REPORTS OF THE

POLK COUNTY AGRICULTURAL ECONOMIC CONFERENCE

SUGGESTING

AN AGRICULTURAL PROGRAM for POLK COUNTY

DALLAS, OREGON, NOVEMBER 18-19, 1924

Conducted by Representative Farmers and Business Men of Polk County and the Extension Service of the Oregon Agricultural College, cooperating

INDEX

FOREWORD

This bulletin contains the findings and recommendations of the Polk County Agricultural Economic conference held at Dallas November 18 and 19, 1924, and is published by request of the conference. About 200 representative farmers and business men of the county participated.

This conference was the first of a series scheduled during the season of 1924-1925 as a sequel to the state economic conference held at the Oregon Agricultural College in January, 1924. Its purpose might be briefly stated as an effort to inventory the present status of agriculture in Polk county, analyze the balance between production and market demands and arrive at conclusions that might form the basis for the best development of local agriculture.

The conference was organized along commodity lines covering the following major sources of agricultural income: farm crops, horticulture, dairying, livestock, poultry. Other groups that were included in the conference are home economics, flax, farm management, boys' and girls' clubs, farm engineering and milk goats.

Committees representing these groups were appointed in advance of the conference and in cooperation with the Extension Service of the Oregon Agricultural College assembled much information of value in determining a program of production and marketing that would best further the interests of Polk County agriculture. Statements of findings and recommendations were prepared. These were considered by the conference and were adopted.

Taken together, the conference reports constitute a foundation for a county agricultural program. Singly, they indicate the most approved practices in their respective fields.

The conference was a beginning. Its real value depends upon the extent to which communities, organizations, and individuals make use of its findings. These reports are commended to the consideration of all persons interested in the welfare of Polk County. Individually and through their organizations, Polk County residents are urged to use them as a guide in developing the county's agriculture. These reports are not perfect. It is assumed that they will require correction and amendment as conditions change and new facts are developed.

Farm, town and college cooperated in planning and carrying out the conference and in the preparation of the reports. The general committee in charge consisted of: P. O. Powell, chairman, master of Pomona grange; C. C. Gardner, president of the county Farmers' Union; P. H. Johnson, president of the Monmouth Commercial club; H. J. Elliott, Perrydale miller; W. Frank Crawford, Spring Valley farmer; W. G. Vassell, vice-president of the Polk County Bankers' association; M. L. Guy, Dallas merchant; George McCullough, banker and farmer of Ballston; Ray M. Walker, mer-

chant and canneryman of Independence. Of this committee Mrs. Winnie Braden, Dallas Commercial Club, was secretary. It is hoped that the groups represented by this committee will carry on the cooperation manifest in the conference and apply their collective efforts to carrying out the recommendations made.

In addition to the full texts of the conference reports this bulletin contains facts pertinent to Polk County agriculture.

REPORT OF THE HORTICULTURAL COMMITTEE

A program for the balancing and development of the horticultural production of Polk County must be based upon not only what we can grow to advantage, but also what we can market to advantage. Only those varieties of tree and small fruits, nuts and vegetables which are particularly adapted to our soils and climatic conditions, are to be included. Our fruit, nut and vegetable plantings must be planted in the location and upon the soils within the county suited for their production. They must be planted in large enough units for economic production. Existing plantings unfortunately located, such as prune orchards upon shallow or poorly drained soils, can be pulled at once to the financial advantage of the grower, as well as the good of the industry. Indications are that certain crops, such as prunes, apples, loganberries, etc., are already overplanted in the county, while there are others such as red raspberries, evergreen blackberries, Bartlett pears, nuts and some of the canning vegetables, which will stand reasonable expansion. We must produce those things our markets demand, in the proportions demanded.

PRUNES

I. THE PRESENT SITUATION

The dried prune production of the United States for 1922 was something less than 300 million pounds, California producing two hundred and twenty-five million, Oregon fifty million, and Washington approximately twelve million pounds. The total production of these three coast states will easily reach the 400 million pound mark inside of five years; while that of the Northwest alone can be expected to reach the 100 million pound mark. The Pacific Coast states have a monopoly upon the dried prune production of the United States. Oregon and Washington combined have a monopoly upon the tart-sweet dried prune production of the United States. The total prune production is sufficient to feed the American population at the present consumption rate of one and one-half pounds per person, with 135 million pounds remaining for export trade. When the 400 million-pound production is reached in the next five years, unless we increase the average consumption of the American consumer, we shall have over 226 million pounds for export.

The prune industry in Polk County has developed from 67 acres in 1889 to the present acreage of 11,039 acres. The ten to twelve cents received for prunes in 1889 was responsible for the first heavy planting, the acreage reaching 1,145 in 1899. The dropping of prices to two and three cents prevented any rapid increase during the next ten years, the 1909 acreage standing at 1,214. The six cents received in that year, and the other good prices during the following years, reaching as high as twenty cents in 1919, was responsible for the additional new plantings. The total plantings reached 5,181 in 1919, and 11,039 at the present time (1924).

II. CONCLUSIONS AND RECOMMENDATIONS

1. Production Per Acre Should Be At Least 1500 Pounds

The probable value of a representative acre of bearing prunes, with the necessary buildings and equipment, is $625.00. The average production of dried prunes is not greater than 1,500 pounds per acre. The cost of production is at least seven cents per pound. The average price to the grower will be close to this same seven cents. For this reason, orchards averaging less than this 1,500 pounds yield, which cannot be economically made to produce this amount, are better off removed.

2. No New Plantings Should Be Made Now

No new acreage should be planted, excepting to fill out economic units, until consumption has at least caught up with production, and prices have reached a higher level.

When new plantings are made, they should be on deep, well drained soils suitable for prune production.

3. Increase Average Size By Improved Cultural Methods

Cultural methods should be improved to increase the average size of our prunes.

Good cultural practices and proper selection will reduce the amount of small prunes, but will not eliminate them. Under the most favorable conditions we will have several million pounds of small prunes. These small prunes contain much food value and have cost as much to produce as the larger sizes, but sold on the market bring, in many cases, less than packing and selling costs to say nothing of cost of production. Also the very fact that these small prunes do sell for a low price has a tendency to reduce the amount received for the larger sizes, as well as reducing the amount of the more profitable sizes sold.

4. Small Sizes Should Be Used As a By-Product

It is suggested that these small prunes could be used as a by-product in such a way as to conserve the food value, and at the same time remove them from competition with the larger sizes. To that end we recommend that the prune growers adopt some method to finance research work for finding some use for small prunes as a by-product, and that the chairman appoint a committee to work with a like committee of other prune growing districts to carry out the intent of this recommendation.

5. Dried Prunes Water Content Should Be Standardized

6. Number of Grades Should Be Reduced

Oregon prunes are now graded as to size, into 11 distinct commercial grades. Two distinct types of prunes are grown, doubling this number. Then, at times old and new crop of prunes of each size and type are sold at the same time, and in addition each type and size is packed under a number of distinctive brand names. This untold multiplicity of sizes,

grades, brands, and qualities is, to say the least, confusing to the consumer and the trade, not justified by sound business methods, and not conducive to the largest possible consumption of our prunes. In the opinion of your committee this large number of sizes is unnecessary. Perhaps no other commodity of as near uniform edible quality is marketed under so many distinct, though sometimes infinitesimally different, sizes.

It is apparent that to merchandise the successively smaller sizes, a SUBSTANTIAL difference in price is necessary between each different grade. By making ten successive SUBSTANTIAL reductions, it is evident that an abnormally low price must be in effect on medium and smaller sized prunes, to move them. To most consumers such an enormous reduction in price immediately suggests an even greater difference in quality, cleanliness or edibility of the smaller prune. This psychology of the consumer's mind still further depresses the price of the smaller sizes to a ruinous price to the grower. Then, the smaller sizes being by these processes reduced to such a ridiculously low plane, the consumer as well as the trade naturally wonders why the larger sizes are so high while other prunes apparently just as large or at best only infinitesimally smaller, are so much cheaper. This feeling naturally depresses the price of the large prunes also. In this way useless multiplicity of sizes creates a trade and consumer resistance to prices of BOTH large and small prunes. In the same retail store may be seen a difference of 10 or 12c per lb. or even more, in the price of prunes grown on the same tree in this county. It is quite apparent that the grower is not getting 12c per lb. more for the large prune than the small ones, and it is quite evident that most of the increase in price is taken somewhere down the line of the middlemen, and is not to the interests of either grower or consumer.

It is the opinion of your committee that the number of commercial sizes of prunes be reduced from 11 to not exceed 4, or by way of illustration to be named as follows: SMALL, MEDIUM, LARGE, EXTRA LARGE. To this end we recommend suitable legislation directing the state board of horticulture or other suitable agency to meet annually at some suitable time before packing begins and after investigation, prescribe the number of prunes to the pound for each of such grades for that season's crop. Said act should direct such board to make such standardization annually after due investigation and survey so that in the judgment of the Board, the proper relative percentages of that season's crop be graded as EXTRA LARGE, LARGE, MEDIUM and SMALL, said percentages to be definitely fixed by the act, and penalties fixed for branding packages with the above grade names that have more prunes to the pound than prescribed by the order of said board.

CHERRIES

I. THE PRESENT SITUATION

The cherry acreage in Polk County is about 1,000. The average production probably is 1,500 pounds. The approximate value of an acre of a bearing cherry orchard is around $650.00. The cost of production is not less than 7½ cents.

II. CONCLUSIONS AND RECOMMENDATIONS

1. As To Future Plantings

No increased planting of Royal Anns is recommended at present. Bings and Lamberts should not be planted unless their fresh shipping qualities are proven.

2. Higher Yields Per Acre

Efforts to increase the yields of existing plantings by better cultural methods, adequate pollenation and more thorough insect and disease control is urged.

3. Spray For Cherry Maggot

No cherries should be permitted to be shipped out of the state in their fresh state unless sprayed for the cherry maggot and state inspected before shipping.

PEARS

CONCLUSIONS AND RECOMMENDATIONS

1. Yield Per Acre Too Low

Polk County grows very few pears. Her 250 acres produced 20,000 bushels in 1923. This average yield of only 80 bushels is much below a profitable one. It should at least be increased fifty per cent.

2. Increase Bartlett Acreage

Hundreds of tons of Bartletts are shipped into Salem and other Polk County markets annually. Well grown Bartlett pears in this county are superior to most and equal to any for canning purposes. For that reason, the acreage of Bartletts in Polk County should be increased.

3. Increase Winter Varieties in Blocks To Insure Carlot Shipping

Winter varieties, such as Anjou, Bosc and Winter Nelis, can be satisfactorily grown and may be advantageously planted, if planted in large enough blocks to insure carlot quantities for shipping.

APPLES

I. CONCLUSIONS AND RECOMMENDATIONS

1. Orchards Should Produce At Least 150 Boxes Per Acre

Polk County's 1,600 acres of apples produce about 95,000 bushels annually, an average production of only 60 bushels per acre. The cost of producing and equipping an acre of apples is at least $650.00. The cost of producing a box of apples is something over $1.00.

For these reasons, orchards which cannot be economically made to produce an average production of 150 boxes per acre should be removed.

2. **New Plantings Not Advisable**

No new plantings should be made, except to fill out an economic unit.

3. **Certain Varieties Are Best**

Yellow Newtons, Gravensteins, Grimes Goldens, Winter Bananas and Kings are suitable varieties for this county.

NUTS

CONCLUSIONS AND RECOMMENDATIONS

1. Moderate plantings of walnuts and filberts is advisable in this county.

2. Plantings should be made upon deep, well drained lands only; frost free locations are necessary for walnuts.

3. Plantings should be made from most satsifactory varieties: Franquette walnuts and Barcelona filberts.

4. Walnuts should be grafted to root stocks of Northern California black walnuts.

5. Eleven to sixteen per cent of filbert plantings should be pollenizers.

6. Uniform grades should be established and enforced.

7. Marketing should be through a central agency, devoted exclusively to marketing nuts.

SMALL FRUITS

CONCLUSIONS AND RECOMMENDATIONS

About 650 acres of small fruits are produced in Polk County. Red raspberries, evergreen blackberries, black cap raspberries, loganberries, strawberries, gooseberries and currants can be economically grown in the county.

1. Red raspberries, evergreen blackberries, black cap raspberries and canning strawberries may be safely planted as the demand exceeds the supply.

2. Gooseberries, currants and loganberries should not be increased at the present time.

3. All efforts should be made to produce a larger yield of these fruits by better cultural methods.

4. Special efforts should be made to secure stock for planting free of all virus diseases and insect pests.

(Signed) I. H. McBee, Chairman
Max Gehlar, Secretary
L. W. Plummer
H. M. Webb
F. C. Ewing
R. W. Hogg
T. J. Alsip
A. G. Rempel
W. M. Elliott
J. M. Powell

RESOLVED, That this body favor the organization of prune growers for the following purposes:

(a) To establish a uniform grade and pack.
(b) To establish a uniform trade mark.
(c) To advertise the product effectively.
(d) To support the central sales agency, which will market all prunes of existing organizations and other organizations to be formed.

That we favor the organization of new cooperative units, in districts where they are now unorganized, with the view to affiliate with the existing orgnizations in the establishment of a central selling agency, covering the entire Northwest.

Note: This resolution was read by Fred Ewing and unanimously adopted by the Conference as an amendment to the Report of the Horticultural Committee.

REPORT OF THE DAIRY COMMITTEE

The dairy section of the Polk County Economic conference, recognizing the stability of the dairy industry and its importance to Polk County, desires to call attention to certain facts relative to the industry upon which our recommendations are based.

I. STATISTICAL DATA

Production Statistics

Data from the U. S. Bureau of Crop Estimates show that there are now 10,000 dairy animals of all ages in the county. This is an increase of 70% since 1910. The annual production is approximately 1¼ million pounds of butterfat, or an average of 170 pounds per cow. There are 240 bulls one year old or over in the county of which 60% are pure bred. Over 8000 tons of legume hays are produced annually and about 10,000 tons of succulent feed.

Marketing Statistics

There are 3 creameries in the county and in addition a condensery and 2 creameries operate routes throughout the county. The average Portland quoted price for butterfat in 1923 was 46.3c per pound. One of the local creameries paid 47c at the farm and other local concerns have paid prices which compared favorably.

II. ANALYSIS OF STATISTICS

1. Production Exceeds Consumption

The production of 1¼ million pounds of butterfat in the county exceeds local consumptive needs by over 500,000 pounds. The state also produces a surplus and with storage stocks much increased this year improved marketing conditions as well as possibilities of lowering production costs must be considered.

2. Production Per Cow Low

The average production of 170 pounds of fat per cow is equal to the state average but is lower than for some other counties and is lower than cost data show to be necessary for economical production.

3. Too Many Inferior Sires

Forty per cent is too high a number of grade and scrub sires to be kept in use, when possibilities of improvement are considered, and especially in view of the low prices at which well bred ones can now be obtained.

4. Size of Herd Small

Reports show that the herds of the county average 8 cows or less. Cost data show that costs are materially lessened in the larger herds, and statistics further show that the larger herds usually have the higher production per cow. As a usual thing, too, products from the larger herds are of better average quality.

5. Shortage of Proper Roughage

While there may be a sufficient amount of legume hays produced for the needs of the dairy cows of the county, too great an amount of grain hay is used and the legumes are sold. The production of 10,000 tons of succulent feed is 15,000 tons short of the dairy cows' requirements.

6. Local Firms Deal Fairly

Prices obtained locally for products indicate fair dealing on the part of firms now operating in the county, and since there are now enough plants to handle the product adequately additional plants are not needed at this time.

III. CONCLUSIONS AND RECOMMENDATIONS

1. Increased Production Per Cow

Every effort should be made to increase the average production per cow in Polk County herds and to this end dairymen are encouraged to keep records of production either individually or through regularly organized testing associations.

2. Improved Herd Sires

Efforts should be made to bring to the attention of scrub bull owners the possibilities of increased returns by breeding up with good pure bred sires and an attempt made entirely to eliminate from the county all inferior sires.

3. Herd Units of 10 Cows or More

Dairy herds should be built up to efficient commercial units or be cut down to supply home needs only. Commercial units should consist of 10 cows or more.

4. Provide Proper Roughage

Every dairyman should strive to provide at least 25 pounds of succulent feed daily for each dairy cow when not on pasture and also to provide 1½ to 2 tons of legume hay annually per cow.

5. Tropical Fats Make Unfair Competition

Since the vegetable oils of the tropics are so produced and manufactured as to constitute a menace to American dairymen, our representatives in Congress should be instructed to introduce measures imposing increased duties on raw products imported and higher taxes on manufactured products, sold as substitutes for dairy products.

6. State Law for T. B. Testing

The proposed law making testing for bovine tuberculosis compulsory throughout the state should be supported.

7. Calf Clubs Commended

That the calf clubs of the county which have completed such a creditable year's work be commended and be further encouraged to continue so important an activity. (Signed) G. G. Hewitt, Chairman
W. B. Allen
S. L. Stewart
H. D. Iliff
C. Hosington
F. J. Werth
F. E. Murdock

REPORT OF FARM CROPS COMMITTEE

WHEAT

I. THE PRESENT SITUATION

1. Surplus Is Grown

Polk County produces a surplus of wheat and oats, and grows corn and barley for home consumption. The following table shows the acreage and yields of these grain crops. (Figures are 5 year averages.)

Grain	Acres Grown	Bushels per Acre	Pounds per Acre	Acre Value
Winter wheat	25,800	23.7	1,422	$23.00
Spring wheat	3,725	16.0	975	16 00
Barley	1,175	28.0	1,344	20.16
Oats	25,650	31.2	998	15.46
Corn	2,300	29.5	1,652	28.08

The acreage of wheat has steadily decreased since 1879, giving way to corn, clover, hay crops, orchards, etc., the figures follow for each census period:

2. Acreage Has Steadily Decreased

Year	Acres of Wheat
1879	52,020
1889	42,138
1899	49,346
1909	12,089
1919	32,126
1923	28,250

3. Rink and White Winter Leading Varieties

A hasty survey has shown that within the county, roughly fifty per cent of the wheat acreage is devoted to Rink wheat, and thirty per cent to White Winter. The other twenty per cent is divided among many varieties, some communities growing as many as ten different varieties.

4. Growers Penalized for Mixed Wheat

Due to mixing of seed by threshing machines, second hand sacks, fanning mills and volunteer grain, impure seed is causing a loss of at least $8,000.00 per year to Polk County farmers, due to discounts assessed against mixed varieties. The growing of inferior varieties causes another loss of about $10,000.00 per year.

5. Cost Per Acre About $20

Statements taken from some of the largest wheat growers in the county indicate that the cost of production of winter wheat is approximately as follows: (It is realized that production costs will differ on each farm, but these figures will hold true on the average. Figures given indicate the cost per acre with an average yield.)

Interest on land at 5 per cent	$6.25
Taxes	1.50
General farm overhead, fences, etc.	1.00
Plowing	2.25
Depreciation and repairs on machinery	1.00
Harrowing twice	.60
Disking	1.00
Drilling	.50
Binding	.65
Twine	.30
Shocking	.30
Threshing	2.00
Seed	2.00
Sacks	1.20
Total	$20.55

6. Most of Wheat Shipped Out

A large part of the wheat grown is shipped out of the county. A very small part, only about 2½ per cent, is milled locally. A total of about 17 per cent is probably used for seed and feed, leaving about 500,000 bushels to be marketed outside.

II. CONCLUSIONS AND RECOMMENDATIONS

1. No Reduction of Winter Wheat Acreage

For shipment out of the county, winter wheat is the most profitable grain crop which farmers can grow. We recommend no reduction in the winter wheat acreage, except on farms where little or no crop rotation is practiced. In this case we urge that part of the grain crop be replaced by clover or vetch.

2. Spring Wheat Not Profitable on the Average

Spring wheat will pay costs of production only under exceptional circumstances. Spring barley will exceed it in yield in nearly all cases. We recommend that farmers think carefully before planting any spring wheat.

3. Thirty Bushel Yields Should be Had

Under normal price conditions of $1.00 a bushel or less for wheat, yields of better than 20 bushels are necessary to pay costs of production. Yields must get up to 30 bushels per acre before very much profit can be expected.

4. Standardize on Rink and White Winter Varieties

Since the growing of miscellaneous varieties tends to the mixing of various grades and consequent losses in price and yield, and since farmers' experience and experiment station results both show that White Winter

and Rink are among the highest yielding varieties, we recommend that all growers standardize on these two varieties, and do not experiment with others until they are proven to be better by experiment station work.

5. Use Certified Seed

We urge all growers to make an attempt to secure pure seed of the White Winter and Rink varieties, and that they try to keep it pure by not growing any other varieties. We recommend the use of certified seed when it can be obtained.

6. Copper Carbonate Best for Smut Control

Very little copper carbonate is used in Polk County for treating wheat. By using it instead of formaldehyde or bluestone, a saving of at least twenty per cent of the seed is possible. In addition, there is no risk of hurting the seed, the grain comes up sooner and better stands are secured with less bother from weeds. We urge all growers to give this method a trial. Its usefulness is proven by the fact that virtually all of the large wheat growers of eastern Washington, eastern Oregon and California, have adopted the method. The saving of seed alone will amount to $8,000 per year in the county.

OATS AND BARLEY

I. THE PRESENT SITUATION

Polk County grows an average of about 25,000 acres of oats yearly, about the same acreage as winter wheat. Only about 1100 acres of barley are grown.

1. Prejudice Against Barley

There is a wide spread prejudice against barley, because of its beards and because of its tendency to lodge on rich ground. All of the barley is used at home, and a great deal of the oats. Nearly every farmer grows a few oats for his home use to feed his horses and cows.

2. Barley Will Outyield Oats

Barley will outyield oats on the average of 350 pounds per acre in this county, although the yield in bushels per acre will be about the same.

3. Barley Can Be Fed to Horses

Farmers in Eastern Oregon, California and other places, take advantage of the superior yielding qualities of barley and grow it altogether for their own feed, feeding it to hogs, cows and horses, instead of oats. Some farmers here hesitate to feed barley to horses, because of its heating effects. In the cool climate of the Willamette Valley, there is no basis for this fear. Many horses in the Sacramento Valley and along the Columbia River know no other grain feed.

4. Hannchen Barley Equals Corn in Feed Value

Hannchen barley is as good a feed for hogs, dairy cows or horses, as corn, and when fed to dairy cows or horses with legume hay, it makes a better balanced ration than oats. It could easily replace much of the corn now shipped in.

II. CONCLUSIONS AND RECOMMENDATIONS

1. Increase Barley Acreage at Expense of Oats

We recommend a large increase in the barley acreage at the expense of the oat acreage, as 10 acres of barley will ordinarily produce as much feed as 13½ acres of oats. By growing more barley for home feed instead of oats, more land can be released for growing crops to sell, thus increasing the farm income at no extra expense.

2. Hannchen and O. A. C. No. 7 Best Barley Varieties

We recommend O. A. C. No. 7 barley for fall planting, and Hannchen for spring planting.

3. Oat Improvement Work Commended

We commend the efforts of the Nairn family in helping to standardize the varieties of oats in this county, and in providing pure seed of varieties adapted to conditions here.

4. Spring Oats Give Poor Cash Returns

Under normal price and yield conditions, spring oats may be expected to return less money per acre than is the case with any other grain crop. We urge a reduction of the spring oat acreage except in cases where a special market exists, such as a demand from logging camps or from millers.

5. Add Legume to Rotation Scheme

We urge a change in rotation on those farms growing only wheat and oats. Clover grown for seed could be used in some cases, on part of the acreage. In other cases, vetch or clover for hay could be used; more profitable grain yields will follow.

6. Higher Yields Per Acre Necessary for Profit

Production costs of growing either barley or oats will be about $20.00 per acre on most farms. On average priced land, in order to pay cost of production, yields must be secured of about 30 bushels of barley per acre, and 45 bushels of oats. Unless these yields are realized, no profit can be hoped for except on very low priced land where the interest charges and taxes are low.

7. Winter Barley Preferred

On well drained land the committee recommends winter rather than spring barley.

CORN

I. THE PRESENT SITUATION

1. Acreage Has Steadily Increased

About 2,300 acres of corn are grown in this county annually. The acreage has been increasing steadily as shown by the census returns.

Year	Acres of Corn
1879	60
1889	70
1899	370
1909	190
1919	1287
1923	2800

Corn costs slightly more per acre to grow than other grain but the returns in pounds per acre are usually higher.

Yields of corn fluctuate from 20 to 35 bushels per acre. The yield has been increasing steadily since 1870, due to the use of locally grown, acclimated seed of varieties adapted to conditions here.

Cultivated crops are badly needed on most farms in order to kill weeds. For this reason the growing of corn is a benefit to all other crops grown.

As a rule corn growing enables better use of the land with less work, as the field ordinarily does not need plowing in order to seed a grain crop. This cuts down the cost of producing the grain.

2. Corn is Imported Annually

Polk County imports from 100 to 400 tons of corn every year. This is used for hog, dairy and poultry feeds. A local market thus exists for the grain from about 500 additional acres of corn. This is only a small amount, but the Northwest imports yearly about 60,000 tons. Most of the neighboring counties import more corn than Polk County. There is thus a market right within the state for a large amount of corn providing it can be grown at a profit here.

3. Harvesting By Livestock Offers Promise

Sheeping or hogging off of corn is a paying practice on some farms and there is a possibility of extending this cheap method of harvesting corn.

4. Corn Makes Best Silage

There is a need for more silage on some of the dairy farms. For cows to produce the most butter fat in the most economical way, a succulent feed is necessary. Corn silage is the cheapest succulent feed so far discovered and the best.

II. CONCLUSIONS AND RECOMMENDATIONS

1. Increase the Acreage of Corn

There is room for the extension of the corn acreage to replace some of the spring planted oats and wheat. The corn acreage of Polk County could be increased three times with profit to the county.

2. Corn Fits Well Into Rotations

The growing of a cultivated crop is necessary in order to get the most from the land as it clears the land of weeds, puts it in shape for increased grain yields, and cuts down the cost of producing the following grain crop. With the combination of corn, wheat and clover, it is necessary to plow only once in three years.

3. Minnesota No. 13 is Leading Variety

For grain, Minnesota 13 is recommended; for silage, Golden Glow or Minnesota 13. A locally originated hybrid between Bloody Butcher and Minnesota 13 is used with success in the north end of the county.

4. Use Only Locally Grown Acclimated Seed

5. Artificial Drying

When hop or prune dryers are on the farm, it is feasible to dry corn for commercial or seed use.

HAY

I. THE PRESENT HAY SITUATION

1.—Acreage is Extensive

The hay acreage is approximately equal to the winter wheat acreage. In 1919 there were 23,408 acres of hay in the county divided as follows:

Crop	Acres	Yield per acre
Wild hay	634	1.2 tons
Timothy	55	1.3 tons
Clover	2,654	1.5 tons
Grain hay	12,735	1.6 tons
Timothy and Clover	258	1 6 tons
Alfalfa	124	1.9 tons
Vetch	964	2.1 tons
Total	23,408	
Average		1 66 tons

1. Vetch Has Increased

Since the last census in 1919, the acreage of vetch hay has increased greatly until now there are thousands of acres of vetch and oat hay. The average yield per acre has increased up to two tons per acre and many farmers secure two and one-half to three tons.

2. Surplus Exists Now

Some alfalfa is shipped into the county, but there is a surplus of hay now on hand in the north end of the county. This surplus is at present (1924) about 2700 tons. Part of this surplus is clover and part vetch and oats.

3. Not Always Profitable to Ship Hay

At times there is a profitable market in the coast counties for surplus hay produced here, but it usually sells at a discount under the prices paid for Eastern Oregon alfalfa. Due to the high charges for baling and shipping, it is unprofitable to grow and ship hay in many years.

4. Cost of Production About $15 per Acre

The following figures indicate the costs per acre for producing a 2½ ton crop of vetch and oats and a 2-ton crop of clover hay. These figures are averages only and will not apply to every farm.

	Vetch and Oats	Clover
Interest on land at 5%	$5.00	$5.00
Taxes on land	2.00	2.00
Seed	2.60	1 50
Preparing land and seeding	2.65	2.15
Haying	1.75	1.55
General farm overhead	1.00	1 00
Totals	$15.00	$13.20

If the crop is baled and shipped, the acre costs are increased $12.50 per acre for the vetch and oats, and $10.00 for the clover. It costs nearly as much to bale and haul to shipping point as the entire growing cost.

II. CONCLUSIONS AND RECOMMENDATIONS

1. Legume Hay is Best

Legume hay—vetch or clover—is the highest yielding and the best hay for Polk County. It is seldom profitable to grow grain hay.

2. Seed Growing Not Now Profitable

In some localities, Hungarian vetch is a surer crop than common. The seed market is oversupplied and little profit can be expected from seed growing at present.

3. Legumes Increase Succeeding Grain Yields

Both clover and vetch increase the succeeding grain crops and this should be considered in figuring whether or not a profit has been made from the hay crop.

4. Two Ton Yields Needed to Pay Costs

Yields of two tons per acre should be secured to pay cost of production, under normal selling prices for hay.

5. Vetch and Oats Better for Shipping Out of County

For shipping outside the county, vetch and oats is usually more profitable than clover due to the higher price uusally received for it and due to the fact that it usually yields more than clover.

6. Sometimes Hay Pays Better than Grain

On land which gives low grain yields and which is a reasonable distance from a shipping point it is often more profitable to grow hay than grain, due to lower costs of production.

CLOVER SEED

I THE PRESENT SITUATION

1. Ten to Twelve Cars Produced annually

Polk County normally produces about 10 or 12 carloads of clover seed for sale outside of the county. Occasional years like 1924, occur when there are no exports due to dry weather. The seed yield averages two bushels per acre.

2. Cost of Production is About $14 per Acre

Cost of production per acre is as follows:

Interest on land at 5%	$6.25
Interest and depreciation on equipment	1.10
Taxes per acre	2.00
Cutting	1.00
Hauling and threshing	1.15
Seed	1.75
Sacks	.50
Land plaster	.50
	$14.25

The cost per acre for growing clover hay with a 2-ton yield is approximately the same. Accordingly, whether a man cuts his clover for seed or hay depends largely upon whether or not he needs the hay.

3. Ten Year Average Price to Grower is 17½ cents

As taken from the books of a local seed buyer, the prices paid per pound for clover seed during the past 10 years run as follows:

Year	Price per lb.
1915	.14
1916	.15
1917	.23
1918	.37
1919	.50
1920	.15
1921	.16
1922	.17
1923	.20
1924	.22

Ten year range, 22 cents. Eliminating the two war years, 1918 and 1919 when abnormal conditions existed, the average price for the other eight years was 17½ cents per pound or $10.50 per bushel. It is probable that growers can figure on an average price of $10.00 per bushel over a period of years.

2. High Average Yield

The large seed growing centers of the United States are Illinois, Wisconsin, Indiana, and adjoining states. The average seed yield in these states is from 1 and 1½ bushels per acre while our average is 2 bushels.

Seed is bought in Western Oregon and shipped east for mixing with inferior seed. Accordingly the local price is usually about 2 cents per pound higher than the Middle Western grower receives. Local growers, therefore, receive more money per acre for their clover seed than the Middle Western growers.

Freight rates on clover seed take a much smaller percentage of the crop than is the case with hay, grain, or fruit, so the geographical position of Oregon is less of a handicap in producing clover seed than is the case with most products.

3. Usually Spring Seeded on Winter Wheat.

Clover is usually spring seeded on a winter wheat crop. The land is not plowed for the crop, so this cuts out the most expensive single operation on the farm. Plowing the land only once in two years is a big saving of expense and time and enables a grower to get to his other work when it should be done.

4. Crop Usually is Pastured or Clipped

The seed crop is usually pastured or clipped. Many sheep owners pasture until about May 10th. By this means the sheep pasture is worth

from $5.00 to $8 00 per acre and the clover straw has some value in addition to the value of the seed crop.

5. Clover Increases Grain Yields

As a rule, clover seed in this county does not return quite as much per acre as the winter wheat crop following it, but if it is not grown, the grain crops soon fall to the point where they are not paying costs of production. Part of the profit from a clover crop is thus taken in the following grain crops.

II. CONCLUSIONS AND RECOMMENDATIONS

1. A Legume on Every General Farm

No general farmer can afford not to grow either clover or vetch. The man who has few livestock will find that clover seed will fit into his operations the best of any legume crop.

2. Legume Necessary to Sustained Grain Yields

It is impossible to maintain profitable grain yields without growing a legume crop.

3. Increase Clover Seed Acreage

We recommend a large increase in the acreage of clover for seed. On general farms, a fourth or fifth of the acreage should be in clover each year.

It is impossible to overdo the clover seed business, due to large imports into the United States from foreign countries. Western Oregon cannot supply this deficit.

4. Clover Seed Growing Reduces Costs of Other Crops

Clover seed growing reduces the cost of growing other crops, by making plowing unnecessary every year and by increasing the yields of the grain crops.

5. Land Plaster Recommended

From 50 to 75 pounds of land plaster per acre is recommended as a fertilizer for clover.

POTATOES

I. THE PRESENT SITUATION

1. Production Exceeds Local Needs

Polk County usually grows about 1200 acres of potatoes which average 90 bushels per acre making a total crop of slightly over 100,000 bushels. This is more than is needed for local use and annually there are some exports.

2. Production Costs are High

Potatoes are an expensive crop to grow and a crop involving a great deal of labor. The total production costs here average about $60.00

per acre and in part of the county where yields are above the average the costs are about $70 00 per acre.

3. **Low Acre Yields Secured**

A cultivated crop is badly needed on many farms to get rid of weeds, but potatoes give low acre yields over a large part of the county.

4. **California is Only Outside Market**

The only outside outlet for potatoes is California. In order to supply this market from Oregon a good, well graded product is necessary.

II. CONCLUSIONS AND RECOMMENDATIONS

1. We recommend no increase in the acreage of potatoes in this county.

2. We urge the growers to standardize on Burbanks for the late crop and Earliest of All for the early crop.

3. A profitable crop is impossible with poor seed.

4. Yields of less than 100 bushels per acre will not be profitable in most years.

5. Any farmer expecting to grow potatoes should have some storage facilities on his farm. Pit storage under our conditions is not satisfactory.

(Signed) Geo. A. McCulloch, Chairman
H J. Elliott
Frank Fawk
John R. Loy
E. R. Jackman, Secretary

REPORT OF THE FLAX COMMITTEE

There is approximately $60,000,000 worth of linen products manufactured from flax fiber imported into the United States annually. On these importations there is a 30 per cent duty. In the Pacific Northwest there is used annually approximately $1,000,000 worth of salmon twine which is also a flax product. At the present time all of this twine comes from Europe.

Prospective Development of Industry in Oregon

There is a move under way at the present time for the establishment of a flax fiber spinning mill in Salem which will cost approximately $150,000. According to B. C. Miles, of Salem, who is promoting this enterprise, $100,000 in stock has already been subscribed. Present plans contemplate that this mill will manufacture salmon twine for which there is a million dollar market in the northwest. It is expected that the establishment of such a mill will provide a stable market for flax fiber

produced in the Willamette valley. Such a market has been lacking in the past.

While the outlook for the enterprise is good it is generally recognized that a spinning mill might be considered as an experimental manufacturing enterprise.

Purpose of This Committee

This committee believes in view of the foregoing facts that the flax fiber industry offers excellent possibilities as a profitable farm crop in addition to supplying an industry which will provide employment for people who will consume the products of the soil. We deem it our purpose, therefore, to determine a program of flax prduction and marketing which will permit the develpment, expansion and continuance of this industry along economic lines.

Market for Flax in 1925

The immediate market outlet for flax straw for 1925 is through the flax plant of the state of Oregon at Salem. This plant can handle 4000 tons of flax straw. The approximate price for 1925 will be $22 per ton for 20 inch mowed flax, $28 per ton for 20 to 28 inch pulled flax and $38 per ton for 30 inch pulled flax or over. Seed is available for $2.00 per bushel.

While it is expected that this market outlet will expand, this expansion will be slow and present acreage should be kept within the limits of the present market outlet.

Flax produced for fiber which is less than 20 inches in length at present prices cannot economically be marketed for its fiber content. It is therefore the recommendation of this committee that flax less than 20 inches in length should be harvested for seed.

Cost of Producing Flax

The total cost of producing an acre of flax in Polk County is $42.50. Of this amount $10.00 is for hauling a two-ton crop to market at Salem. Before Polk County can compete advantageously with other sections more favorably situated a retting and scutching plant should be established here to eliminate excessive hauling costs.

Development of Industry

Last year there was 1147 tons of flax straw delivered to the state plant at Salem. Of this amount Polk County produced 351 tons or 32½ per cent and Marion County produced 795 tons or 67½ per cent.

In view of experimental nature of the flax production for fiber we recommend that 15 test plots be planted on various soil types in the county to determine where flax can be successfully grown. We also recommend that a flax demonstration tour be held during the growing season under the supervision of the Extension Service of the Oregon Agricultural College. Farmers should plant flax cautiously to avoid losses.

Growing Recommendations

1. Flax is not hard on the land. Actual analysis made by the government shows that dollar for dollar in value flax takes sightly less fertility from the soil than does wheat.

2. Flax in order to be successful should be grown in a clover rotation. Perhaps a three year rotation would be best.

3. Flax should be planted on the best valley lands which are fertile and well drained. In order to be profitable at prevailing prices a yield approaching two tons per acre or more is necessary and only the most fertile, well drained lands will produce this tonage.

4. Clean land free from weeds is essential to flax production. No foul land should be planted to flax.

5. It is advisable to consult experienced growers before planting flax to learn the best methods of preparing seed bed and sowing.

(Signed) A. Arstell, Chairman
S. F. Southard
W. H. McKee
A. R. Brown
W. V. Fuller.

REPORT OF THE LIVESTOCK COMMITTEE

I. THE PRESENT SITUATION

The livestock on Polk County farms bring in a total of $565,000 00 annually to the farmers of the county, or about 12 per cent of the total farm income. Of this amount, $495,000.00 comes from the sale of livestock and meats, and $70,000.00 from wool and mohair.

In 1923 there were in the county according to the United States Department of Agriculture, 1,550 beef cattle, 15,200 sheep, 12,742 goats and 8,000 swine. This shows the importance of sheep and goats in Polk County for the utilization of the native pasture found on the farms.

The United States produces about 50 per cent of the wool it consumes, which shows the possibility in sheep production.

In Polk County, the number of sheep increased from 555 in 1850, to 36,000 in 1900. Owing to changes in land improvement in the county, the number has decreased to 15,200 at the present time.

In 1910, there were 24,760 goats in the county, and the present number is 12,742.

The maximum beef cattle production was reached in 1860 when there were 11,800 head in the county. At present, there are 1,550 head.

In swine, the production has varied from 5,000 to 12,000 annually in the past 75 years. At present, there are 8,000 hogs on Polk County farms.

The pork demand for each person is at present about one-half a hog per year. Polk County's population is around 15,000, indicating a slight surplus of pork products raised in the county at the present time. The pork production for the needs of the state as a whole is short.

The feed grain production for livestock feeding, including barley, rye and corn, is 150,000 bushels.

From a national standpoint in meat production it is significant that we have always been able to use up all of our meats. The export trade in pork is large.

The United States in 1923 produced 22,413,000,000 pounds of meat, a gradual increase of over six billion pounds since 1913. Of this amount 2,167,000,000 pounds was exported, or in other words, the exportable surplus was about ten per cent of the production. These figures include lard, which is the leading export of meat products. Pork products lead, in the form of lard, hams, bacons and shoulders.

The per capita consumption of various meats are, beef, 61 pounds; veal, 7.3 pounds; mutton and lamb, 5 pounds; pork, 76 pounds; total meat, 149.7 pounds; lard, 14.1 pounds. Total for meat and lard, 163.8 pounds.

Polk County produces a surplus of nearly 100,000 pounds of beef, 40,000 pounds of wool, and 100,000 pounds of pork.

The stabilization of the production of livestock or livestock products does not concern itself so much with the demand for the product in the county, as the available feed supply.

With these facts in mind, the following recommendations are presented:

II. CONCLUSIONS AND RECOMMENDATIONS

GOATS

1. No Immediate Danger of Overproduction of Mohair

In view of the fact that the world's goat population has been reduced in the past few years, due to war conditions in Turkey and drouth in South Africa, the livestock committee does not feel that there is any danger of an immediate over-production of mohair in view of the fact that its use for manufacturing purposes is expanding. Further, that the character of the unimproved lands in Polk County offers an excellent opportunity for the production of goats.

2. Goats are Economical Land Clearers

We strongly recommend goats as a means of economical land clearing, but urge that the greatest success so far as profits are concerned, is had when the goats are turned in on the stump land, and allowed to remain until the sprouts are eaten down close. After that, they should be taken off, and turned into good pasture, rather than being forced to remain

without feed. As the sprouts start to grow again, the goats should be turned in daily for a few hours, until the sprouts are again eaten down close.

3. Average Clip Can be Increased

There are 315,801 acres of unimproved lands suitable for goat production in Polk County capable of producing three goats to the acre. Polk County average mohair clip for 1923 was 4¼ pounds. Experience of local goat raisers has proven that this average can be materially increased by the use of good pure bred sires.

4. Goats Should Return $5 per Head

Experience of Polk County goat men shows that a return of five dollars per head per year can be reasonably expected, under ordinary intelligent care. Ordinary care means salting and other general attention the year around, with special care at kidding time, feeding when necessary.

5. Goats for Every Farm with Brush Land

We recommend some goats on every farm having some brush land, as a means of utilizing waste areas suitable for that purpose. The use of goats will improve pasture conditions for all classes of farm livestock.

SHEEP

1. Sheep for Every Farm if Feed is Available

We recommend sheep on Polk County farms as a source of profit when there is ample suitable feed, but caution against overstocking. Experience has shown that one ewe to every 1½ to 2 acres of native sod is the proper carrying capacity where there is a little additional pasture, such as clover or rape used for the fattening of the lambs. This excludes lands that are brushy or rocky, or such land as is needed for other farm livestock.

2. Good Management Essential to Success with Sheep

Success in farm sheep depends on efficient management and careful culling; mating with good heavy shearing rams of the type that will insure the maximum wool and mutton production.

3. Ewe Should Return $5 a Year

Under ordinary intelligent care and management, a ewe producing a 70 pound lamb at ten cents, and eight pounds of wool at forty cents, will pay the owner $5.00 annually for the feed consumed.

HOGS

1. Keep Hogs to Consume Farm Wastes

Under present Polk County conditions, it is considered safe to keep the hog production within the available farm wastes. Swine production on grain basis alone, has not proven profitable. Where hogs are kept to consume the surplus skim milk, cull fruits, vegetables, and table wastes,

with sufficient farm grown grains for finishing, there is a slight profit in the business.

2. **Raise the Kind of Hog the Market Demands**

GENERAL

We endorse Boys and Girls club work.

Committee on Livestock
U. S. Grant, Chairman
W. D. Gilliam
Glenn Hogg
E. A. Tedrow
W. J. Stockholm

REPORT OF THE MILK GOAT COMMITTEE

Polk County has 63,180 acres of land which is adapted to the raising of milk goats. This is cut over land, and land not adapted to crop production.

The United States imports 80,000,000 pounds of Roquefort cheese annually. It retails at 90 cents per pound.

Polk County has the only Roquefort cheese factory in the state.

There are 350 milk goats in Polk County, and 2500 in Oregon. Experience of growers of milk goats is that two acres will support a doe, and in addition one ton of hay will be required for every seven does.

Average return per head from Polk County milk goats annually is about $25.00.

Anyone desiring to go into the business need not hesitate for lack of experience, because the production business can be easily learned by those who will give it the detailed attention necessary.

In view of the above, we recommend that milk goats be considered as a means of utilizing such lands as are not suitable for other agricultural needs as a source of profit to those who are sufficiently interested to give it the required attention.

We recommend that goat milk be disposed of in the form of Roquefort cheese, rather than selling it direct.

We endorse boys' and girls' club work as a means of promoting the milk goat industry.

(Signed) Albert Teal
W. F. Lee.

REPORT OF THE POULTRY COMMITTEE

I. THE SITUATION

The poultry industry of Polk County is a valuable agricultural asset. In 1919 the value of chickens and eggs produced was $294,034 according to the U. S. census report. Polk County ranks eleventh in the state of Oregon in value of poultry products. These figures do not show the real status of the industry in the county as the industry has expanded rapidly during the past five years.

The poultry industry has suffered less deflation of late years than many other lines of agriculture. This fact has resulted in many farmers rushing into the business without due knowledge of the problems involved. It is not presumed that every Polk County farm or farmer is adapted to poultry keeping.

The state of Oregon now produces more eggs than its population consumes and is, therefore, an exporter of eggs. Polk County likewise produces a surplus of eggs which must be shipped out of the county. The poultry industry of Polk County is considered not as a unit in itself, but as a unit of the poultry industry of Oregon.

There exists a strong, outside buying demand for the surplus high quality Oregon eggs. With the present marketing facilities and their improvement to meet changing conditions, no difficulty is foreseen in marketing a material increase in eggs of exportable quality.

II. CONCLUSIONS AND RECOMMENDATIONS

1. Either a 400 Hen Unit or Just Enough for Home Needs

Careful study discloses the fact that farm flocks too small to be considered an important unit of farm work usually suffer from poor management, a fact which results in inferior products complicating the general marketing problem of the state. There are two closely related phases of the poultry industry: namely, first, economical production of a quality product; second, efficient marketing of the product. The greater volume of the aggregate product is as yet produced by the general farm flock rather than by well managed economical units.

For the general farm where some labor is available each day of the year, where adequate housing and management can be given, the poultrymen assembled specifically recommend the gradual establishing of a side-line unit flock of 400 hens.

For farmers not interested in poultry or farmers not having surplus labor to invest, it is recommended that only a sufficient number of hens be kept to supply the home table, preferably 24 hens or less.

2. At Least 10 Acres Needed for 1000 Hens

Many established poultry farms, successful for a time have been compelled to quit business because all of the available ground space became badly contaminated. Limited acreage is one of the greatest undermining factors in the poultry business. One and two acre tracts purchased for commercial poultry keeping where young stock is to be reared each year, must be considered only a temporary and dangerous undertaking. Real

estate dealers should be discouraged from exploiting such small tracts as desirable units for succcessful and permanent, intensified poultry keeping.

It is recommended that commercial poultry keeping should not be attempted on less than 10 acres of tillable land for 1000 hens, when young stock is to be reared each year on the farm to maintain this flock number.

Poultry keeping should not be advocated as a means of reclaiming logged off land except where the acreage is materially increased over that of the minimum tillable land recommended.

3. Must Raise Disease Free Pullets

The success of poultry keeping in Polk County depends upon the ability of the producers to raise to maturity pullets that are vigorous and free from intestinal parasites and malformation. This can be done more safely through careful effort to brood chicks on clean soil each year.

The moveable colony brooder house is therefore recommended as the safest system of providing disease free soil for brooding purposes. The producers may guide their construction ideas by station circular 52, Oregon Agricultural College.

On farms where permanent brooderhouses must be used, it is recommended that they be located on a given area in such a way that this area may be divided into three or four yards; one yard only to be used each year and then only until such time as chicks may be moved out on free range and housed as explained in Station Circular 54.

4. Secure All Chicks at One Time

It is recommended that producers endeavor to secure all chicks for brooding purposes at one time, where only one brooder and one range is available. In terms of financial results, labor and economics, it is better to purchase 500 day old chicks at one time to secure 200 pullets, than to attempt to hatch this number at two or three hatchings from smaller incubator capacity. A uniform lot of chicks simplifies the brooding, feeding, growing, housing and production problems and contributes largely towards success.

5. Hatch Chicks Early

Poultry producers must have the benefit of the better prices of the fall and winter months in order to secure a better average price per dozen for the year. They must have the fall and winter production in order to get more months of laying from the pullets before the natural moulting season. It is recommended that chicks be hatched sufficiently early to be old enough to lay eggs during the fall and winter.

6. In Building Laying House Follow Successful Types

Proper poultry houses are essential to successful poultry keeping. There is a tendency to construct laying houses along lines of individual hobbies rather than to pattern after those which through experimentation have proven successful. It is recommended, therefore, that producers

desiring to construct new laying houses be guided by the plans set forth in Station Circular 51, Oregon Agricultural College.

7. Disease Investigation Needed

One of the serious limiting factors of poultry production in Polk County and the state of Oregon is the increase in poultry diseases. The poultry industry in Oregon is a ten million dollar annual crop and its magnitude and future security warrant at least one man's study of its disease and nutrition problems. It is recommended that the Polk County Agricultural Economic conference endorse the efforts of the Oregon Poultrymen's association to secure a small appropriation to carry on this work.

9. Green Feed is Essential

Green succulent feed is one of the four major classes of poultry feeds necessary to growth and egg production. In Polk County kale should be the main green feed. There are times in midwinter when the supply of kale on some farms is limited, frozen or unfit to feed. It is recommended that Polk County poultrymen protect against such disaster by growing a root crop to supplement the kale or take the place of kale in emergencies.

The summer green feed problem is even more important, as it is the season of short supply. It is perhaps the most important feed item in the ration of growing chicks. Fall seeded kale with an early spring or late winter transplanting is quite successful. This may be supplemented for the growing pullets with alfalfa, clover or rape ranges.

10. Cold Storage Law Should be Repealed

Those engaged in the poultry industry believe that the consumption of eggs is reduced by the law which regulates the sale of cold storage eggs. Meats, fruits, potatoes, vegetables, butter, cheese, etc., are not required to be sold under a cold storage sign. Placing of eggs in cold storage is necessary to care for the surplus eggs during the flush season. The present storage law is not rigidly enforced. There is a nation wide effort to eliminate the cold storage regulation and sell on size of egg and quality of egg. The poultrymen, therefore, recommend that the Oregon legislature repeal the present cold storage egg law and pass instead a law regulating the sale of eggs according to size and quality.

Approved by Poultry Committee and submitted by,
Glen De Haven, Chairman
Mrs. W. J. Garner

Poultry Committee:
Dr. R. E. Duganne
Glen De Haven
Mrs. W. J. Garner
C. C. Gardner
Geo. Cooper
Frank Lane

REPORT OF THE HOME ECONOMICS COMMITTEE

I. THE SITUATION

For information and for guidance and help in formulating an agricultural program in Polk County we have had information from various sources. The United States census gives for Polk County the increase in number of farms, the increase in value of products from those farms, the increase in number and value of livestock, the monthly and annual precipitation in Polk County, the temperature ranges and averages, the crops data, the income from the sale of various farm products, the increase in the number of beef and dairy cattle, increase in wool, poultry, eggs, dairy products, acreage and yield of all grains, hay, fruits, and hops.

Home Economic Data Lacking

We have no information which tells us the average amount of dairy products or of fruits and vegetables consumed at home, either rural or urban, in Polk County.

We have no list of the increased comforts in farm homes in the last decade to correspond with the increases in farms or with the increased value of those farms or farm products. We believe that on the average, home comforts and conveniences have not increased proportionately to the increase in farm values.

Housekeepers are conservative. They know how to use their hands and feet and backs in housework. Some are not certain that labor-saving equipment will work. They need an opportunity of testing it in their own homes, such as is given by a testing circle. Others know they want it and need the sympathetic cooperation and encouragement of the man of the house in purchasing it.

Many Homes Have Modern Conveniences

There are many modern convenient farm homes in Polk County, and we believe that if a survey were made, it would show that our percentage is above that of the country as a whole. Thirteen members of the home economics committee within the last week asked 130 women if they have running water in the kitchen; 64 per cent have, and two other communities report it in 50 per cent of the homes. We assume that other conveniences are found in about the same proportion, but in order that we may know more about our homes and about the program we most need, the members of this committee are hoping to secure information through a little questionnaire we are giving out to our neighbors. Through our local organizations we hope to extend this to people and communities which are not reached here. We want it to result in definite home improvement programs, sponsored by the rural organizations to which most of us belong.

For the sake of creating interest in home improvement, in which much can be accomplished without great expenditures, we suggest that contests may be planned for some communities where there is little interest, and prizes given to the winners. In a recent contest in Benton County, the improvements cost from 75 cents to $46.72, and the average cost per

kitchen was $12.00. The prize winner spent $22.50. The prizes were donated by manufacturing companies and local merchants.

Sequence of work, and ease and speed in doing work in the kitchen depend upon the grouping of the equipment there, and that often depends on location of doors and windows and chimneys which the housewife alone cannot change. The arrangement of the kitchen is more often decided by the carpenter or some other man who locates the windows, doors and chimneys without any thought that it makes any difference from the standpoint of ease of doing the work where these structural features are placed.

One woman states that rearranging the sink, stove, and food cupboards reduced the distance that she walked in the preparation of a meal from 116 yards to 11 yards. In many kitchens a day or two of the time of the man of the house spent in intelligent and sympathetic cooperation using a saw, hammer and nails could make over these wife-killing kitchens.

It is necessary even in times of economic stress and low profits to maintain a high standard of living. Where there are no conveniences the standard of living drops or the housewife makes up for the lack with the hardest work. This means that she has to steal time from her home making for her housekeeping.

Labor Saving Devices Have Far Reaching Influence

Mr. Hubert Work, Secretary of the Interior, in an address before the association of Land Grant Colleges at Chicago, said:

"One of the most advanced movements at this time is the campaign to introduce motor driven labor-saving machinery into the farm home for the relief of women there. Originating as an economic conception, the resulting conservation of women will have a direct reflection on race improvement. Out of it should come the reading mother, the home teaching of children, a more hygienic environment, a better physique, a stronger mentality, a responsible moral sense, and finally the nation's greatest present need, contentment of mind and time for reflection. I would make a plea for the farm family unit, for the six million women on farms, that their load might be lightened, their hours shortened, recreation enjoyed, and their minds rested; that they be helped to take their place as character builders, to build the home life around them."

The direct relation between food, homes, and good citizens was pointed out many years ago by the founder of home economics courses in colleges. She said: "The prosperity of the nation depends upon the health and morals of its citizens, and the health and morals of a people depend mainly upon the food they eat and the homes in which they live."

Close Relationship Between Food and Health

The close relation between food and health has been more clearly realized in recent years than ever before. Experimentally established facts prove human food needs for an optimum condition of health. Lack of lime in the diet results in defective development of the teeth and bones. Lack of iron results in anemia; lack of iodine results in goitre; lack of sufficient protein results in growth failure. Lack of vitamins may result in such characteristic diseases as scurvy, or in less severe abnormal conditions responsible for lowered vitality. There are distinct food needs,

all of which must be consistently met to maintain health. These facts are either unknown or are not applied in the daily living of a considerable proportion of the population of the United States, and failure to meet food needs has resulted in the poor physical condition of both children and adults in every part of this country in both urban and rural sections. There are millions of children today growing to man- and womanhood with physical handicaps, such as defective teeth, retarded growth, and lowered resistance to disease, due to faulty food and related health habits. A large percentage of the illness that comes to men and women in mature years is due to improper food habits during some period of their lives, perhaps in early childhood.

Notwithstanding the latent advantages of country life, it is nevertheless a surprising fact that health conditions in cities on the whole average higher than in the country, due to the rapid progress cities have made in positive health programs. People living in villages and on farms have first chance at the most important sources of foods for health, namely, dairy products and fresh vegetables and fruits. Are they making use of their opportunities?

Survey of Local Food Habits

The members of the committee find in the information they secured in the week preceding this conference that practically all the families reporting are using at least the minimum amount of milk, and many use much more. Only a few use two vegetables besides potatoes or dry beans every day, and still fewer have enough fresh or green vegetables. This indicates a need for cooperation in the nutrition program. We should and could, in Polk County, have gardens that would supply these almost the year around, with proper storage facilities.

Parents can be more careful and persistent in training their children to take the foods that they should have. Fathers as well as mothers should set a good example to the children by eating vegetables and fruits themselves. Frequently the man of the house fails to consider his eating habits in this light, and refuses everything but meat, potatoes, gravy and pie.

Only about 10% of Polk County's rural schools serve hot lunches.

Nutrition Courses Improve Food Habits

Five communities in Polk County have had nutrition courses furnished by the O. A. C. Extension Service. Reports indicate that it has resulted directly in improved food habits and they in turn in better health conditions.

Suitable dress is an important factor in promoting health and happiness. Fifteen communities have worked with the O. A. C. Extension Service in a clothing project which the women estimate has saved them $931.25 as well as brought contentment and satisfaction in being better able to make or select clothing.

II. CONCLUSIONS AND RECOMMENDATIONS

Believing that the people on farms are entitled to the greatest advantages of health, education, and recreation, we submit these resolutions for adoption as the Home Economics program of this conference.

1. Study Reasons for Drift to Cities

The American farm home offers the best opportunitiy for conservation of American home and family life. Therefore, we urge its conservation through serious study of the problems involved, through united effort to eliminate the features which cause families to drift cityward, and through more emphasis on the desirable features of life in the country.

2. Well Considered Labor Saving Equipment Needed in Homes

Because the standard of living so often is determined by the labor saving equipment, we urge that women be encouraged and helped to conserve time and strength through installing water systems and power and other labor-saving equipment as rapidly as is possible after the matter is fully and fairly considered, through adoption of better methods of work, through scientific arrangement of their equipment, through equipment at the proper working height, through keeping their bodies in the best physical condition through proper exercise, rest, food, and working conditions of heat, light, and ventilation in their kitchens.

3. Testing Circles Urged

In order that women may have an opportunity for testing new labor-saving equipment in their homes before purchasing, we recommend that organizations such as Farmers' Unions and Granges ask the cooperation of local merchants in forming testing circles on the plan suggested by the Extension Service of the college.

4. Lane County Farm Engineering Report Concurred In

We recommend that we adopt the farm house report of the farm engineering committee of the Lane County conference, which is as follows:

(a.) Measures to insure the purity of the water supply.

(b.) Installation of running hot and cold water systems. Where finances do not permit better, the $30.00 system installed now is better than the $300.00 one hoped for in the future.

(c.) Septic tanks for sewage disposal.

(d.) Improvement of farm lighting through study of placing lights and of various lights and lighting systems.

(e.) Development of water power for lighting, etc., where small streams are available for the purpose.

((f.) More attention to beautification of the farmstead.

5. Home Economics Courses in Rural Schools

Since about four-fifths of our girls eventually become homemakers, we recommend the support of scientific home economics as a required subject for girls in the school curriculum, and that provision be made for giving girls in rural schools this training also. We urge that capable

interested women be encouraged to act as leaders for girls' clubs in various home economics projects.

6. Study of Additional Home Problems

We recommend that the rural organizations which are carrying on organized programs include definite systematic studies of some of the home problems, such as sanitation and health conditions, nutrition, clothing, household budgets and accounts, and recreation.

7. We Recommend for Good Nutrition

(a.) That organizations study nutrition, that each family study the nutritional needs of children and adults, plan and grow gardens and supplies so that a balanced diet may be possible, and that each member of the family try to eat all wholesome foods.

(b.) That each child should have at least a pint of pure whole milk each day, a quart where possible, unless contrary to physician's orders, the best form being as an uncooked beverage.

(c.) That special care should be taken to have the school child's meals regular, including a good breakfast, a hot dish at noon, a regular evening meal, and that each school child have ten hours sleep daily and younger children more.

8. Take an Interest in Better Homes Week

We recommend that all the rural organizations take an active interest in the national Better Homes week, which will be May 10-17, and that in this the emphasis be placed on the mechanical improvement which will mean shortened hours, and less exacting labor for the women. This might be the culmination of an improvement contest which was suggested.

9. Additional Workers in Home Economics Subjects

In view of the growing demand for educational assistance from the Extension Service, a greater number of home economics workers is needed in subjects pertaining to the farm home. We recommend that additional workers be supplied in those home economics subjects, such as nutrition, clothing, and home improvement, which concern the entire family and are the most vital work conducted by the Extension Service.

10. Survey Stadards of Living

We recommend that the same interest and support be given to surveys and investigations in finding out the standard of living for people on farms as for those in the industries, and that we expect the same standard of living, the same opportunities and advantages for those continuing on the farm as for those in other occupations. To that end we ask the cooperation of the United States Department of Agriculture and the college in taking a survey of standards of living in farm homes in Polk County, as they have done in Indiana, Pennsylvania, and some others states.

Submitted by the Home Economics Committee

(Signed by) Alta McBee, Chairman.

REPORT OF FARM MANAGEMENT COMMITTEE

COMBINATION OF PROFITABLE ENTERPRISES AND DIVERSIFICATION

The farm is the unit representing the entire farm business, therefore the farm operator is concerned not only with each individual enterprise, but also with combinations of various enterprises. He is concerned in the development of a farm plan which will create a well balanced business and utilize to the best advantage his land, labor and capital.

Since diversified farming offers a better distribution of labor, permits the use of crop rotations and offers a larger number of profit earning days per year than specialized or single enterprise farming, it is the recommendation of this committee that a greater diversity be developed and that combinations of the following enterprises may be adopted in so far as practical on individual farms in the county.

1. Major enterprises: dairy cattle or sheep.
   Minor enterprises: poultry, clover or vetch seed, potatoes or other minor cash crop.
2. Major enterprises: dairy cattle.
   Minor enterprises: hogs, poultry, clover or vetch seed, potatoes or other minor cash crop.
3. Major enterprises: dairying.
   Minor enterprises: hogs, wheat, clover.
4. Major enterprises: dairy cattle.
   Minor enterprises: sheep, hogs, or poultry, clover or vetch seed, potatoes or other minor cash crop.
5. Major enterprises: prunes.
   Minor enterprises: poultry and berries, or prunes, and dairying or prunes, pears and cherries.
6. Major enterprises: poultry.
   Minor enterprises: berries.
7. Major enterprises: sheep.
   Minor enterprises: poultry, orchard, or berries.

This committee further recommends the economic study of adopted enterprises to determine costs of production, and efficiency practices. To this end it is recommended that farm managemnt tours be conducted whereby groups of farmers may visit successful farms where adapted enterprise combinations may be studied.

GOOD STANDARDS FOR POLK COUNTY

After analyzing the important factors which influence profits in farming in Polk County, this committee has set up a series of "standards" which it believes will be helpful in enabling farmers to measure and compare the efficiency of their farm businesses. These "standards" have already been reached and passed by some of our best farmers, and are within the reach of all farmers.

1. **Receipts from Livestock**
   (a) Milk receipts per cow, $100.00 per year.
   (County average now $75.00)
   (b.) Pounds milk per cow per year, 6,000 lbs.
   (County average now 4153 lbs.)
   (c.) Pounds butter fat per cow per year, 250 lbs.
   (County average now 166 lbs.)
   (d.) Live pigs per sow per litter, 5½ to 6.
   (e.) Pounds wool per sheep, 8 lbs.
   (f.) Percentage of lambs per ewe, 100%.
   (g.) Eggs per hen per year, 160 to 180.

2. **Yield of Crops**
   At least 30% above the average for the county. (See farm crops report for county averages.)

3. **Use of Labor**
   Sufficient acreage of crops, sufficient livestock and diversity to keep all man labor and horse labor productively employed the year around.

FARM ACCOUNTING

This committee believes the first step in successful farm management is the keeping of simple farm accounts which will point out the leaks in the business and suggest means of stopping those leaks.

In order that farmers may become more familiar with simple farm record keeping we recommend

First: The conducting of farm account meetings in the county.

Second: The organizing of boys and girls farm account clubs, each boy to keep the record of his father's farm. (Three years' previous experience being required of the boy.)

Third: The teaching of simple farm accounts in the 8th grade of rural schools.

(Signed) P. O. Powell
C. C. Gardner
F. C. Ewing
Frank Loughary
S. L. Stewart.

REPORT OF BOYS AND GIRLS CLUB COMMITTEE

Polk County has been doing club work since 1913. Boys and girls who have been club members in the past have made good in their work both in colleges and out.

Many of these have given the credit for their success to the training they received in their club work.

In the club year 1922-23 Polk County enrolled 166 club members and 86 of these completed the work at a value of $2,169.50, costing $1,170.84, giving a profit of $998.96 with two clubs completing 100%.

This year, 1923-24, we enrolled 325 members. Of these 199 began the work and 113 have completed the work to date. Thirty-seven standard clubs were organized. Eight have finished as 100% clubs and are as follows:

Kind of Club	Place	No. Members	Leader
Potato club	McCoy	6	R. H. Cobban
Pork club	Eola	6	Thomas W. Brunk
Calf club	Monmouth	6	H. W. Hannum
Calf club	Bethel	6	S. L. Stewart
Calf Club	Buena Vista	5	Harold Reynolds
Calf club	Greenwood	10	Guy Hewitt
Sewing club	Salk Creek	4	Miss Lena E. May
Sewing club	Polk Station	8	Mrs. C. B. Teats

Ninety exhibits were made at the state fair. Prizes were won as follows:

POULTRY:

Nathan Buell	Poultry Division 11	1st
John Oliver	Ducks	2nd
Rollo Cobban	Ducks	3rd

PORK:

Kenneth Henry	Poland China Div. 1	
Fred Teats	Poland China Div. 11	2nd
Bert Teats	Poland China Div. 11	4th
Velma Acuff	Poland China Div. 11	6th

SHEEP:

Jessie Walling	9th
Robert Lehman	10th

CALVES: Jersey Div. 1-B

Dorothy Morrow	1st
May Morrow	2nd
Derrel Hewitt	4th
Nan Iliff	9th

CALVES: Jersey Div. II

Leslie Stewart	1st
Ryder Finn	4th
John Finn	6th

LINN TROPHY CUP SPECIAL:
Dorothy Morrow

AYRSHIRE DIV. I	
Alton Domes	1st
Wilford Domes	2nd
AYRSHIRE DIV. II	
Wilford Domes	1st
Alton Domes	2nd

One hundred and fifty dollars in prizes given by the County Jersey Breeders' association, were won by boys and girls. Two boys and two girls were sent to the State fair. A stock judging team was also sent to the Pacific International Livestock exposition.

A prune bread making team was sent to the Pacific International by prune packers and the Dallas Commercial club. Corn and potato club members won about $50.00 in prizes at Independence Corn show. As a whole, and for what money was spent by Polk County (which was nothing), we think Polk County did well with club work during the last year.

In order to stimulate club work more in Polk County the committee offers the following suggestions:

1. Employ a county agent who will spend a part of his time as county club leader.
2. Secure the cooperation of the different organizations in the county, such as P. T. A., Granges, and Farmers' Unions in securing local leaders.
3. Secure the cooperation of the teachers and local leaders.
4. To hold a Polk County fair and if that is impossible that we ask the county to set apart enough money to hold a county school fair.
5. Since Polk County has a nation wide reputation for Jersey cattle, and whereas the Jersey calf clubs in Polk County were second to none in the Northwest, we recommend that the Jersey calf clubs be continued this year with an increased enrollment.
6. The state Fair board is to be commended for its efficiency in supporting boys and girls club work, but we recommend that the board build a dormitory at the state fair to house club winners with understanding that all club exhibitors who have live stock at the state fair, be housed also.
7. We also recommend that the club projects program coincide with the regular agricultural program which will be adopted at this conference.

(Signed) Mrs. C. B. Teats
Mr. C. B. Teats
Harold Reynolds
H. J. Elliott
Josiah Wills
S. L. Stewart.

REPORT OF FARM ENGINEERING COMMITTEE

With a view toward bettering the living conditions on the average farm; with a purpose for organizations and methods in farm equipment that will give us economic and efficient production, the farm engineering committee submits the following report dealing with the subject under two heads:

1. Conditions surrounding live-stock and crop production and farm plant equipment.
2. Home improvement.

LIVESTOCK, CROPS AND PLANT EQUIPMENT

I. THE PRESENT SITUATION

The livestock must have comfortable quarters, with sufficient and proper feed in order that they may produce profitably.

If crops are to be produced profitably serious attention must be given the selection of farm machinery and equipment. In spite of the large investment in dollars and cents this we think is neglected.

Productive equipment should be properly housed and cared for. Large sums are lost annually through improper housing. The farm mechanics department of the Oregon Agricultural College places this loss at 5% of the cost, which taken in the aggregate amounts to thousands of dollars the country over. Repair and upkeep comes in for a large share of consideration as neglect and carelessness may mean the difference between profit and loss.

Careful consideration should be given the placement of the buildings and equipment. We should have a plan toward which to work in order to save steps while doing chores. Ample shed room and plenty of brush for goats.

Much valuable land is too wet to farm. This fact calls for drainage and the use of drain tile to lower the water table.

Very few farm buildings, and little machinery and equipment have been built or purchased in the past ten years. There has been much borrowing of money, and many farmers have purchased big expensive autos. Nevertheless, we believe that prosperity will increase in the near future and the much needed buildings and equipment will be put in place.

We wish to call the attention of this conference to the wasteful methods of handling "the farmer's bank account," the manure pile; also to the miles of fence that may be torn out, thereby doing away with an expense and source of weeds; increasing the cropping area and making the farm more attractive generally.

II. CONCLUSIONS AND RECOMMENDATIONS

As a plan for making our stock, fields, buildings and equipment more profitable and reducing our overhead costs, we would recommend:

1. Have a plan toward which to work.
2. Careful study of items of equipment to determine that which is best suited to our plan.

3. Better housing and repair of machinery and equipment and livestock and manure.
4. That farmers cooperate in purchase of such machinery as manure spreaders and threshing machine equipment, etc.
5. Elimination of unnecessary fences.
6. Sufficient paint and tile drainage.

HOME IMPROVEMENT

I. THE PRESENT SITUATION

The environment on the farm should be such that the children will want to stay on the farm, instead of being drawn cityward by luxury and bright lights.

Times change and a new order of things come as the country grows older. Our forefathers struggled through mud by the aid of an oil light that we might have paved roads and electric lights now. Electricity has proven to be an economical power for the farmer. He can profitably use it for the pumping of water, milking machines, churns, grinders, feed mills, ensilage cutters, cooking, water heating and refrigeration. All modern machinery is especially adapted for electricity.

There are at present 12 strictly rural power and light extensions in Polk County serving approximately 150 farms.

As an example of the cost of current to the rural consumer, we will use the farm of Knowles Brothers one mile south of Knowles Station. This farm is electrically equipped as follows:

Approximately 40 light outlets
1 Electric range
1 Water heater
1 Vacuum cleaner
1 Electric washing machine
1 Electric iron

and other small appliances. There is no other farm home in this district so well equipped. The average monthly consumption is 60 kilowatts. The average current cost over a period of 9 months was $4.34.

As an example of the cost of current for a dairy farm we will use the farm of R. C. Halberg. Mr. Halberg is equipped as follows:

Approximately 15 outlets in the house
Approximately 10 outlets in the barn
1 2 horsepower single phase motor milking machine.

From September 23rd to October 23rd the cost of current for combined load amounted to $4.07. Mr. Halberg is milking 18 cows. It required 2½ hours to milk by hand. It requires 1 hour with motor and milking machine. A considerable saving in money and labor in a year's time.

Much water power is going to waste that could be harnessed to furnish cheap light and power for the farm. Many of the modern conveniences may be had for a very low cost and in nine cases out of ten where farmers can afford it they have almost all of the conveniences. It would

then seem to be a problem of selling the products of the soil at a sufficient price.

The working day for the women on the farm is long and the labor hard. Too little attention has been given toward improving these conditions.

II. CONCLUSIONS AND RECOMMENDATIONS

We recommend the following for home improvement:

1. Pure running water supply
2. Hot and cold water systems
3. Use of septic tank for sewage disposal
4. Better farm lighting
5. Developments of our water power for farm use.
6. More attention to beautifying the home surroundings.
7. Paint and planting of shrubs and flowers.

In conclusion we have recommended all this in the name of progress and more profit in order that our farms may be more attractive and inviting.

Our recommendations have not called for large expenditures because large expensive buildings too often have proved to be a burden, but we do point a way to a reduction of farm expenditures thus leaving a larger margin of profit to a deserving class of people.

(Signed) Waldo Finn
E. J. Page.

HISTORICAL SKETCH OF POLK COUNTY AGRICULTURE

(From Bulletin on Soil Survey of Polk County by the U. S. Bureau of Soils and the Oregon Experiment Station, cooperating)

Agriculture has been the main industry of Polk County since it was organized in 1845. The open praries along the Willamette and Yamhill rivers were the first settled and improved. This region was covered with an excellent growth of native grasses which furnished the grazing land for cattle for a number of years. General farm crops for home use were grown. With increase in population and development of the county, wheat and oats were more extensively grown. The increased acreage devoted to grains and forage crops made it necessary to send the range cattle back into the hills for summer pasture. Dairying and fruit growing have later made a remarkable growth and are at present the leading industries of the county.

According to the U. S. census report of 1880, wheat occupied 52,028 acres, producing 825,896 bushels; oats, 11,061 acres, producing 338,226 bushels; barley, 958 acres, yielding 25,358 bushels; hops occupied but 35 acres at this time.* During this decade wheat was the most important crop, occupying twice the acreage of all other crops combined. Fruit production was limited to home use.

During the next decade, 1880-1890, although the acreage of wheat was decreased by 10,000 acres, the yield increased one-fourth million bushels, probably due to the change from the spring to winter varieties. Potatoes doubled in yield from 21,529 bushels to 42,300 bushels Oats showed a marked increase of 20% over acreage of previous decade, now totaling 16,368 acres, with a yield of 508,655 bushels. Barley decreased about 33% in acreage, totaling 672 acres, yielding 22,812 bushels. Hops increased from 35 to 340 acres. Apples and peaches were now produced on a commercial basis, with 82,055 apple trees producing 73,727 bushels and 2,217 peach trees producing 1288 bushels.

RED CLOVER AND ROTATIONS INTRODUCED

The next ten years, 1890-1900, was marked by the introduction of red clover, with 500 acres yielding 1059 tons. Wild grasses occupied 162 acres; tame grasses 6696 acres, yielding 12,153 tons. During this decade, the introduction of clover, diversification, and crop rotation, were important strides toward a permanent agriculture. A total of 3549 acres in grain was cut green for hay. Wheat increased in acreage. Oats again showed a big increase, totaling 20,598 acres. Potatoes made a big advance from 42,300 to 83,395 bushels. Apples from 122,923 trees yielded 27,224 bushels; peaches from 3,842 trees yielded 375 bushels. Corn increased to 370 acres, with the introduction of silos. The acreage devoted to hops showed an enormous increase of 2,568 acres, due to favorable climatic conditions and excellence of product. Acreage planted to fruit trees increased 25%. Dairy products were valued at $29,329, poultry $34,643, animals sold and slaughtered $144,317, fruits and nuts $24,533.

* The data for this chapter, unless otherwise stated, are taken from the records of the United States census.

Readjustment of Cereal Acreage

The period from 1900 to 1910 was characterized by great diversification of crops, and a conspicuous reduction in the wheat acreage from 49,346 acres to 13,089. There was a big increase in oats from 20,590 to 31,091 acres. Beans were introduced among the cultivated crops, but only occupied 15 acres. Clover also made a big advance from 500 to 2600 acres. Grain cut green for hay increased from 3549 to 15,525 acres. Apples made an increase in production from 27,000 to 70,000 bushels. Pears, plums, and cherries were started during this period. The Oregon prune was established, with a total of 121,430 trees. Grapes increased from 5227 to 12,377 vines. Nuts were first planted, with 455 trees. Small fruits showed a big increase in acreage, strawberries from 18 to 103 acres. Dairy products exclusive of home use increased in value from $29,324 to $203,188; poultry from $34,693 to $115,246; fruits and nuts from $24,533 to $165,139; total value of all products $2,990,724.

Hops Reach Their Zenith

During the period of 1910 to 1920, the great increase in acreage of wheat over the previous ten years, 13,000 acres in 1910 to 32,136 in 1920, was due to war demands. Hops at their zenith in 1910 with 4400 acres yielding 3,949,426 pounds decreased to 1576 acres yielding 1,274,540 pounds. Due to the development of the dairy industry, corn for silage increased from 190 acres to 1287 acres. This period is characterized by remarkable increase in the fruit industry. Prunes and plums were most conspicuous, with an increase from 121,430 trees yielding 128,082 bushels to 518,165 trees yielding 273,579 bushels. Cherries increased from 11,971 trees to 54,143; peaches and nectarines from 4,238 to 18,051. All nuts increased from 455 to 12,093 trees. The total value of the agricultural products of the county showed a material increase over the previous 10 years. Cereals increased in value from $621,195 to $2,215,712; fruits and nuts, $165,139 to $1,161,269; dairy products, $203,185 to $540,373; poultry, $153,246 to $294,034. A total valuation of all agricultural products shows an increase from $2,990,724 to $6,257,728.

The agriculture of Polk County at the present time is general farming, fruit production, dairying, poultry raising, berries, and vegetable gardening. The principal money crops are wheat, fruit, oats and potatoes.

Cereal Production Occupies First Rank Now

Wheat at the present time occupies 32,000 acres, a large increase over 13,000 reported in 1910. Oats occupy 25,395 acres, a reduction from the 31,091 reported in 1910. The war conditions were largely responsible for the large increase in the acreage of wheat and the decrease in acreage of oats. The value of all cereals as reported in 1920 census is $2,215,712; which is one-third of the combined value of all other agricultural products of the county. These figures show that cereal production ranks first in the agriculture of the county.

The 1920 census shows a gain in acreage over that of 1910, now occupying 1147 acres as compared with 914 acres. Potatoes fit in particularly well in a crop rotation, being especially well adapted to the lighter or sandy soil types.

Clover, now recognized as indispensible to any system of permanent agriculture, occupies 2640 acres. In connection with dairying it is cut for hay, producing a palatable, nutritious forage. As a seed crop it is attracting considerable attention, more being left for seed each year, and it promises to become more popular each year as a cash crop. The usual practice is to cut for seed the first year when the crop is free from weeds and the second year cut for hay, after which it is plowed under and followed by grain or cultivated crop.

Corn has made a larger increase in acreage during the last decade than any other crop, due to the recognition of its excellence as silage for the extensive dairying interests of the county and to development of early maturing varieties for grain. The census of 1920 shows 1287 acres as compared with 190 for 1910.

Fruit Industry is Extensive

The fruit industry of Polk County is now an extensive and highly specialized line of agriculture. Because of the marked adaptability and profitable financial returns, orchards have largely replaced grain growing on the so-called red hill soils of the valley. The 1920 census showed that the total value of all fruits, $1,161,269, was second only to that of cereals. The Aiken and Olympic soils are particularly adapted to prunes, apples and walnuts. Prunes showed a tremendous increase, nearly 400,000 trees over the number 121,430 planted in 1910. The yield during this period only doubled, due to the fact that many of the trees were not of bearing age.

Walnut culture is receiving considerable attention due to the success of the 12,093 trees now planted. There are probably some 255 acres of walnut groves, practically all of the Franquette variety, and flourishing only on a deep, well drained soil.

Number of Farms Increase; Average Size of Farm Decreases

According to the census report of 1920, Polk County shows a total of 1761 farms, averaging 136.1 acres. Of this area 57% is improved land or 78.3 acres per farm. These figures show a decrease in size of farms, which averaged 303 acres in 1880, to 136.1 acres in 1920, and an increase in number from 787 to 1761.

The farm improvements are above the general average of most farming communities, especially with regard to dairy barns and dwellings. Good grade work stock is kept, and a number of tractors are in use. High grade Jerseys predominate among the dairy cattle, while the beef breeds are of good quality, and many are kept to utilize waste land and crop residues. The farm machinery is of the latest type and fairly well sheltered. Land values in Polk County vary according to location, improvements, distance from shipping facilities, highways, and topography. Improved lands in the valley for general agriculture are valued from $100 00 to $175.00. Unimproved hill lands are held at $10.00 to $60.00 per acre, depending on location and topography. Bearing orchards, in prunes, apples, peaches, cherries, and nuts, are valued at from $400.00 to $700.00. The census report for 1920 shows an average value of $90.00 per acre.

CLIMATE

Long growing seasons, moist winters and dry, bright summers characterize the climate of Polk County.

Climatic conditions of the eastern part of the county are represented by the records of the U. S. Weather Bureau at the Wallace orchard, one mile west of the Willamette river near Salem. The average rainfall at this point for the 15 year period 1909-1922 is 41.75 inches. About 8 inches of that total comes in the five months of May, June, July, August and September. The greatest annual rainfall on record here was 51.93 inches in 1916; the lowest was 28.03 inches in 1918. The average length of the growing season is 174 days.

Temperatures are moderate. The Wallace orchard station records show that the annual mean temperature is 50.3 degrees. The highest on record is 100 degrees, registered on August 12, 1920; the lowest on record is 14 degrees, reached on December 13, 1919. These extremes are of rare occurrence.

The conclusions in the foregoing paragraphs on climate were taken from the official records of the United States Weather Bureau as compiled and tabulated by the O. A. C. Extension Service for the Polk County agricultural economic conference.

TABLE NO. 1.
POLK COUNTY POPULATION STATISTICS
(Compiled by O. A. C. Extension Service from U. S. Census Records)

Census Year	Per sq. mi.	Number	Per cent increase over last census
1850		1,051	
1860		3,625	244.4
1870		4,701	29.7
1880		6,601	40 5
1890		7,858	19.1
1900	14.2	9,923	24.3
1910	19.0	13,469	35.7
1920	20.0	14,181	5 3
State (1920)	8.2		

Population per square mile, 1920: Rural, 16.2; Total 20.0
Urban population in 1920, 2701; 19% of total.
Rural population in 1920, 11,480; 81% of total.

TABLE NO. 2.

NUMBER OF FARMS, LAND AREA, ETC., POLK COUNTY
(Compiled by O. A. C. Extension Service from U. S. Census Records)

Census Year	Number of Farms	Acres in Farms			% of Land Area in Farms	% of Farm Land Impr'ved	Average Acreage per Farm	Average Improved Acres per Farm	Total Land Area in County	% of Land Area Impr'ved
		Improved	Unimproved	Total						
1850	129	1,341						72.4		
1860	535	102,113	133,257	235,370		43 5	440.0	190.9		
1870	593	125,444	98,761	224,205		56.1	378.1	211.5		
1880	782	167,195	69,744	236,938		70.5	303.0	213.8		
1890	882	141,877	89,292	231,169		61.3	262 1	160.9		
1900	1,192	127,072	129,775	256,847	57.3	49.5	215.5	106.6	448,640	28.4
1910	1,557	137,162	123,205	260,367	57.4	52.7	167.2	88.1	453,760	30.3
1920	1,761	137,949	101,672	239,621	52.8	57.6	136 1	78.3	453,760	30.4

TABLE NO. 3

VALUE OF FARM PROPERTY, POLK COUNTY

(Compiled by O. A. C. Extension Service from U. S. Census Records)

Census Year	Number of Farms	Total Farm Values						Average Values per Farm		
		All Farm Property	Per cent Increase	Land	Buildings	Imp'ments and Machinery	Livestock	All Property	Land and Buildings	Land Alone (acre)
1850	129	*$ 81,470					$	$ 632	$	$
1860	535	1,630,014		$ 869,600		$ 87,042	673,372	3,047	1,625	
1870	593	2,182,410	33.9	1,584,243		122,259	475,908	3,680	2,671	
1880	782	5,277,259	141 7	4,509,169		204,603	563,487	6,748	5,766	
1890	882	6,448,060	22.2	5,624,680		221,390	601,990	7,311	6,377	
1900	1,192	6,777,753	5.1	4,977,240	808,310	250,220	741,983	5,686	4,854	19 38
1910	1,557	17,602,029	159.7	14,080,988	1,701,975	433,502	1,385,564	11,305	10,137	54.08
1920	1,761	28,661,564	62.8	21,738,848	3,617,460	1,501,489	1,803,767	16,276	14,399	90.72

* Livestock values not included.

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

TABLE NO. 4.

VALUE OF FARM PRODUCTS FOR 1919 AND OF LIVESTOCK FOR 1920, POLK COUNTY

(Compiled by O. A. C. Extension Service from U. S. Census Records)

Crop Produced	Value	Total Value
Cereals	$2,215,712	
Fruits and Nuts	1,161,269	
Hay and Forage	872,704	
All other crops	676,293	
Vegetables	350,349	
Other Grains and Grasses	128,617	
		$5,404,944

Livestock, Poultry, Bees		
Dairy cattle	$608,920	
Horses	535,977	
Swine	191,387	
Sheep	189,045	
Poultry	115,393	
Beef cattle	79,147	
Goats	67,263	
Mules	10,568	
Bees	5,067	
Asses and Burros	1,000	
		$1,803,767

TABLE NO. 5.

INCOME FROM SALE OF FARM PRODUCTS IN 1919, POLK COUNTY

(Compiled by O. A. C. Extension Service from U. S. Census Record

Product	Income	Per cent of Total Income
Cereals	$1,665,000	36.0
Fruits and Nuts	880,000	19.0
Livestock and Meats	495,000	10.7
Dairy Products	472,595	10.2
Poultry Products	169,137	3.7
Hay and Forage	120,000	2 6
Vegetables (incl. potatoes)	77,000	1.7
Wool and Mohair	70,000	1.5
All other Crops	675,000	14.6
Total: all products	$4,623,732	100.0