Potatoes when handled right are a better paying crop than grain and on many farms should be grown instead of grain. A five-acre field of potatoes will usually pay several times over for all the grain that can be raised on five acres.

### **2. Good Seed is Cheapest.**

We believe it to be more profitable to spend a little extra money for good seed than it is to plant poor seed and have yields cut down too far for profits. We recommend using certified and standard seed when it can be bought.

### **3. Use Only Burbanks for Late Crop.**

The market for Burbanks is the best market. It usually pays to grow what the market demands rather than what we ourselves may want to grow.

### **4. Better Storage is Needed on Most Farms.**

In many years it pays to hold for the spring market. This can be done only if proper storage is available. Some kind of moisture-proof and cold-proof storage cellar should be on every farm where potatoes are grown regularly.

### **5. Stick With the Business.**

The practice of jumping in and out of potato growing will usually lead to more losses than gains. If potatoes are grown at all, they should be grown every year.

### **6. Rotations Necessary.**

At least a four-year rotation should be followed for potatoes and farmers growing seed potatoes should have a five- or six-year rotation, preferably the latter.

### **7. Potato Grading Law Endorsed.**

We endorse the potato grading law.

### 8. Fewer one- and two-acre Fields.

Many of the growers now producing one or two acres could profitably increase their acreage to five acres, cutting down on their grain acreage to do so. These growers could then sell in car-load lots where they are now forced to wait until some buyer has located enough other potatoes to fill out the car. If it pays to grow potatoes at all it will usually pay to grow enough for a car-load.

### 9. Cull Potatoes Not Good Seed.

The practice of using the small unsalable potatoes for seed year after year is a poor one and growers find that in the long run it does not pay.

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## HAY

### 1. THE SITUATION

#### 1. Hay Most Important Crop in County.

Hay occupies more land than all other crops together. The 1923 figures are as follows:

	No. of Acres
Hay .....	11,500
All other field crops .....	5,920

#### 2. Acreage about Stationary.

There has been no change in the hay acreage during the past five years in spite of an increase of 3,000 head in number of dairy cows during the same period.

#### 3. Varieties Grown.

The percentage of the various kinds of hay grown is as follows:

Kind	Per Cent of Crop	Average Yield (Tons per acre)
Alfalfa	1	4.2
Grain Hay	14	1.9
Wild Hay	9	1.1
Vetch and Oats	67	3.0
Clover	9	2.3

#### 4. Average Hay Imports.

There is no way of checking on all of the hay imports due



to unreported truck and boat shipments. The reported import in 1924 was 1,500 tons of alfalfa. The total was probably nearer 2,000 tons.

## 5. Average Hay Prices.

In the hay surplus sections of Eastern Oregon and Washington the average price of alfalfa in the stack is about \$8.00 per ton. This represents the actual value of the hay. When shipped here the hay must be baled and there is a high freight rate and some other handling charges which bring the average local price to \$21.00.

## 6. Cost of Production.

Based on figures from a number of hay growing farms the average cost of production per acre here is as follows:

Interest on land at 5 percent .....	\$10.00
Interest and depreciation on machinery ..	2.00
Taxes .....	3.00
General farm overhead .....	2.00

Total overhead .....	\$17.00
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The above items are the same for all kinds of hay if grown under the same conditions. Annual hays such as vetch-and-oats and grain hay have costs in addition to permanent hays such as alfalfa and grass hay.

	Vetch-and-Oats	Clover	Alfalfa
Land preparation			
Plowing	\$ 3.00	\$ 1.50*	\$ .30*
Cultivating	1.00	.50*	2.00
Seeding	.90	.30*	.10*
Haying			
Cutting	2.00	1.50	4.00
Raking	.75	.50	1.50
Shocking	2.00	1.50	5.00
Hauling to barn	3.00	2.50	6.00
Seed	4.50	3.00	.60*
Total cost per acre	17.15	11.30	19.50
Plus overhead cost	17.00	17.00	17.00
Total cost	\$34.15	\$28.30	\$36.50

\*The life of alfalfa is figured as 10 years and of clover as two years. As clover is seeded with a heavy crop only half of the land preparation is charged against the clover.

## **7. Cost per Ton of Hay.**

Based upon the above average cost and average yields per acre, the cost per ton of the various kinds of hay is as follows:

<b>Kind of Hay</b>	<b>Cost per Acre</b>	<b>Average Yield</b>	<b>Cost per Ton</b>
Vetch and oats	34.15	3	11.38
Clover	28.30	2.3	12.30
Alfalfa	36.50	4.2	8.67

## **II. HAY RECOMMENDATIONS**

### **1. Increase the Alfalfa Acreage.**

A large increase in the alfalfa acreage is recommended, based upon the facts shown above. Factors favoring alfalfa are:

- (a) Lower cost of production per ton.
- (b) Larger yields.
- (c) Higher feeding value.
- (d) Longer life.
- (e) Less labor at busy season of year as plowing is done away with during the life of the crop.
- (f) Very high local price of alfalfa.
- (g) Less danger of damage of entire crop by rain.
- (h) Greater benefit to succeeding crop.

### **2. Observe Certain Rules in Growing Alfalfa.**

- (a) Use Grimm alfalfa and certified seed of that variety.
- (b) Seed on a firm seed bed.
- (c) Inoculate the seed.
- (d) Get rid of grass and weeds before seeding.
- (e) Seed only on naturally well drained land.

### **3. More Hay and Less Grain.**

Hay is a more profitable crop than grain in the county and since either or both hay and grain must in any case be shipped in, it will be better to import grain than hay.

### **4. Use Alfalfa as a Soiling Crop.**

Especially on small farms with a few dairy cows, the most profitable use of alfalfa is as a soiling crop. Green feed is provided during the entire summer when most other green feeds have failed.

### **5. Alfalfa the Cheapest Source of Protein.**

Dairymen will find that home grown alfalfa is the cheapest protein feed they can use.

## **6. Alfalfa Not Recommended for Pasture.**

Except for chickens and hogs, alfalfa is not recommended as a pasture, due to the danger of bloat. Alfalfa must be pastured carefully.

## **7. Grain Hay is Usually Not a Paying Crop.**

Either alfalfa, vetch or clover will ordinarily produce more and better hay than grain and at a lower cost of production.

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# **SUCCULENT CROPS**

## **I. THE SITUATION**

Most dairy farms in this county are comparatively small. Under these conditions silos are expensive to build and expensive to fill. Corn does not yield exceptionally high here, ordinarily not over 10 tons per acre. Root crops yield 15 to 25 tons per acre with exceptional yields running as high as 40 tons.

Roots require very little machinery and can be stored in the ground in pits or cellars. Since the harvesting of roots can be extended over a long period it can all be done without hired help.

## **II. SUCCULENT CROP RECOMMENDATIONS**

On small farms we recommend root crops as a winter succulent feed and alfalfa as a green feed to be cut as a soiling crop.

If a silo is used, we urge consideration of the practice of filling twice, once in the spring with vetch and oats or vetch and fall wheat, and again in the fall with corn. Succulent feed is necessary in the late summer as well as in the winter.

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## **PASTURE RECOMMENDATIONS**

### **1. Reed Canary Grass on Overflow Land.**

On the overflow land along the Columbia we advise trials of Reed Canary grass for pasture.

### **2. Mixed Grass Pasture on Tide-land.**

Mixed grass pastures are profitable on the tide-lands and reclaimed lowlands along the river. We recommend that the county agent and the Oregon State Agricultural College make

up a standard tide-land pasture mixture designed to give best results on this type of soil.

### 3. Prepare Home-mixed Seed Mixtures.

When grass pastures are seeded, it will pay to buy the kinds of grass desired and mix them rather than to buy the commercial pasture mixtures. These often contain a high percentage of trash, weeds, dead seeds, etc.

## GRAINS

### I. THE SITUATION

#### 1. Columbia Not a Grain Growing County.

The entire grain acreage of the county is only about 4,000. No county in the state produces less grain except the coast counties.

#### 2. Oats lead in Acreage.

In 1923 the grain acreage was:

Crop	Acreage
Oats .....	2500
Winter wheat .....	800
Spring wheat .....	400
Barley .....	250

#### 3. Barley and Winter Wheat Most Profitable Crops.

Taking the average grain prices from 1921 to 1924, and multiplying by the average yields in the county for the same years, we have the following:

Grain	Average return per acre
Oats .....	\$24.02
Winter wheat .....	30.39
Spring wheat .....	26.44
Barley .....	31.57

#### 4. Very Little Grain Shipped Out.

Practically all the grain produced is used locally. Additional grain is shipped in, so the county is perpetually on a grain importing basis.

#### 5. Cost of Production for Grain is high.

Grain costs a great deal to produce in comparison with the returns possible from it. This is due to the high priced land

and small farms. Grain farming is fit only for large farms, where it can be done at half the cost. An average cost of production per acre is given below:

**Overhead costs—**

Interest on land .....	\$10.00
Interest and depreciation on machinery..	3.00
Taxes .....	3.00
General farm overhead .....	2.00

Total overhead .....	\$18.00
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**Labor costs—**

Plowing .....	3.00
Harrowing .....	.50
Disking .....	.50
Drilling .....	.75
Binding .....	1.25
Stacking .....	.50
Threshing .....	2.00
Hauling .....	1.25

Total labor .....	\$ 9.75
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**Material—**

Twine .....	.35
Seed .....	2.50
Sacks .....	1.10

Total material .....	\$ 3.95
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Total cost per Acre .....	\$31.70
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**6. Average Prices Paid for Grain.**

From 1921 to 1924, the average prices paid for the various grains were as follows:

Kind of Grain	Price per bushel	Price per ton
Wheat	\$ 1.16	\$38.66
Oats	.52	32.50
Barley	.77	32.08

**7. Yield Necessary to Pay Cost of Production.**

Applying the above cost of production to the average prices as given above, we find the yields necessary to pay cost of production as follows:

Kind of Grain	Yield necessary to pay cost of production	Average yield in county
Winter wheat	27.3	26.2
Spring wheat	27.3	22.8
Oats	60.9	46.2
Barley	41.2	41.

### **3. Grain Costs Little to Ship Compared to Hay.**

This county imports both grain and hay, and some dairy farms buy both grain and hay. Since hay is bulky and expensive to bale and ship, the price here for baled hay is usually about three times the Eastern Oregon prices for hay in the stack. Grain, however, is comparatively cheap to ship and local prices for grain are only slightly above Eastern Oregon prices.

### **9. Many Varieties of Each Kind of Grain.**

In spite of the small acreage of grain, many varieties each of wheat, oats, and barley are produced. This leads to mixing of varieties with losses in yields due to poor varieties.

## **II. GRAIN RECOMMENDATIONS**

### **1. Less Grain and More Hay.**

Wherever alfalfa can be grown we believe it to be a more profitable crop than grain, due to the small amount of machinery required as compared with grain, the lower harvesting expense, and the entire elimination of expensive yearly plowing, seeding, etc. Both grain and hay are imported, and the dairymen can better afford to buy grain than hay. It is not possible under normal conditions to feed \$20 hay to cows and make a profit.

### **2. Small Farms Should Discontinue Grain.**

Grain growing on small farms of 20 to 40 acres is very expensive, costing nearly twice as much as in Eastern Oregon. Small farms should grow hay and cultivated crops rather than grain.

### **3. Standard Varieties Best.**

We recommend Hannchen barley for spring seeding, and Gray winter oats and White winter wheat for fall seeding.

#### **4. Barley Better than Spring Wheat or Spring Oats.**

When a crop must be spring seeded, Hannechen barley will yield more pounds per acre than either wheat or oats.

#### **5. Grow Grain Only in Rotation.**

Grain should be grown only in a rotation with a cultivated crop and a legume such as clover or vetch.

#### **6. Treat Wheat with Copper Carbonate for Smut.**

All danger of injuring seed may be eliminated by treating for smut with copper carbonate. One-fifth less seed per acre may be used than if tested with formaldehyde or bluestone.

#### **7. Increase Barley and Decrease Oats.**

Barley usually yields more pounds per acre than oats, and it fits in **well with alfalfa** when fed to dairy cows. We recommend a decrease in the oat acreage and spring wheat acreage and an increase in the barley acreage.

#### **8. Pure Seed is Advised.**

Pure seed of the proper varieties usually gives better results than badly mixed seed. We recommend certified grain seed.

Signed—

A. L. MORRIS, Chairman,  
CLYDE WATSON,  
FRANK J. PETERSON,  
CARL O. ANDERSON,  
THEODORE W. HAMMER.

# Report of the Horticultural Group

The horticultural industry of Columbia county is in its infancy. A wide range of horticultural crops are being successfully grown but rather unsatisfactorily marketed. The efforts of this committee to determine which crops can best be grown, which variety of each is best adapted, and which can be marketed to best advantage, have resulted in the following recommendations:

## SMALL FRUITS

Strawberries and raspberries are both well adapted to local production. The Improved Oregon, Marshall and Etterburg 121 varieties of strawberries and the Cuthbert red raspberry are recommended. They are all acceptable to the local cannery and are likewise good varieties for the local fresh fruit markets. The Gold Dollar strawberry is a good early variety for the fresh fruit markets, only, being worthless from the canneries' standpoint. Other varieties should be replaced by one or more of the above. Five hundred acres of strawberries and an equal acreage of Cuthbert red raspberries are necessary to supply the existing local demand for these fruits at the present time. It is the opinion of this committee that an acreage of the varieties named of these two fruits can be safely planted at this time.

Other varieties of small fruit worth giving a trial in a limited way are the Johnson strawberry and the Plum Farmer, Cumberland and Munger blackcap raspberries.

## CHERRIES

Sweet and sour cherries are both successfully grown within the county. Royal Ann is the variety of sweet cherry in most demand. Bings and Lamberts are in demand in a very limited way. The Black Republican or some other proved pollenizer must be planted with the above varieties before they will produce full crops. An increased acreage of the Royal Ann is especially recommended.

The Montmorency sour cherry is the best of the sour varieties and should be planted to meet the demands of the local cannery.



## APPLES

The apple trees of this county are mostly in small family orchards and scattered groups of trees around the farm buildings. They are quite often of unsuitable varieties and usually very poorly cared for.

The few orchards of commercial size which are properly cared for are producing good yields of very desirable fruit. The Gravenstein, Jonathan, Spy and Delicious are the varieties doing best for these growers and are recommended for any future plantings.

It is the recommendation of this group that all family orchards and scattered apple and pear trees be cleaned up and put in a healthy condition or be destroyed. They stand as a deterrent and menace to the apple industry of the county. No additional acreage is recommended until this clean-up work has been done.

## VEGETABLES

Many kinds of vegetables can be successfully grown in Columbia county and should be produced on a large enough scale to supply our local markets. Especial attention is called to the need of our local cannery for such vegetables as green beans, beets, carrots, etc. By planting the varieties and acreage recommended by the cannery these crops can be made to return a handsome profit to the grower. It is recommended that an effort be made to meet this need.

Signed—

J. A. BACON,  
GRANT LYNCH,  
O. W. TUCKER.

# Report of the Livestock Group

## I. THE SITUATION

The number of beef cattle in the United States at present is close to 40 million, which is about 4 million less than in 1920. Oregon has at present 560,000 beef cattle or 15 percent less than 5 years ago. Columbia county has at present 715 beef cattle or 60 percent less than 5 years ago. With the present per capita consumption of beef and veal at about the same level and with an increasing population in the country, the outlook for beef cattle production is encouraging. There are a few factors, however, that should be recognized. One of these factors, for example, is the competition that comes from the dairy industry in the form of worn-out dairy cows and veal; this source of meat supply has increased in Columbia county 38 percent and in the state 11 percent. Poultry and poultry products, moreover, have increased in Columbia county 100 percent, and in the state 10 percent and, in addition to these products, fish has general use in the diet in place of meat.

## II. RECOMMENDATIONS

### **Beef Cattle.**

It is the feeling of the livestock committee that more beef cattle can be profitably raised in Columbia county where attention is given to the carrying capacity and where due consideration is given to the numbers that the available feed supply will profitably support. The livestock committee feels that it is more profitable to sell the beef calves at 6 to 10 months of age in the form of baby beef, weighing 300 to 400 pounds dressed, than to keep them until one or two years old. It is estimated that a cow can be fed one year for about \$24.00 and that a baby beef weighing 400 at 15 cents will bring \$60.00, which is as much as can be obtained for a two-year-old steer. This system eliminates the extra overhead expenses and insures a greater return to the producer.

The county at present has a high percentage of pure-bred bulls. About 85 percent continued improvement along this line is recommended.

For Columbia county conditions and the marketing of

calves it is recommended that pure-bred beef cows be used. Of the 700 beef cows in the county, about 20 percent are pure-bred.

It is recognized that the future success of the beef business depends on a good quality of beef. It is therefore recommended that beef producers of Columbia county pay particular attention to the production of the best type of beef cattle or such as will furnish the kind of meat that the market demands.

### **Sheep.**

Medium wool sheep do well in Columbia county. The long wools have not proved satisfactory under conditions found here. It is the feeling of this committee that there is a place for continued production, an increase of about 50 percent to be recommended.

### **Horses.**

The horse situation is acute. The average age of the work horses in the county and all over the country is about 12 years. There are only 2 stallions standing for public service in the county. No one knows just how far the tractor will go in replacing the horse. It is a certainty that good draft horses will be good property and will bring a good price. It is therefore recommended that those having desirable brood mares should breed at least enough to take care of their own needs on the farm. At the present time there is about one horse for every 100 acres of improved land in the county.

### **Hogs.**

It is recommended that enough hogs be kept in the county to take care of the farmers' own needs and to consume farm waste from the dairy and grain fields as well as table waste. About the right proportion would be one hog for every producing dairy cow to consume skim-milk, one hog per farm to consume table waste, and enough in addition to take care of wastes around the grain field.

Signed—

A. H. TARBELL, Chairman,  
T. BROWN,  
H. R. DIBBLEE.

# Report of the Dairy Group

The dairy group of the Columbia county economic conference recognizes the importance of dairying to the agriculture of the county, and wishes to call attention to a few facts on which their recommendations are based.

## I. THE SITUATION

Dairying in the county has made a gradual increase until the present year, when a slight drop has occurred due to the dryness of the past summer. This decrease will be overcome in a short time with continued fair markets for products and with better feed crops. Considerable expansion in dairying is possible with the increase of the area of cleared land on which may be grown the necessary feeds.

### **Dairying is on Small Unit Basis.**

The total number of dairy animals in the county January 1 was 10,648. This is approximately 250 percent more than in 1910. Of this number about 70 percent are cows 2 years old or over. These cows are found on more than 1,000 farms; consequently the average size of herd is less than seven. It is apparent, therefore, that while there are a number of large commercial dairies, and while dairying represents almost one-half of the agricultural income, yet it is on a small unit basis and is often on a side-line proposition. In many cases, too, the small area of the farm in cultivation prevents profitable expansion. Where the area in cultivation can be increased to provide adequate amounts of feeds, larger units are more efficient and more profitable.

The smallness of herds also proves a handicap to manufacturers in the county in that the small volume of product from these farms tends to prevent its being properly taken care of, resulting ultimately in manufactured products of poorer quality.

Quality in both whole milk and cream and in cream used for manufacture cannot be overemphasized. Upon quality of product depends expansion of markets, and in the discriminating markets price is dependent on quality. This will be true of local markets ultimately. Milk and cream should be so carefully handled on the farm that corrective measures such as

pasteurization at manufacturing plants should be unnecessary.

### **Local Market is Comparatively Good.**

Dairy products of the county are manufactured into butter and cheese in the two creameries and two cheese factories. Both milk and cream are shipped to Portland and cream is shipped to Astoria. One of the creameries receives considerable product from the state of Washington. Prices paid by local plants have compared very favorably with the out-of-county markets; in fact the cooperative plants and some private ones have paid more than the Portland quoted price. Whole milk prices the past year compared to cream have practically compensated dairymen for the skim-milk, which at present prices of grain is worth at least 40 cents per hundred pounds. Butter-fat in whole milk should be worth 10 cents more per pound than in cream.

### **Shortage of Legume Hays.**

One of the serious handicaps to profitable production in the county is the shortage of legume hays. A check of hay importations indicates that annually at least 12 percent of the gross income from the dairy is spent in this way. With the possible exception of the tide-lands much of the grain hays raised could be replaced by legumes. These legumes such as clover, vetch, pea and alfalfa, have special value in being more palatable, which increases the amount consumed, resulting in a lessened amount of grain required, and also furnishes the food elements necessary for milk production which in the form of concentrates are the most expensive to buy.

Succulent feeds, such as silage, roots and kale, can also be grown and used to a greater extent. The use of succulent feeds assures more healthy cows, stimulates milk production, and decreases both the grain and hay requirement. It is advantageous to use kale with silage or roots. Whether to grow roots or crops for the silo depends on yields obtained of each. When roots produce more than three times the tonnage of silage crops, they are likely to be the more profitable.

### **Grains for Feed are Imported.**

More than 3,500 tons of grains for dairy feeding is annually imported into the county; this means that one-fourth of the gross return from dairy products is spent for concentrates. The high cost of clearing land may prevent any increase in the amount of grain produced for some time, but with greater

consideration given to legume hays and succulent feeds as previously mentioned material decreases could be made in grain importations. It is not expected that the purchase of grain by dairymen will be discontinued and for this reason needs should be anticipated and every advantage possible should be taken of buying in large lots.

### **Average Production Greater Than State Average.**

Economy of production is dependent more on productive ability of cows kept than on any other one factor. In this regard Columbia county compares favorably with other counties, but much improvement is possible and desirable. The average production per cow in the county is 200 pounds of butter-fat annually. This is 30 pounds more than the average for the state but is 40 pounds less than the average for the highest county and is perhaps 50 pounds below the average necessary for profit. In fact, dairymen of this section state that a 300-pound average is necessary to insure a profit and some have set their aim at 400 pounds.

Continued keeping of systematic records is the only satisfactory method of determining the profitableness of individual cows in the herd. The importance of this is apparently not fully realized by dairymen of the county as the number of cows on which records of production are kept will not exceed 15 percent. Membership in cow testing associations as well as the number keeping private records should be greatly increased.

The number of inferior sires retained at the head of dairy herds is comparatively low, but present prices of good pure-bred sires is such that there is no reason for keeping inferior animals.

There is a more even distribution of production in the different seasons than in some other counties of the state. For some sections of the county, especially the tide-lands, due to feed conditions, spring and summer dairying is more profitable, while for the higher lands where adequate amounts of succulent and legume hays are raised winter dairying is more profitable. Prices of product usually favor winter dairying; if therefore feed conditions justify there can be some increase in production for this season.

## **II. DAIRY RECOMMENDATIONS**

In view of these considerations your committee recommends:

1. That all dairymen strive to produce products of the

highest quality and that all efforts toward standardization and payment on grade of product be supported, to the end that sales be expanded and more satisfactory prices be received.

2. That all dairymen producing whole milk strive to produce a quality of product that will classify as certified, guaranteed, or grade A milk, thus making pasteurization unnecessary from the standpoint of cleanliness and increasing market possibilities of raw milk.

3. That dairymen provide increased amounts of legume hays for their cows in milk.

4. That greater attention be given to succulent feeds, such as silage, roots and kale, to the end that the hay and grain requirement be decreased and the most economical rations be obtained.

5. That the feeding of these succulent feeds be deferred until after milking to insure milk products of the highest quality.

6. That dairymen recognize that saving \$1.00 per ton on grain is equivalent to receiveing at least one-half cent more per pound of butter-fat, and that grain needs be anticipated and bought in as large quantities as possible.

7. That average production of 300 pounds of fat per cow be set as a goal for the county.

8. That each dairyman, keeping in mind his home feed supply, consider the possibilities of increasing his winter dairying.

9. That the number of cows tested for production be increased, either through associations or other satisfactory means.

L. G. SMITH, Chairman,  
R. E. STRATTON,  
MAY BRIGGS.

# Report of the Poultry Group

## I. THE SITUATION

### 1. Production.

Columbia county produced \$124,485 worth of poultry products in 1919 and \$66,216 was derived from the sale of poultry products. As compared to other counties of Oregon it ranks seventeenth in value of poultry products produced and fifteenth in value of products sold. Nearly six percent of the total agricultural cash income was derived from the sale of poultry products.

There has been a very rapid increase in the poultry industry of the county since 1919 and the census figures do not show the present situation. The poultry industry gives evidence of even greater expansion.

It has been the intent of the poultry group to study the poultry industry of the county from many angles; to consider the advisability of expanding the industry and to incorporate into this report certain methods of management which will make the poultry business a safer enterprise for those who may engage in it.

### 2. Marketing.

Columbia county produces a surplus of eggs which must be sold outside of the county.

The state of Oregon produces a big surplus of a few hundred car-loads of eggs which in turn must find a market outside of the state. Fortunately a strong outside buying demand exists for the surplus eggs of good quality. This export surplus could be more than doubled without injury to prices provided this increased volume came from flocks large enough to insure good quality and large enough to ship in case lots.

The surplus eggs of the state are marketed cooperatively through the Pacific Cooperative Poultry Producers Association, a recognized success in the field of cooperative marketing. This association works in close harmony with similar cooperative associations of California and Washington. The above association benefits all poultry producers whether members or not. With the surplus eggs shipped away the local markets are kept at a higher level than if the home markets were glutted with eggs.



## II. POULTRY RECOMMENDATIONS

1. Columbia county is well adapted to poultry farming; land prices are reasonable; eggs of good quality can be produced and sold at a profit; a ready market exists for quality eggs and means of transporting the products to market are good. This group, therefore, recommends that the poultry industry in the county can be safely expanded.

2. Poultrymen have solved only half of their problem when they sell their eggs cooperatively. It is recommended that future expansion of the poultry industry take place among a greater number of farmers in a given community rather than a scattered expansion throughout the county. Development by communities will result in lower production costs through collective buying of poultry feeds and supplies.

3. It is recommended as a more economical method for the new beginner or strictly commercial egg farmer to purchase day-old chicks or three-months-old pullets than to engage in breeding or incubation work. More work is needed to safeguard the buying public from unreliable sellers of chicks.

4. Many losses occur due to the fact that many people attempt poultry keeping on a larger scale than their experience or poultry knowledge warrants. It is the recommendation of this group that not more than 500 chicks be brooded the first year. The 200 pullets secured from this number of chicks will provide enough expense and experience for the beginner's first year.

5. On farms not interested in poultry or where other farm work does not provide surplus labor, it is recommended that such flocks as are now carried be reduced to the small number necessary to supply only the needs of the home table. During the flush season a great volume of inferior eggs, from poorly managed farm flocks, is "dumped" on the market.

6. On farms where labor is available each day of the year, where green feed can be provided at all seasons, and where capital is available for necessary outlay in starting the business, it is recommended that during a two- or three-year period a flock of 500 hens and pullets be established as a side-line business.

7. As a major activity or specialized commercial egg farm where one man expects to derive his major income from

poultry, it is recommended that, as soon as experience warrants, a minimum unit of 1,000 hens and pullets be established.

In commercial poultry farming, or as a side-line business, the poultry group recommends that the percentage of the flock each year consist of approximately 50 percent pullets and 50 percent hold-over hens.

8. The producers of commercial eggs must have the benefit of fall and winter production to get a higher average price for the year's production.

This committee strongly recommends that producers get the chicks early enough in the spring to be old enough to come into flock production by October. It is suggested that the most desirable time to secure chicks of lighter breeds is from the middle of March to April 15. Heavier breeds should be secured earlier as they require a longer time to reach maturity.

9. It is false economy to attempt to brood and range together chicks of different ages. This often happens where the small farmer's incubator is operated several times during the spring. It is, therefore, recommended that where only one brooder and one range are available, producers buy or hatch all chicks at one time.

10. The greatest undermining factor in the poultry business is soil contamination. This results when large numbers of fowls use the same soil area too long. The greatest danger applies to yards or ranges used for brooding chicks and rearing them to maturity. A lack of acreage contributes to poultry farm failures. Real estate agencies should not exploit two- and three-acre tracts for intensified poultry farms where young stock is to be reared each year. It is hereby recommended that commercial poultry keeping should not be attempted on less than 10 to 15 acres of ground for each unit of 1,000 hens.

11. Poultry producers will succeed according to their foresight and ability to rear healthy, mature pullets. Clean soil must be provided for brooding and ranging young stock, if intestinal parasites and disease dangers are reduced to the minimum.

On farms where hill land makes the portable brooder house undesirable (described in O. A. C. experiment station circular 52) a permanent brooder house becomes a necessity. In such cases it is recommended that the permanent brooder house

be located on a given area so that two or more yards may be provided. Under this system it is understood that only one yard is to be used each year in its logical turn. As soon as the pullets are old enough (8 to 10 weeks) they should be removed from the brooder house and brooder yard and taken out on free range not used the previous year.

12. Pullets should have plenty of ventilation during their development period. Brooder houses used for range houses soon become crowded. It is recommended that producers guide their construction of range houses by the plans for "The Open Air Range House" (O. A. C. experiment station circular 54). This type of house has proved satisfactory under Western Oregon climatic conditions.

13. Laying houses in too many cases are constructed according to some untried hobby. Such houses may or may not meet climatic and production requirements for the flock.

It is recommended that producers consult the plan of poultry house recommended by Oregon State Agricultural College (experiment station circular 51) before building. (All poultry bulletins referred to may be secured from the County Agent, Mr. Nelson.)

14. Green feed is one of the four major classes of poultry feeds necessary for growth and egg production, and regarded as the most important feeds. It is hereby recommended that the poultry producers plant a small patch of root crops each year to be used as an emergency winter feed, in case of cold weather or shortage of kale, alfalfa or other greens.

15. The poultry commodity group desires to go on record as favoring the new egg grading law and its enforcement which was passed by the last session of the Oregon Legislature. This law provides that all eggs that reach the ultimate consumer must be candled and sold according to quality and size.

16. Poultry farming has been exploited as an easy business, requiring but small capital and little experience. Such propaganda is unsound.

The poultry group desires to present a few facts in order to promote a common understanding.

The development of a large flock should be made gradually. An amateur should select one reliable source of "information," and follow it closely rather than act upon the miscellaneous

"advice" handed out from many unreliable sources.

Where the farm and home are owned and a poultry unit is to be established it will require an approximate outlay of cash or credit the first six months of \$2.40 per pullet under Columbia county conditions. (Lumber prices are relatively lower than in many other sections.) The expenditure is prorated as follows:

A. Brooder house, brooder, fuel, supplies per chick....	\$ .15
B. Feed, litter, cost of chicks, mortality losses to six months of age, range house, per pullet.....	1.25
C. Permanent laying house, material, labor, equipment, fencing, etc., per pullet.....	<u>1.00</u>
Approximate total .....	\$2.40

The above statements show an approximate overhead, minus labor, taxes, interest on investment and depreciation. They show the necessity of following a system of poultry farm management that will make the investment safe.

Signed—

MRS. WALTER KELLAR,  
J. VAN SWOLL,  
P. MAURIS,  
AXEL CHELLBERG.

# Report of the Committee on Beekeeping

## **Present Production.**

Census 1919—1676 hives, value \$10,579.00.

35,495 pounds honey and 640 pounds wax, value \$9,466.00.

These statistics represent bees on farms only. Bees in town, and bees in apiaries belonging to bee-keepers living in town, are not included.

## **Estimate 1925.**

3,000 colonies .....	value	\$36,000.00
120,000 pounds of honey ....	value	15,000.00
3,600 pounds of wax .....	value	1,152.00
Honey and wax .....	value	16,152.00

## **Possible Production.**

30,000 colonies,  
1,200,000 pounds of honey,  
36,000 pounds of wax.

## **Honey Flora.**

Fireweed 50 percent, clover 5 percent, maple 10 percent, wild blackberry 25 per cent, fruit and Canada thistle and other minor plants 10 percent.

## **Cost of Production.**

As cost of production is unknown, a study should be made of the cost.

## **Marketing.**

Local consumption 20 percent.

Exported, 80 percent.

Local consumption can be increased by probably 100 percent by advertising and service to the dealers.

## **Disease.**

Ten percent of the bees in the county are diseased. Disease can be reduced to the point where it will be a minor factor by:

1. Education.

Extension Service help through:

- (a) Demonstrations, etc.
- (b) High school agricultural classes.
- (c) Club work on bees.
- (d) An educational program.

2. Inspection.

- (a) Enforcement of present laws.
- (b) Registration.
- (c) An "area clean-up" program.

3. Cooperation.

- (a) A central sterilizing plant.
- (b) Hospital yards under control of inspector.

**Consumption.**

Present consumption (estimated):

Population, 13,960.

Per capita consumption in the United States, 1.8 pounds.

13,960 times 1.8 pounds is 25,128 pounds.

Estimated present production 120,000.

**Exported** honey is 120,000 pounds less 25,000 pounds  
or 95,000 pounds.

Columbia is therefore an exporting county.

Present consumption can be increased by:

- 1. Advertising (many methods).
- 2. Service to dealers and consumers.
- 1. Developing confidence in honey, eliminating poor honey, etc.
- 4. Lower production and marketing costs and thus make it possible to sell cheaper.

Signed—

K. D. RAKER, Chairman,  
ALBERT MORTENSON.

# Report of the Boys' and Girls' Club Committee

## I. THE SITUATION

Boys' and girls' club work in Oregon is conducted by the United States Department of Agriculture, the Oregon State Agricultural College and the State Department of Education, cooperating.

Club work has been conducted in this county about 10 years, and the results have shown that it is well worth while.

The 1,500 boys and girls that attended the recent club congress in Chicago, champions from 44 states and Canada, show the extent and interest that is being taken in this work.

Practically every county in Oregon is doing club work. Eight counties have county club leaders.

In Columbia county this year 225 members enrolled; 132 started and 77 completed the work.

The value of the completed work..\$1337.71

The cost of the completed work.. 900.29

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Leaving a net profit of.....\$ 437.42

## II. RECOMMENDATIONS

We, your committee, recommend:

1. That the club projects in the county so far as possible coincide with the recommendations of this conference.

2. That parents give their local leaders better support and thus help in promoting the club work and that more people realize their responsibility for this work and serve as local leaders.

3. That the granges, parent-teacher and livestock associations, and other organizations assist the club leader in securing animals, seed, necessary ground, or other material for the club members' projects.

4. That the following projects be stressed in this county: Poultry, calf, pig, garden, potato, canning, sewing, cooking and home-making.

5. That this county increase its enrollment to 200 active members and that each leader make every effort to have the members complete the work and make an exhibit at the county fair.

6. That since sewing, cooking and home-making can be organized at this time of year and completed before school closes we do earnestly ask for the cooperation of the teachers in completing their projects as mentioned.

7. That the county fair board provide for club demonstrations and contests to be held during the county fair and that suitable prizes be awarded.

8. That prizes for club work be increased to \$5.00 for first place and extended for seven places as follows: \$4, \$3, \$2, \$1, \$1, \$1.

9. That in the calf club work, division one, the classification be junior and senior classes.

10. That while we realize that we must have prizes, we urge local leaders and others interested to stress the fact that club work means more than prizes and that the real prize is the educational training.

11. Realizing the value of knowing our neighbors we recommend a club picnic to be held in the county this year, under the joint management of the county agent and county school superintendent, they to select the time and place.

Signed—

MRS. MAY BRIGGS, Chairman,  
MRS. M. J. MILLS,  
MRS. DELLA GILBERT,  
THAN BROWN,  
J. C. SKEANS,  
O. A. ANDERSON.



# Report of the Committee on Logged-Off Land

## I. THE SITUATION

The logged-off land of Columbia county presents a serious economic problem. It is estimated that this area outside of similar land in farms constitutes approximately one-half the total area of the county. It now includes an area greater than the total area in farms both improved and unimproved. It is said that the area is being enlarged by about 5,000 acres a year.

The logged-off area is a problem in that its settling calls for county expenditures for improvements, county, state and individual expenditures for fire protection, and other expenses. On the other hand, it is in some cases potential agricultural land and the rest seems to be only useful for reforestation. But little is now cultivated and practically no reforestation is taking place, especially in the large tracts. These lands are now paying taxes which seem high to owners who realize little from them, but if these taxes necessary for county government are shifted to other farm property the tax burden will become still more excessive to these people who now pay taxes on considerable areas of similar land now classified as farm land.

## II. RECOMMENDATIONS

Believing that much of the land must ultimately be reforested, the committee makes the following recommendations in trying to make the most economical disposition of this problem.

1. Lands too steep for farming, and those other lands even though of good topography that are inaccessible or at long distances from market are recommended for reforestation.

2. It is recommended that reasonably level land within a reasonable distance from transportation and capable of being cleared without excessive cost be considered as agricultural land.

3. It is not practical because of the expense involved to attempt clearing immediately after logging. Because of the buried debris from present logging systems as well as the expense of removing green stumps, it is considered impractical to clear until 10 to 15 years after logging. This interval between logging and clearing will depend in part upon kind of stumps, size of stumps, and rapidity of rotting, and upon the method of clearing to be used. Char-pitting may be undertaken about ten years after logging, while power clearing should be delayed about five years longer.

4. It is recommended that all logged-off land be burned over at some time soon after logging when there will be a good burn and that all such lands be seeded to a good pasture mixture. Such lands should then be given regulated grazing to avoid over grazing and destruction of the grass stand in certain cases and to avoid damage to young tree growth in cases of land to be reforested. Pasture from these lands will bring in revenue for several years, and it is generally conceded that the fire hazard is less and the chances for reforestation are greater where some pasturing is practiced.

5. Several years' valuable pasture may be had especially if a good pasture mixture is sowed in the fall after a good fall burn. Burn mixtures as sold are frequently mixtures of poor grasses for pasture purposes and screenings and are generally non-productive, short lived, and a waste of money. The committee recommends the sowing of a standard pasture mixture worked out by the county agent and the Experiment Station and that the county agent make such arrangements locally as are necessary in order that such mixture may be easily secured by ranchers and timber-land owners.

6. It is particularly recommended that the seeding take place as soon as possible after the first burn, that being the best time for securing a stand of grass necessary for pasture and fire protection.

7. That any area in the county will reforest if fire is kept away is amply shown in many instances. On the other hand, where burning and reburning occurs as it does on the unseeded, logged-off land, no effective reforestation takes place, and the land becomes infested with brush, ferns, and other deep-rooted perennials. The reburning that brings about

this condition destroys the tree seeds and young tree growth and only flying weed seeds and perennials whose roots are not destroyed will continue growing after the fires. This condition makes natural reforestation impossible and also adds to the expense of clearing those lands desired for that purpose.

8. Much criticism is directed at the present regulations in connection with the issuance of fire permits for burning logged-off land. It is said that the regulations and their administration are such as to defeat their own purpose. For various reasons such permits are hard to get, and frequently when they are secured the period for safe burning of the particular tract has passed. This and the fact that the fires that start are so often let go of necessity until they are too large for control are the reasons for the following recommendations:

It is recommended that the district warden appointed by the state forester appoint at least one man recommended by the people of each school district to be a deputy warden for that district, and that these deputy wardens be authorized to issue permits for burning logged-off and other land where such is necessary and safe, and that he be in charge of fire control in his district. It is further recommended that these deputy wardens be paid for the actual time they are engaged in the fire control work.

It is thought that this arrangement will both make possible the speedy control of fires and substantially reduce the cost of control, and that damage to land and new forest will be reduced to an even greater extent. Accessibility of the warden will make for greater flexibility in issuance and proper use of fire permits with less hazard to adjoining land.

9. There have been many misrepresentations of the value of logged-off land and many settlers have been induced to pay prices far beyond the producing value of the land when improvement costs are considered in comparison with the purchase price of other improved land. Much of the logged-off land because of topography, excessive clearing cost, and inaccessibility is worthless for agricultural purposes. None of the logged-off land when considered from its producing value is worth more than \$5.00 to \$10.00 an acre. The \$10.00 price should be considered an absolute maximum and only for pieces very advantageously located.

10. After logging and burning the recommended first crop is grass for pasture. After the pasture period and when

clearing of stumps takes place, the recommended first crop is potatoes. Columbia county, already a large producer of the crop, in view of its having so much new land, should become a large producer of fine seed potatoes. Turnips also make a good first crop. Rutabagas, especially in the west side of the county, offer promise for feed and market. Following the potatoes or roots should come grain and clover or vetch as the start of a good crop rotation.

11. Land clearing costs are very high. If labor and materials are paid for at prevailing prices the clearing will cost from \$100.00 to \$300.00 an acre even on land that has been logged for a ten-year period. Many farmers estimate their clearing costs at a lower figure as they do not count their labor or team work at its usual value. A good many do their clearing at times when other work of the farm is not pressing and when not working for wages elsewhere.

Methods of clearing differ in different soils and with different kinds and sizes of stumps, but the general costs are much the same if all items of labor and material are counted at prevailing prices.

The following itemized figures on cost of clearing are presented for some clearing done by R. E. Stratton. These jobs were done with stumping powder purchased through regular channels. The labor was figured at \$4.00 per day and the teams at \$4.00 per day. It is estimated that the powder cost would be nearly cut in half if the government powder such as Sodatol or Pyrotol had been used.

Job 1. All green work, heavy clearing, no stumps burned.

Job 2. Some large stumps and logs, no green brush or trees; no logs or stumps burned.

Job 3. About half old logs and stumps and the other half green brush and trees; but in this case all logs, stumps and brush were burned.

All jobs were 1 acre each.

Job No.	Days man labor	Days team work	Stumping powder Pounds	Cost	Total Clearing Cost
1.	47	8	350	\$63.40	\$283.40
2.	13	2	250	\$39.90	\$ 99.90
3.	43	6	300	\$57.10	\$247.10

12. All logged-off land, whether for agricultural development or for reforestation, should be taxed uniformly on the basis of its pasture value until such time as agricultural de-

velopment or reforestation has taken place, at which time the regular taxation system then in operation is to be used.

It is recommended that for such reforested land a suitable severance tax be worked out. It is further recommended that legislation be enacted protecting the interests of logged-off land-owners in order that they may control the pasturing of stock on their logged-off land without fencing. In this way the land may yield a revenue during the pasture period and regulated grazing may be secured. If this plan which should permit of reforestation can not be worked out in a reasonable time, the following is recommended as an alternative, namely: That land which because of topography, inaccessibility, or for other reasons is non-agricultural land, be designated as forest land and that arrangements be made for its being taken over and administered as such by the United States forest service.

ORRIS KELLAR Chairman.  
J. A. BITTERLING,  
E. E. DAVIS,  
R. E. STRATTON,  
G. W. MILLS.

# Report of the Rodent Control Committee

The rodent control committee of this conference has thoroughly discussed the rodent problems confronting Columbia county and has arrived at the following conclusions:

1. That the gray-diggers are increasing rapidly in this county. The great and increasing area of cut-over land affords fine breeding grounds for these animals, and efforts for their control are necessary.

2. Community effort seems to be the only possible method of handling the squirrel problem, and we recommend that about March 1, community organizations in the squirrel infested districts be perfected, and a definite clean-up period be set in each community, and drives carried out.

3. We request the county court of this county to create a rodent control district of the squirrel-infested areas in this county and put the compulsory poisoning law into effect.

We do not believe it feasible or fair to ask that all lands be included in this district, but we do think that cultivated areas should be protected by poisoning the lands immediately adjacent.

4. We recommend that every farmer use the poison barley supplied by the county agent's office. It is very effective and will not kill as many birds as if poisoned wheat were used.

There is at present no feasible method of handling the mole problem except by trapping, and until some practical method of poisoning is devised it will be necessary for each farmer to handle his problem individually by trapping.

Signed—

D. E. FREEMAN,  
DONALD PARCHER,  
G. C. RABINSKY.

## A SURVEY OF COLUMBIA COUNTY AGRICULTURE

Compiled in 1925 from available  
national, state, and local records.

### Population Statistics (U. S. Census)

Table I

Census Year	Per sq. mile	Number	Percent Increase
1860		532	
1870		863	62.2
1880		2,042	136.7
1890		5,191	157.2
1900	9.2	6,237	20.2
1910	16.0	10,580	69.6
1920	21.1	13,960	31.9

State  
(1920) 8.2

# COLUMBIA COUNTY

## Number of Farms, Land Area, Etc.

(U. S. Census)

Table II

Census Year	No. Farms	Acres in Farms			Percent Ind area in frms	Percent fm ind acreage impvd	Average acreage per frm	Average impvd acres per farm	Total land area in county	Percent land improved
		Impvd	Unimpvd	Total						
1860	77	6,556	21,289	27,845		23.6	361.6	85.1		
1870	99	2,053	29,107	31,160		6.6	304.6	20.7		
1880	157	14,482	27,260	41,742		33.9	266.0	92.2		
1890	385	20,028	59,344	79,372		25.3	222.0	56.0		
1900	801	18,045	124,861	142,906	33.0	12.6	178.4	22.5	433,280	4.2
1910	813	16,112	75,260	91,372	21.6	17.6	112.4	19.8	423,680	3.8
1920	991	22,182	67,707	89,889	21.2	24.7	90.7	22.4	423,680	5.3
1925	1,595	20,006		105,619						

## Value of Farm Property

(U. S. Census)

Table III

Census Year	No. Fms	Total Farm Values			Average Values Per Farm				
		All frm Property	Percent Incrse	Land	Buildings	Imp. & Mach.	Livestock	All prpty Bldgs	Land & Livstck (A's)
1860	77	\$142,352		\$63,732	\$5,212	\$73,408	\$1,849	\$828	\$68 \$953
1870	99	194,160	36.4	118,102	7,465	68,593	1,961	1,193	75 693
1880	157	493,178	154.1	405,915	10,128	77,135	3,141	2,585	65 491
1890	358	1,724,330	250.0	1,454,820	40,370	229,140	4,817	4,064	113 640
1900	801	2,287,499	32.7	1,465,660	411,290	76,830	333,719	2,856	2,343 \$10.26 96 417
1910	813	4,666,278	104.0	3,280,675	791,645	157,393	436,565	5,740	5,009 35.90 195 540
1920	991	8,879,914	90.3	5,762,720	1,544,520	474,128	1,098,546	8,961	7,374 64.11 478 1,109
1925				6,467,452	2,187,213				

Prior to 1900, livestock value figures included value of poultry and bees.



# COLUMBIA COUNTY

Value of Farm Products, 1919, and Livestock, 1920  
(U. S. Census)

Table IV

Crops Produced:	Value	Total Value
Hay and forage .....	\$519,396	
Vegetables (inc. potatoes) ..	323,413	
Cereals .....	189,014	
Fruits and nuts .....	147,737	
Other grains and seeds .....	159	
		\$1,179,719
<b>Livestock, Poultry and Bees</b>		
Dairy cattle .....	\$617,257	
Horses .....	189,762	
Beef cattle .....	130,452	
Swine .....	77,888	
Poultry .....	45,323	
Sheep .....	23,679	
Bees .....	10,579	
Mules .....	2,965	
Goats .....	611	
Asses and burros .....	30	
		\$1,098,546

# COLUMBIA COUNTY

Income from Sale of Farm Products  
(U. S. Census)  
1919

Table V

Product	Income	Percent of Total Income
Dairy products .....	\$ 517,879	42.2
Livestock and meats .....	180,000	14.7
Cereals .....	140,000	11.4
Vegetables (inc. potatoes) ..	130,000	10.6
Fruits and nuts .....	110,000	9.0
Poultry products .....	66,216	5.4
Wool and mohair .....	63,000	5.1
Hay and forage .....	19,000	1.6
Totals .....	\$1,226,095	100.0

# COLUMBIA COUNTY

## Livestock Development

(U. S. Census)

Table VI

Census Year	Total Value All Livestock	No. Farms Reptg	Horses Number	Horses Value	Mules No.	Mules Value	Asses & Burros No.	Asses & Burros Value
1860	\$ 73,408		220		8			
1870	68,593		307		28			
1880	77,135		436		5			
1890	229,140		924		18			
1900	320,757	745	1,630		35			
1910	417,660	767	1,650	\$177,395	10	1,475		
1920	1,042,644	993	1,884	189,762	28	2,965	2	\$30
1921			1,884		28			
1922			1,884		28			
1923			1,884		28			
1925			2,152					

Working Oxen, not included in above totals:

1860.....	200
1870.....	158
1880.....	193
1890.....	3,353

Note: Valuation figures previous to 1910 include poultry.

Note: Figures for 1921, 1922, and 1923 from U. S. Bureau of Crop Estimates.

# COLUMBIA COUNTY

## Livestock Development

(U. S. Census)

Table VII

Census Year	All cattle		Beef cattle		Dairy cattle		Sheep		Goats		Swine	
	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value	No.	Value
1860	2,213		1,270		743		743				705	
1870	2,027		1,145		724		1,602				1,206	
1880	2,123		1,053		877		1,566				1,120	
1890	5,755		3,332		2,070		1,362				2,070	
1900	8,024		4,680		3,344		2,521		267		3,232	
1910	7,802	\$218,782	3,287		4,515		1,752	\$5,631	239	\$561	2,068	\$13,816
1920	9,737	747,709	2,019	\$130,452	7,718	\$617,257	2,207	23,679	99	611	3,802	77,888
1921			2,000		7,700		2,200		99		3,500	
1922			2,200		7,900		2,000		99		3,600	
1923			2,000		8,300		2,000		99		3,200	
1925	11,399		715		10,648						1,999	