

# Oregon Agricultural College

## Extension Service

PAUL V. MARIS

Director

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### Report of the Benton County Agricultural Economic Conference

Corvallis, Oregon, January 13-14, 1925

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### Suggesting an Agricultural Program For Benton County

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Prepared for Publication and Distributed  
by C. R. Briggs, County Agricultural Agent

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Benton County Farm Organizations, Corvallis Chamber of Commerce,  
O. A. C. Extension Service and U. S. Department of Agriculture, Cooperating.

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## MINUTES OF THE CONFERENCE

Arrangements that led up to the Benton County Agricultural Economic conference and a record of the conference procedure are included as a part of this bulletin in order that all interested in the conference may be informed of how it came about and what it did.

The following record was compiled by Henry Felberbaum, secretary of the conference.

At 7:30 in the evening of December 10, 1924 at the request of the County Agent and various other agricultural leaders of the county the following persons met in the office of the County Agent of Benton County in the court house at Corvallis, Oregon. Paul V. Maris, C. R. Briggs, William Teutsch, E. W. Johnson, E. A. Blake, Mrs. E. A. Blake, Claude Buchanan, Miss Eva Comegys, W. N. Locke, William A. Reid, W. E. Kyler, and Harry Felberbaum.

Director Maris briefly outlined the purpose of the gathering, which he stated was to determine whether or not it was desirable and feasible to hold a conference for the discussion of the economic problems of the farmers of Benton County; and in support of his belief that such a conference was advisable he briefly mentioned the benefits derived from such conferences in other counties within the state which had profited by the results of the statewide conference held in Corvallis during January of 1924. A general discussion was had, whereupon it was decided that the gathering should become organized for the better handling of the situation.

It was moved, seconded and passed by the unanimous vote of all present that B. W. Johnson of Monroe be chairman of the general committee and Harry Felberbaum of Corvallis be the secretary. Upon motion duly made, seconded and carried by the unanimous vote of all present, it was decided to hold the first annual eco-

omic conference of the agriculturists of Benton County, Oregon, on the 13th and 14th days of January, 1925, at the court house in the city of Corvallis. It was then proposed that the chair appoint committees to act and gather data on the various problems to be discussed by the conference. Whereupon the chair appointed the following persons as chairmen of their respective committees:

### Committee Chairmen Named

Crops, G. H. Hector; dairy, F. W. Karstens; poultry, Ed Snow; livestock, Robt. Gellatly; horticulture, George Thornquist; land development, A. L. Stevenson; marketing, C. E. Ingalls; home economics, Mrs. S. L. Coleman; club work, Mrs. A. N. La Eare; publicity, W. A. Reid, Claude Buchanan and Mrs. E. A. Blake.

The county agent was directed to get in touch with the various chairmen and work with them in the making up of their various committees, and it was unanimously voted that the chair be empowered to make any changes in the personnel of the committees as circumstances might direct with full discretion to do whatever he thought necessary to further the success of the conference. Paul V. Maris, director of the college extension service, gave the gathering full assurance that the technical experts of the Oregon Agricultural College would cooperate to the fullest extent towards accomplishing the ends desired by the conference.

Upon motion duly made and seconded the meeting adjourned.

### Conference Is Opened

The first Benton County Agricultural Economic Conference was called to order at the Benton County Court House in Corvallis, on January 13, 1925 at 10:10 o'clock by B. W. Johnson of Monroe, chairman of the conference, with Harry Felberbaum acting as secretary.

About one hundred persons comprising farmers and agricultural experts of the Oregon Agricultural College and others directly interested in agriculture were in attendance. The audience was a representative one and well qualified to carry out the work of the conference and spread the work in all of the communities in Benton County. Mr. Johnson in his opening address stated in brief and concise terms the purposes for which the conference was called and introduced as the principal speaker, Paul V. Maris, director of the extension service of the Oregon Agricultural College. Director Maris explained to the gathering the purpose of the conference, laying stress on the fact that the conference was called for the purpose of working out economic problems and further distinguishing sound economic measures from political expedients. He showed the need of such activity along economic lines if the farmers and other interests of Benton County are to have a greater degree of stability in their prosperity.

#### **Analysis of Local Agriculture by County Agent Briggs**

At 10:45, immediately after the conclusion of Director Maris' address, the chairman called upon C. R. Briggs, county agent for Benton County, for suggestions for consideration by the various committees which had previously been appointed by the general committee. Mr. Briggs presented several comprehensive charts showing the increase of population, farmed acreage and products raised in the county for a period from 1850 to 1924, and showing in all lines of agricultural industries the amount of products raised in the county as compared with the amounts required for home use and consumption. These charts, together with Mr. Briggs' explanation of their relation to world production, made possible the visualization of a probable solution of the county's problems, and the chairmen of the various committees together with the committeemen and the members of the conference were thus saved an immense volume

of time that would otherwise have been consumed in trying to learn the true status of agriculture in the county in its relation to the rest of the state, country, and world. No doubt, no single factor contributed more to aid in the prompt and effective manner in which the work of the various committees was accomplished than was the presentation and explanation of these charts.

At 11:30 Miss Eva Comegys gave a brief but illuminating talk on boys' and girls' club work and home economics and made it clear to the conference that this class of work was being taken up in the county in a satisfactory manner and was producing good results along the lines undertaken by the various organizations coming under that head.

At 11:45 the chairman announced to the conference the fact that the Corvallis Chamber of Commerce had extended an invitation to chairmen of the various committees to attend the forum luncheon at 12 o'clock, and that the Chamber of Commerce had invited all persons attending the conference to be guests of the Chamber of Commerce at luncheon at noon the following day.

#### **Conference Groups Meet Separately**

At 11:50 a motion was made, seconded and carried that the conference adjourn and that the various committees meet in their committee rooms at 1:15 p. m., to consider the various problems coming before the several committees, that such committees convene again in their various committee rooms the morning of Wednesday, January 14 for the completion of the committee work, and that the general conference assemble at 11 o'clock on the morning of January 14 to hear and act upon the reports of the various committees as they may be presented.

Wednesday, January 14, 1925, at 11:20 a. m. the conference was called to order by chairman, B. W. Johnson; Harry Felberbaum acting as secretary.

#### **Reports Are Adopted**

The chairman called for reports from the various committees.

The poultry report was presented by Ed. Snow and was adopted without discussion.

The report on land development was adopted after being read by A. L. Stevenson.

At 11:50, upon motion duly made and seconded, the conference adjourned to go in a body to the rooms of the Corvallis Chamber of Commerce as guests of the Chamber, for luncheon, and to meet again at 1:30 in the afternoon for a resumption of its work.

At 12:10 the members of the conference were welcomed by the Corvallis Chamber of Commerce through A. K. Berman, chairman of the community relations committee and E. T. Reed, president of the Chamber of Commerce. Both gentlemen in a sincere manner voiced the position of the citizens and business men of Corvallis as being identical in interest with that of the county agriculturists and illustrated the truth of their statements by citing several examples showing the people of the city to be in perfect sympathy with, and desirous of helping in the solution of all problems of the farmers of the county from an economic and every other point of view. Chairman B. W. Johnson and Paul V. Maris responded on behalf of the conference. A very fine program of music was furnished at the luncheon. In every respect the Chamber of Commerce deserves credit for the hospitality extended and the spirit of comradeship and friendly, practical interest evidenced at the meeting and by the past acts of the Chamber of Commerce.

The following resolution was presented, seconded and passed by the unanimous vote of all members of the conference at the Chamber of Commerce luncheon.

"We, the farmers of Benton County participating in the agricultural economic conference, desire to express our thanks and appreciation to the citizens of Corvallis for their interest and cooperation in our efforts to assemble facts and formulate an agri-

cultural program, and we would particularly mention the press for generous publicity and support, the Corvallis Chamber of Commerce for its kind hospitality, transportation and business organizations for data provided, the Extension Service of the College and those who have contributed of their time as members of committees preparing information for the benefit of the conference."

At 1:30 the conference was called to order again by the chairman, and committee reports were in order.

The report of the dairy committee, read by F. W. Karstens, chairman, was adopted.

The livestock and marketing committee reports were read respectively by Robert Gellatly and C. E. Ingalls. Each was adopted.

#### **Cannery Committee Is Named**

At this point the following resolution was presented and duly seconded:

"That a standing committee be appointed by the chairman to follow up and put into effect the general ideas set forth in the report on the cannery, and that this committee consist of the chairman of the cannery committee, a representative of business interests, a representative of the cannery, a farmer producing cannery products, the county agent, and a college representative."

Upon being put to a vote the resolution was adopted by the unanimous vote of all present.

In compliance with the foregoing resolution the chairman appointed the following persons to constitute the said committee: C. E. Ingalls, C. R. Briggs, John H. Wilson, Ira Hutchings, and C. J. Hurd.

#### **Publication of Reports Is Urged; Follow-up Provided**

Reports of the groups on horticulture, home economics, and crops were read, considered and adopted.

Mr. Bystrom then presented the following resolution which was duly seconded:

"Whereas, This, the first Benton County Agricultural Economic Confer-

ence, has adopted a program based upon a comprehensive study of production and marketing possibilities which provides the best information for the further development of the agriculture of the county; and

"Whereas, The ultimate benefits growing out of the conference will depend upon the extent to which the program is understood and followed, therefore be it

"Resolved, That the general committee in charge of the conference be continued as a standing committee for the purpose of preparing the information and recommendations of the various groups for publication and the further purpose of devising ways and means of carrying the recommendations into effect."

Upon being put to a vote the resolution was adopted by the unanimous vote of all persons present.

The following resolution was duly moved, seconded and passed by the unanimous vote of all persons present.

"That the general committee hereafter appoint the various sub-commit-

tees and notify the said committees of such appointment at least 30 days prior to the date of any general conference held in the future."

#### Want Similar Conference Annually

The following resolution was duly made, seconded and passed by the unanimous vote of all persons present:

"That a conference of the farmers of Benton County, Oregon be held annually hereafter."

The conference owes a debt of gratitude to the many members of the staff of the Oregon Agricultural College who cooperated with the several special committees, especially E. R. Jackman, crops; H. E. Cosby, poultry; H. A. Lindgren, livestock; N. C. Jamison, dairy; C. J. Hurd and C. L. Long, marketing and cannery; Henry Hartman, horticulture; F. E. Price, soils; H. C. Seymour, boys' and girls' clubs; and others.

Upon motion duly made and seconded the conference adjourned sine die.

B. W. JOHNSON, Chairman.  
HARRY FELBERBAUM, Sec.

# DEVELOPMENT OF BENTON COUNTY AGRICULTURE

The early settlers in the region now included within the boundaries of Benton County occupied the level, treeless valley floors which provided grass and wild hay in abundance. For a number of years the leading industry was the raising of cattle on the open range. Lack of agricultural implements and absence of convenient transportation facilities dictated a type of agriculture designed to supply only immediate home needs. As population increased and transportation facilities became better, more attention was paid to raising grain and forage crops. Large areas of fertile soil, waiting only to be plowed, gave big yields of crops. The range cat-

According to the U. S. census, there has been no increase in acres in farms since 1900. There has been, however, a decided increase since that time in the number of improved acres in farms. In Table 2 the development of farm acreage since the year 1850 is traced. It will be noted that in 1920

the were gradually pushed back into the hills for summer pasture and growing of cereal and forage crops became the prominent industry.

### Greatest Development Between 1850 and 1860 and From 1900 to 1910

Table 1 traces the development of population in this county since 1850. The county was organized in 1849. Between 1850 and 1860 this county settled up very rapidly, comparatively speaking, and agricultural pursuits developed in corresponding proportion. Development was slower between 1860 and 1900, but in the decade 1900-1910 another burst of development is noted by examining Table 1 and other tables to follow.

there were actually fewer total acres in farms than was the case in the year 1900, but that since 1900 almost 18,000 improved acres have been added.

Increases in the total value of farm property have paralleled the increase of number of farms until the year

**TABLE 1**

### Benton County Population Statistics

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

Census Year	Per sq. mile	Percent increase		Percent of Total Increase			Percent of Total Incr.	
		Number	Percent	Rural	Total	Urban	Total	
1850		814						
1860		3,047	278.9					
1870		4,584	49.2					
1880		6,403	39.7					
1890		8,650	35.2					
1900	9.9	6,706	-22.5	6,706				
1910	15.5	10,663	59.0	6,111	57.3	-8.9	4,552	42.7
1920	20.0	13,744	28.9	7,992	58.1	30.8	5,752	41.9
State (1920)	8.2							

Population per square mile, 1920 — Total, 20.0; rural, 11.6.

Changes in boundaries: Part taken to form part of Lincoln county in 1893.

**TABLE 2**

### Number of Farms and Land Area, Benton County

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

Census Year	Number of farms	Acres in farms			Pct. land area in farms	Pct. farm land im-proved	Average acreage per farm (acres)	Average improved acres per farm	Total land area in county (acres)	Percent total area im-proved
		Im-proved	Unim-proved	Total						
1850	110	5,589						508.0		
1860	365	107,341	52,034	159,375		67.4	436.6	294.1		
1870	524	30,307	134,117	164,424		18.4	313.8	57.8		
1880	701	138,654	74,801	213,455		65.0	305.0	197.8		
1890	834	78,150	126,906	205,056		38.2	246.0	93.7		
1900	865	85,823	149,829	235,652	54.3	36.5	272.4	99.2	433,280	19.9
1910	1,098	91,663	143,841	235,504	53.5	38.9	214.5	83.5	440,320	20.8
1920	1,320	103,175	130,252	233,427	53.0	44.2	176.8	78.2	440,320	23.5

1900. Between 1900 and 1910 the value of farm property rose abruptly from four and a half million to almost twelve million dollars. In the year 1920, the United States census credits this county with having an investment in all farm property of \$18,249,852. This is an average of \$13,826 per farm. Table 3 traces the increases in farm property values since the year 1850.

atoes were also being grown to some extent, there being 661 acres in potatoes with a production of 53,238 bushels. Among the fruits, apples were of first importance, with 48,128 trees yielding 46,029 bushels. In the same year 2,160 peach trees were reported.

#### Greater Diversity Noted in 1899

In 1899 the agriculture of the county was beginning to be somewhat more

**TABLE 3**  
Benton County Farm Property Values  
(Compiled by O. A. C. Extension Service from U. S.

Census year	No. of farms	Total Farm Values			Census Records			
		All farm property	Percent increase	Land	Buildings	Average values per farm All property	Land and Land buildings alone	
1850	110	(1) \$91,110				\$ 828		
1860	365	1,268,818	1,292.6	\$ 622,624		3,476	\$ 1,706	
1870	524	1,489,433	17.4	1,044,045		2,842	1,993	
1880	701	3,760,831	152.4	3,188,251		5,365	4,549	
1890	834	4,652,560	23.7	3,970,310		5,579	4,761	
1900	865	4,547,961	-2.2	3,381,460	349,480	5,258	4,313	\$14.35
1910	1,098	11,950,336	162.8	9,297,294	1,206,420	10,884	9,566	39.48
1920	1,320	18,249,852	52.7	13,062,450	2,493,323	13,826	11,785	55.96

(1) Livestock values not included.

#### Census Traces Types of Development

(From Bulletin on Soil Survey of Benton County by E. F. Torgerson, Oregon Experiment Station, and E. J. Carpenter, U. S. Bureau of Soils.)

The records of the United States census give a clear perspective of the development of various types of agriculture in this county.

The census of 1880 credited this county with 31,015 acres in wheat, 9,063 acres in oats, and 6,235 acres devoted to hay. These three crops occupied practically the entire acreage reported in selected crops, with wheat occupying nearly two-thirds of the total. Yields of these crops were good, although continued croppings year after year had begun to impair the soils and yields were beginning to fall off. Barnyard manure, we are told, was available on every farm but very little was used.

#### Wheat Production Decreases

In 1889 the acreage in wheat had decreased to 18,415 acres, producing 394,533 bushels; oats occupied 12,929 acres and produced 391,842 bushels; while hay produced 14,695 tons on 8,979 acres. Barley, hops, and pota-

atoes were also being grown to some extent, though the acreage in wheat was more than 35 percent of the total area in improved land in the county. Oats had increased in acreage from 1889, as had also the hay crops, among which clover is reported as occupying 94 acres. Corn occupied 376 acres and grains were cut green for hay on 3,656 acres. There were 94,208 apple trees, and 6,544 peach trees; and the total value of all orchard products amounted to \$18,583.

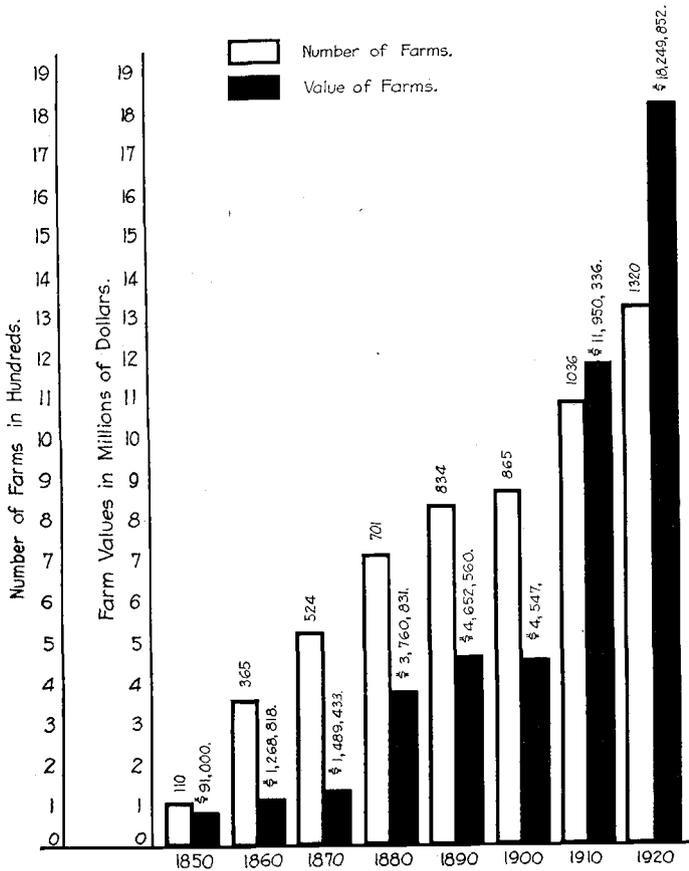
#### Dairy, Livestock and Fruit Show Increases in 1909

In 1909 the agriculture of the county had been established on a permanently paying basis. Wheat occupied 12,080 acres, or about 13 percent of the total area of improved land. Oats occupied 18,532 acres, an increase of about 2,000 acres over 1889. The most important change, however, was in the expansion of the dairy industry and the consequent increase in the acreage of clover and of grains cut green for hay. Clover alone or mixed with timothy was grown on 945 acres, and grains cut green for hay occupied 14,912 acres, yielding 23,422 tons. Animals sold and slaughtered were valued at \$514,386, as compared with

# NUMBER OF FARMS AND VALUE OF FARM PROPERTY

BENTON COUNTY 1850 TO 1920

U.S. Census.



Compiled by O.A.C. Extension Service.

Fig. 3.

\$152,247 in 1899; dairy products, excluding home use, were valued at \$148,841, as compared with \$33,958 in 1899; and poultry and eggs produced were valued at \$126,233, as compared with \$24,640 in 1899. Orchard products continued to become more important, though a slight decrease is noted in the number of apple and peach trees. Prunes and plums were beginning to assume some importance in the agriculture of the county, there being 49,635 trees, yielding 40,815 bushels. Pears and cherries were harvested with 7,001 and 3,909 trees, respectively.

#### Dairy Industry Continues to Gain

During the next decade the dairy industry continued to gain in prominence, and with it there was further increase in the production of clover and corn, which were grown in 1919 on 2,502 acres and 1,053 acres, respectively. Beans also assumed prominence, being raised on 729 acres. Wheat occupied 20,717 acres, or 20 percent of the total area of improved land. Oats occupied 14,602 acres; grains cut for hay, 12,380 acres; silage crops, 1,449 acres. The value of the principal agricultural products in 1919 was reported by the census as follows: cereals, \$1,251,826; other grains and seeds, \$79,732; hay and forage, \$764,885; vegetables, \$380,524; fruit and nuts, \$308,661; all other crops, \$71,973; dairy products, excluding home use, \$427,716; poultry and eggs, \$314,039; wool and mohair, \$90,570. There were 76,569 plum and prune trees, 73,092 apple trees, 17,928 pear trees, 50 acres in strawberries, and 125 acres in raspberries and blackberries, including the loganberry.

#### Diversity Prevails at Present Time

At the present time the agriculture of the county consists of general farming, dairying, fruit raising and, to a rather small extent, truck gardening. Wheat, oats, clover, vetch, and corn are the principal crops grown, although in recent years potatoes and beans have received more attention than formerly and are found to be well adapted to use in rotation. Wheat and oats are the leading cash crops of the county, wheat being most important. Both are grown on nearly every farm. Livestock and dairy rank next in importance. Clover, vetch, and corn are grown almost entirely in connection with the dairy industry. Clover seed is becoming important as a cash crop.

Production of potatoes and especially of beans has increased from year to year until at present both crops are of considerable importance.

Table 4 indicates the produce from which the county derived its agricultural income in the year 1919 as given by the United States census. The total agricultural income of the county in that year, it will be noted, was almost three million dollars.

TABLE 4

#### Income From Sales of Farm Products, Benton County, 1919

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

Product	Income	Percent of total income
Cereals .....	\$ 940,000	32.3
Livestock and meats ..	790,000	27.2
Dairy products .....	371,727	12.8
Fruits and nuts .....	280,000	7.9
Poultry products .....	228,863	7.8
Hay and forage .....	95,000	3.3
Vegetables (including potatoes)	93,000	3.2
Wool and mohair .....	90,500	3.1
Other crops .....	71,000	2.4
Totals .....	\$2,910,090	100.0

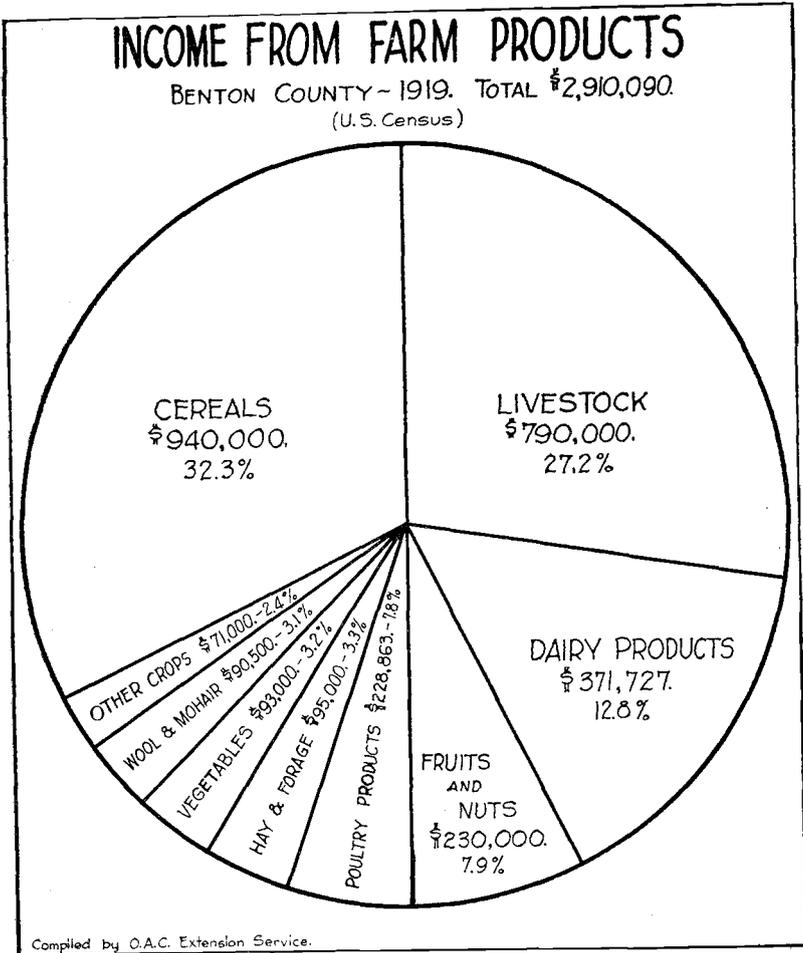


Fig. 4.

# THE CLIMATE OF BENTON COUNTY

Extremes of heat or cold are very rare in this part of the Willamette Valley. The heat of the summer months is tempered by a daily ocean breeze that usually sets inland about three o'clock in the afternoon and continues until sundown. Winter temperatures are moderated by winds warmed by ocean currents. Summer nights are always cool and comfortable.

In the valley there is comparative freedom from either spring or early fall frosts. Records of the United States Weather Bureau kept over a thirty-three year period show that around Corvallis the average date of the last killing frost in the spring is April 23 and that the first killing frost in the fall is October 16. The shortest growing season on record is 132 days in 1919, and the longest is 227 days in 1921. Average length of the growing season is 176 days.

United States Weather Bureau records kept at Alpine over a sixteen year period at an elevation of 354 feet show an average growing season of 198 days. At that point, the average date of the last killing frost in the spring is April 20, and the first killing frost in the fall November 4.

Throughout the mountain section of the county the date of killing frosts in the spring and fall is extremely variable owing to differences in elevation and conditions of air drainage.

Table 5 gives temperature range and averages at the Corvallis Station over the six year period 1917-1922. It will be noted that the yearly mean temperature is 51.7° Fahrenheit. The highest temperature on record is 103° in July, 1917. The lowest on record is -14° in December, 1919.

## Precipitation Records Given

An average of 34 years' records by the United States Weather Bureau at Corvallis over the period 1889-1922 shows that in the vicinity of that city the annual precipitation is 42.2 inches a year. Rainfall is heaviest during the spring, fall, and winter months when 95 percent of the annual precipitation occurs. The months of June, July, and August are usually dry.

On the western slopes of the Coast Range the precipitation is much heavier than that recorded at Corvallis. During the winter months, snow on the higher elevation is of common occurrence. In the valley, snow generally melts just as it falls although during the winter of 1920 a snowfall of 20 inches was recorded at Corvallis. Rains almost invariably come from the southwest, while the coldest weather is usually experienced from the wind in the northwest.

Table 6 gives a summary of precipitation data for the United States Weather Bureau stations maintained at Alpine, Bellfountain, Corvallis, and Summit. It will be noted that in the

TABLE 5

Station: Corvallis Elevation: 266	Range and Averages (U. S. Department of Agriculture Weather Bureau)			
	Mean temperature	Highest temperature Degrees	Date	Lowest temperature Degrees
Month				
January .....	39.4	60		14
February .....	41.5	62		24
March .....	44.0	74		22
April .....	48.3	80		24
May .....	54.2	81		30
June .....	61.5	97		35
July .....	65.9	103		36
August .....	66.4	101		42
September .....	61.2	93		36
October .....	53.8	85		23
November .....	44.6	68		25
December .....	39.2	66		-14
Annual .....	51.7	103	1917	-14 1919

TABLE 6

Monthly and Annual Averages				
(U. S. Department of Agriculture Weather Bureau)				
Station	Alpine	Bellfountain	Corvallis	Summit
Elevation	354 feet	800 feet	266 feet	720 feet
Years of Record	1897-1913	1909-1917	1889-1922	1909-1917
Record	17 years	9 years	34 years	9 years
Months				
January .....	8.18	10.11	6.89	11.45
February .....	6.87	5.89	5.53	7.35
March .....	5.04	5.76	4.57	7.28
April .....	2.60	3.38	2.75	4.38
May .....	1.98	2.54	2.05	3.02
June .....	1.27	1.39	1.19	1.86
July .....	.33	.65	.33	.80
August .....	.59	.33	.41	.74
September .....	1.76	2.58	1.76	2.90
October .....	3.15	3.32	2.91	4.13
November .....	9.46	10.93	7.09	12.09
December .....	7.79	7.71	6.72	8.48
Annual .....	49.02	54.59	42.20	64.48
Range				
Highest, inches ....	66.37	65.02	57.76	75.37
Date .....	1902	1912	1896	1916
Lowest, inches .....	34.20	45.55	31.88	52.00
Date .....	1908	1911	1892	1911

Southern end of the county rainfall is heavier than at Corvallis. This is also true at Summit. The greatest number of inches of rain received at Corvallis was 57.76 inches in 1896. The total rainfall in the driest year on record at that station was 31.88 inches in 1892. Similar ranges in precipitation are given for the other stations included in Table 6.

# REPORT OF CANNERY COMMITTEE

## I. EXPLANATORY STATEMENT

After two previous canneries had each operated in Corvallis for a short time, the site for our present plant was donated to the Brownsville Canning Company by the citizens of the county in 1919. The plant is operating at something like twenty percent of its capacity only, and your committee has gone into this question from the standpoint of ascertaining the reasons why more cannery products are not grown at present, and whether or not farming in our community might be improved financially by increasing the production of crops that can be marketed as canned goods.

### Present Production Is Low

Figure 1 is presented to show the relation between the capacity of our cannery and commodities now supplied by Benton County farmers. Each column represents the total number of pounds of the given commodity which the cannery management reports that it can pack and sell at the

land upon which a satisfactory yield and quality of small fruits and vegetables may be grown within a radius of 10 or 15 miles of Corvallis. An adequate labor supply for growing, harvesting, and canning products is guaranteed by the large number of students in attendance at the Oregon Agricultural College, desirous of securing employment as a means of working their way through college.

Table 7 gives the number of tons of different commodities desired by the cannery, and the acreage required under normal conditions in Benton County to produce that tonnage. The value of the commodities is also shown at an estimated average price. It will be noted that 840 acres, or a little more than one eighth of the total land of suitable type in the county, would produce the required volume of raw materials.

The handling of this amount of canning crops would require an expendi-

TABLE 7

Crop	Cannery Requirements in Tonnage desired	Tonnage and Acreage required	Probable Price	Total value
Pears .....	400	100	\$40.00 ton	\$ 16,000.00
Evergreens .....	300		.04½ lb.	127,000.00
Red Raspberries .....	200	150	.08 lb.	32,000.00
Black Caps .....	200	200	.08 lb.	32,000.00
Strawberries .....	300	200	.05 lb.	30,000.00
Loganberries .....	200	75	.05 lb.	20,000.00
Pumpkins .....	200	30	6.00 ton	1,200.00
Beets .....	100	40	20.00 ton	2,000.00
Beans .....	50	35	50.00	2,500.00
Carrots .....	50	5	8.00 ton	400.00
Onions .....	50	5	25.00	1,250.00
Total .....	2,050	840		\$164,350.00

present time. The black portion of the column is the part now supplied by Benton County growers. The shaded portion represents the quantity supplied by farmers outside of Benton County, and the unshaded portion of each column is the deficit, or quantity that the cannery could have packed in addition to that provided. The figures are for 1924.

### Production Conditions Favorable

According to the soil survey of Benton County, there are 6,000 acres of

ture of about \$45,000 per year for labor. This amount, added to the amount paid to growers, would mean about \$210,000 in incomes in or near Corvallis.

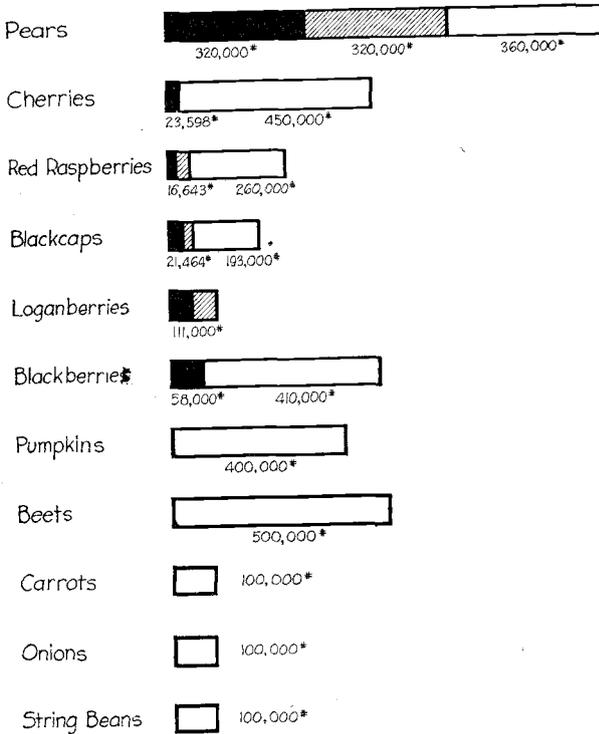
### Farms Are Relatively Large

The kind of farming engaged in by any community is influenced greatly by the size of farm. Canneries in Oregon and elsewhere derive their supply principally from small farms. Benton County has fewer small farms at present than any other county in

# BROWNSVILLE CANNERY

## SHOWING 1924 BUSINESS AND CAPACITY OF PLANT

 Quantity canned from Benton County.  
 " " " " other Counties.  
 Additional capacity.



Compiled by O.A.C. Extension Service.

Fig. 1

the valley in which canneries are now operating successfully. This is shown strikingly by Fig. 2, presenting a comparison of the number of farms under fifty acres in different counties in the Willamette Valley.

tunities offered by the state college. We are therefore presenting the following information on cost of production and yields of various crops required to provide a profit to the grower. Table 8 presents this information

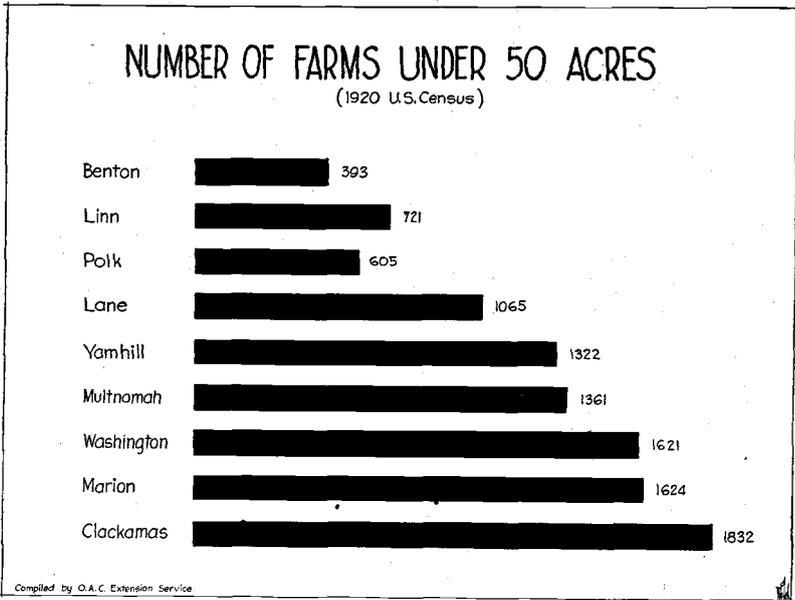


Fig. 2.

There has been a gradual increase in the number of small farms in the county. Whether this tendency to divide up the larger tracts into smaller farms continues, will depend to some extent upon whether a profitable system of intensive farming can be developed. As time goes on we believe that settlers will inevitably be drawn into this community and settle on small tracts in order to have advantages of the educational oppor-

for vegetables such as beans, beets, cabbage, etc.

#### Cost of Production Influenced by Yield Per Acre

Red raspberries have brought Benton County growers on an average (4 years) about eight cents. These berries cost about \$200 per acre up to harvesting time. It will cost at least 3 cents per pound to harvest and deliver them to the cannery, no matter what the yield. The per acre

TABLE 8

Vegetable	Summary of Statistics in Marketing Factory Vegetables			Price per ton	Production Cost	Estimated Net Profit
	High Tonnage	Med.	Low			
Beans .....	4	3	1.5	\$60-\$55-\$50	\$75-\$100 per acre	\$50-\$70
Beets .....	8	4	2.5	\$30-\$25-\$20	\$8-\$10 per ton	\$50-\$60
Cabbage .....	16	10	7.5	\$20-\$15-\$10	\$6-\$8 per ton	\$80-\$100
Carrots .....	40	20	10	\$10-\$8	\$75 per acre	\$100-\$150
Cucumbers .....	10	7	5	\$70-\$10-\$15	\$20-\$25 per ton	\$100-\$125
Rhubarb .....	10	8	6	\$20-\$30	\$8-\$10 per ton	\$100-\$125
Spinach .....	10	5	2	\$25	\$8-\$12 per ton	\$40-\$75
Squash .....	15	10	6	\$12-\$10-\$6	\$4 per ton	\$40-\$60
Tomatoes .....	14	10	6	\$16-\$12	\$8-\$9 per ton	\$40-\$100

cost of \$200 will not materially vary with the yield. The cost per pound delivered to the cannery would be about as follows:

- 1 ton per acre 13 cents per pound.
- 1½ tons per acre 9½ cents per pound.
- 2 tons per acre 8 cents per pound.
- 2½ tons per acre 7 cents per pound.
- 3 tons per acre 6½ cents per pound.
- 2½ tons per acre 7 cents per pound.
- 3 tons per acre 6½ cents per pound.

The eight cents average (4 years) received by the growers has been below cost for those producing less than two tons per acre, while those producing more than two tons have made a good profit.

Black caps will cost considerably less per acre to produce and will probably insure a profit for the grower who secures yields of above one ton per acre. Yields of more than two and one-half tons will be necessary for logans and evergreen blackberries to return a profit. Two tons of strawberries per acre will usually be profitable.

**Confidence in Cannery Is Required**

Your committee recognizes that confidence in the cannery organization on the part of the growers is required before there can be satisfactory progress even when soil and climatic condi-

tions and the profits to be secured are satisfactory. Early in the year 1924 a committee consisting of responsible bankers and business men examined into the condition of the cannery and reported favorably. Your present committee has had access to the company's financial statement, and it is our opinion that the cannery will continue on a sound financial basis if the necessary raw material is provided.

There has been some complaint on the part of growers to the effect that certain crops grown expressly for the cannery have been rejected. The cannery, on the other hand, maintains that it is able to handle everything produced in the community that is of the right variety and quality. We do not believe that the difficulties have been greater in this connection in Benton County than in other cannery communities, particularly as the business is becoming established. We feel that the community needs the cannery and that the cannery is in need of greater support by the community.

The tabulated facts (Table 9) show some of the handicaps our local plant is under without the support of the local community as a unit.

**II. CANNERY RECOMMENDATIONS**

**1. Adequate Cannery Necessary for Community Development**

We believe that small farms placed in fruit and vegetables in and around Corvallis would be profitable for their operators providing there is a permanent marketing outlet for the crops raised. We believe that the best marketing arrangement for such supplies has been proved to be a properly conducted and properly organized cannery. We feel, therefore, that if this

community is to develop as it should within a radius of 10 or 15 miles of Corvallis, an adequate cannery is a vital necessity.

**2. Greater Acreage of Cannery Crops Is Justified**

Investigations conducted by competent and unbiased investigators demonstrate to us that farmers can profitably devote a greater acreage to the raising of fruits and vegetables to be marketed by the cannery method.

**TABLE 9**

A Comparison of Local Cannery With Other Willamette Valley Canneries					
Cannery	Total capacity, cases	1924 pack in cases	Value of plant	Replacement cost	Radius of raw material
Local	100,000	21,000	\$38,000		40 miles
1	50,000	21,800	18,000	\$18,000	10-15 miles
2	60,000	30,000	26,000	26,000	6 miles
3	50,000	26,042	44,600	22,300	8-10 miles
4	30,000	14,515	20,000	20,000	90% within 1 mile

### 3. Cannery Should Be Primarily a Marketing Agency

The cannery is unquestionably a valuable asset to the community as an indispensable medium through which such products may find a way to market. Those who operate the cannery are entitled to fair returns on their reasonable investment under efficient management, but, from a community standpoint the service to be rendered as a marketing agency transcends in importance the cannery's value as a dividend paying proposition on capital stock. Experience indicates, too, that the most satisfactory results are obtained when the majority of the stock is owned by growers themselves and those community interests which are vitally concerned in having the cannery operate, not only profitably, but as a marketing agency for the fruit and vegetables raised in the tributary community.

### 4. Field Man Is Needed

That misunderstandings which frequently arise between cannery operators and growers may be eliminated and that a cooperative spirit of mutual helpfulness may prevail, we recommend that a competent and tactful field man be employed to counsel with the growers as to crops to be raised, variety, size, and time and condition for marketing to the end that no crops harvested need be turned down by the cannery because of unavailability.

### 6. Canned Goods Should Be Included in Federal Warehouse Act

The problem of financing the cannery operations so that it can make cash advances to growers would be materially improved by establishing a bonded warehouse, or securing Federal licensed warehouse facilities. Canned goods are not now eligible to licensing under the licensed Federal

warehouse act, and Benton County growers should unite with growers in other communities in having such privilege extended.

### 6. High Yields Per Acre Are Important

We strongly emphasize the importance of high yields (which can only be secured by the best practices of farming) to the profitable growing of fruits and vegetables. Farmers should endeavor to secure yields of 2 tons per acre of red raspberries, 2½ tons of loganberries or evergreen blackberries, 2 tons of strawberries, 4 tons of pears, 2 tons of beans, 3 tons of beets, 15 tons of carrots, 8 tons of pumpkin or squash, and so forth.

### 7. Business Men Should Absorb Outstanding Preferred Stock

The greatest benefit to be derived from a local cannery is in the development of an intensive agriculture around Corvallis and a good payroll within the city. The interest of local business men should therefore be apparent in the success of this operation. It means to them an additional payroll in the community of more than \$200,000 annually, together with the additional population that this implies. For this reason it is to their interest personally and financially to see that the cannery is encouraged to continue its operations. To that end we recommend that they make an effort to absorb the \$10,000 outstanding preferred 7 percent stock of the company, so that it may be on a firm foundation for the coming year. We make this recommendation in the conviction that they will get their money back many times in the value of the cannery to the community and in the further conviction that the cannery has sufficient assets and prospects to make the stock in itself a reasonably good and safe investment.

C. E. INGALLS, Chairman.

# REPORT OF THE FARM CROPS GROUP

## POTATOES

### I. THE SITUATION

#### 1. Potato Industry at a Standstill

The potato business of Benton County is apparently about on a standstill and has been for many years. The acreage is as follows.

Year.	Yield		
	Acres	Per Acre (Bush.)	Total Yield (Bush.)
1889	661	80	53,238
1899	464	134	62,151
1909	583	107	62,492
1919	928	116	107,836
1920	690	150	103,500
1921	750	95	71,250
1922	750	100	75,000
1923	700	100	70,000

It is seen that the total yield is about the same as it was 25 years ago and the yield per acre is evidently about the same. Nearly all of the commercial acreage is now located along the river bottom land and on the islands of the Willamette river.

#### 2. Yields Per Acre Are Relatively High

The yields here are slightly higher than the yields in the state as a whole.

##### Average Yields Per Acre (Bushels)

Benton County.....	112
State of Oregon.....	105
United States.....	97

#### 3. Small Part of Crop Is Exported

This county exports only a small percentage of its total potato crop; from 15 to 20 cars in an average year or, roughly 15 percent.

Practically all of the potatoes sent out go to California because freight rates are too high to other points. The freight rate from Corvallis on a minimum carload of 36000 pounds to California points is as follows:

Corvallis to Stockton.....	38½
Corvallis to San Francisco.....	38½
Corvallis to Los Angeles.....	56½

### II. Potato Recommendations

1. We believe that the compulsory grading law has been of big benefit to Oregon growers so far as the California market is concerned, but believe that it should be so strengthened that Yakima cannot dump their so-called "combination grade" into this state unbranded. This grade is too often sold to Oregon retailers as No. 1 and our U. S. No. 1 Burbanks are forced to compete with No. 2 stock, thus working a hardship on potato growers of this state.

2. We urge the growers of this county to drop all late varieties except the low vine Burbanks.

3. We believe that a fine market can be built up in California for our low vine Burbanks as seed potatoes. This can only be brought about by using good seed and by rotating so that the potato crops on any piece of land are at least 4 years apart.

4. Losses from poor storage are common. On many potato farms the average annual loss from poor storage amounts to enough to build a good pit or storehouse. We urge that growers give more consideration to proper storage.

5. We commend the work of the county agent and the citizens of Monroe in staging an annual potato show.

6. No appreciable increase of potato acreage is recommended for this county.

7. Potatoes are not recommended as a commercial crop for the heavy soils of this county due to the tendency to produce rough tubers. Potatoes should be grown only on sandy, river bottom, or other free working soil.

8. Yields of at least 125 bushels per acre are necessary to pay cost of production. Where average yields of less than this are secured, the crop can not be expected to give the grower any profit.

## SEED CROPS

## I. The Situation

Seed crops now being grown in this county include common, purple, Hungarian, and hairy vetch; red, crimson, and alsike clover; rye and tall oat grass.

**Red Clover Seed Production  
Is Promising**

Of these crops red clover is the best known. On all farms that can average better than 2 bushels of seed per acre, this is a crop worth considering. Most of the red clover of the United States is produced in the Middle West. Average yields are:

State	Bushels per acre
Ohio .....	1.1
Illinois .....	1.4
Wisconsin .....	1.7
Iowa .....	1.6
Oregon .....	2.0

Oregon seed enjoys a good reputation with the dealers, due to its color, weight, and germination.

The average price paid farmers for Oregon clover seed during the past 10 years, disregarding the abnormal war years, was approximately \$10.50 per bushel. The average price to be expected in the future should not be lower than this and may be slightly higher.

The cost of production of clover seed is much lower per acre than for grain crops, due to the fact that plowing of the ground is not necessary every year. If the cost of producing wheat is about \$20.00 per acre, a clover seed crop will cost only about \$14.00.

Clover seed growing works in especially well on farms with sheep. The clover can be pastured until the first of May or later, and additional sheep pasture is furnished in the fall after the crop is off. The clover straw makes fair winter feed.

**Fair Market for Vetch Seed**

Vetch is the standard legume on many Benton County farms. The common vetch has been the favorite, but lately Hungarian vetch has been replacing it to some extent. The Hungarian is more winter hardy and is

practically aphid proof. A fair market for common vetch seed usually exists. The present market for Hungarian is limited due to its newness, but may be expected to develop gradually as its good qualities become more widely realized.

**II. Red Clover Seed Recommendations**

1. In those portions of the county where satisfactory yields are possible, red clover seed growing could be profitably extended to more farms.

2. Clover seed and sheep make a good combination.

3. There is little danger of over production in normal years due to the low yields secured in most competing sections and due to annual imports of about 20,000,000 pounds.

4. Clover can be expected to increase the yield of following crops of all kinds enough to justify its growth, even in years when it is not a paying crop itself.

5. Care in buying seed is urged. All seed should be tested for purity before planting, so as to avoid planting noxious weeds.

6. Red clover is not recommended for white lands.

7. An application of land-plaster will usually increase the seed yield.

**III. Crimson Clover Recommendations**

1. Crimson clover will set a large amount of seed in this county.

2. A fair market usually exists, as most of the seed used in the United States is imported.

3. It is easier to secure stands of this clover than with red clover, and seed yields are more certain. The price is much lower than for red clover.

**IV. Alsike Clover Seed  
Recommendations**

1. Alsike clover for seed is recommended only in sections where red will not do well.

2. On poorly drained land, it is one of the few legumes which will thrive, and even though the seed crop may be very light on such land, it is a good crop to grow in rotations.

**V. Grass Seed Recommendations**

1. The poorly drained land will often grow satisfactory crops of either English or Italian rye grass seed.
2. Most of the rye grass seed obtainable is badly mixed. It is difficult to get English rye without the Italian in it. More money can usually be secured for pure seed of either variety than for a mixture.
3. Tall oat grass is naturally adapted to conditions here and so is orchard grass. Either of these grasses gives good returns as a seed crop. Many car loads of these grasses are shipped into the Pacific Coast states every year.
4. Grass seed production has the added advantage of very low cost of production. The land is plowed only

once in many years. This is an item worth considering on the larger farms.

**VI. Vetch Seed Recommendations**

1. Indications point to a short seed crop in 1925. Growers should consider this during the coming summer when deciding whether to cut their vetch for hay or seed.
2. A fair market exists for hairy vetch, but it shatters easily and volunteers badly. It should never be planted on a wheat farm.
3. Nearly all varieties of vetch volunteer in succeeding grain crops if cut for seed. For this reason vetch is not a good crop to grow in a rotation with wheat.
4. A fair market usually exists for vetch seed. On the whole it is probably a surer market than wheat.

**WHEAT**

**I. The Situation**

Production of wheat in various years in the County is shown in the following table:

Year	Acres	Yield per acre (Bush.)	Total yield (Bush.)
1879	31,015	17.7	497,068
1889	18,415	21.4	397,533
1899	30,056	18.3	548,390
1909	12,082	17.3	208,917
1919	20,717	18.1	374,648
1920	15,878	20.5	325,316
1921	12,700	16.8	213,000
1922	12,500	16.8	210,000
1923	13,700	22.2	304,000

The average yields in Benton County and the state of Oregon follow:

**Benton United Oregon County States**

	bu.	bu.	bu.
Winter wheat.....	22.7	20.4	15.7
Spring wheat.....	15.2	15.2	12.3

**Cost of Producing an Acre of Wheat Is About \$20**

The cost of production has been estimated by averaging the figures from several rather typical wheat farms. It must be remembered that these figures will not fit any one farm, but they may serve as a guide in figuring costs.

	Cost per acre
Interest on investment at 5%	\$5.00
Taxes .....	1.00
Interest on machinery .....	.35
Depreciation on machinery ....	.35
Repairs on machinery .....	.50
Plowing .....	2.50
Harrowing .....	.75
Discing .....	1.25
Drilling .....	.60
Binding .....	.60
Shocking .....	.25
Threshing .....	2.20
Hauling grain .....	.80
Seed .....	2.00
Sacks and twine .....	1.25
<b>Total .....</b>	<b>\$19.40</b>

The average value per acre and yield of several of the leading crops are shown below for comparison with wheat.

Crop	Yield per acre bu.	Value per acre	Acres in County
Winter wheat	20.4	\$16.32	10,345
Spring wheat	15.2	12.16	4,754
Oats .....	27.	11.88	13,976
Barley .....	26.2	15.20	877
Potatoes .....	112.	78.50	765
Clover hay ....	1.9 tons	19.00	2,500

## FARM CROPS COMMITTEE REPORT

Acres in county and yield per acre are five year averages, 1919-1923, U. S. Department of Agriculture figures. Value per acre based on 10 year average farm price, 1913-1922 (United States Department of Agriculture Yearbook of 1922).

About 15 varieties of wheat are grown in the county. Of these, Rink, White Winter, Foise, and Defiance probably lead in acreage. Mixtures are common. Dockage in price because of mixtures frequently happens, although the grower of the grain is not always aware of the reason for the dockage. Grain dealers estimate that wheat growers of the county lose more than \$3000 per year in price dockages due to mixed seed. The loss in yield is equally as large.

#### II. Wheat Recommendations

1. We recommend the copper carbonate method of treatment for smut, and call attention to the possibility of using the treating machine owned by the County Farm Bureau.

2. A reduction in spring wheat acreage is urged wherever possible. We

do not believe that the ordinary spring wheat crop will pay cost of production. This does not apply to overflow lands where good yields can be secured.

3. Winter wheat is the best paying grain crop for shipment out of the county.

4. Wheat prices may be expected to be low in normal years for a long time. In view of this we urge the growing of vetch or clover seed or the seeding of pasture on all wheat land yielding less than 15 bushels per acre.

5. We favor the use of pure seed, certified if possible, of recommended, standard varieties. For fall planting White Winter is preferable.

6. If it is necessary to plant a spring grain crop, spring barley will usually outyield spring wheat.

7. Wheat growing on a small farm is a questionable practice, due to excessive threshing costs.

8. Yields of 20 bushels per acre are necessary to pay costs of production, except on low priced land.

### BARLEY AND OATS

#### I. The Situation

The foregoing table showed that this county has an average of 13,976 acres of oats and 877 acres of barley. On an average, barley yields 400 pounds per acre more than oats.

Barley is a good feed for hogs, sheep, dairy cows, or horses. Farmers in California and Eastern Oregon often feed no grain but barley for years. As a feed to go with clover or vetch hay it makes a better balanced ration than oats, although it is improved by adding some oats to it.

#### II. Barley and Oats Recommendations

1. We urge a decrease in the oat

acreage and an increase in the barley acreage. Farmers growing oats for feed to be used on their own farms could profitably put most of their oat acreage into barley. More feed per acre would be the result, releasing part of the acreage for the growing of crops to sell. On the average, 10 acres of barley will grow as many pounds of feed as 13 acres of spring oats.

2. We recommend Hannchen for spring barley.

3. We recommend Gray winter and Red Indian for fall oats; Three Grain and Victory for spring.

### CORN

The corn acreage of Benton County has been steadily increasing as shown below (U. S. D. A. figures).

Year	Corn Acreage
1909	60
1919	1053
1920	1769
1923	2400

Most of this corn is used for silage, although a few thousand bushels are saved for seed every year. Corn does not yield as high here as in hot climates, but nevertheless good yields are possible when locally grown seed is used and proper growing practices followed.

**Corn Recommendations**

1. Locally grown, acclimated seed only should be used.
2. There is an opportunity for a

greater development of the practices of hogging and sheeping off corn.

3. Minnesota 13 should be used for grain or silage. Golden Glow will yield as well for silage.

**PASTURES**

A large part of Benton County is in pasture. Part of this is hill land in the western part of the county which has never been cropped. Another large part is white land in the south end of the county. Most of this is land which yields rather poor crops of grain because of lack of drainage. Pasture returns are also low for the same reason.

**Pasture Recommendations**

1. Land which yields less than 15 bushels of wheat per acre will ordinarily return little or no net profits from grain and can often be profitably pastured. Greater returns can be secured from pasturing such land if it is seeded down to tame grasses, rather than let it go to native grasses.

2. Hill lands with native pastures have largely been overstocked so that their grazing capacity is much lower than 10 years or more ago. We recommend a wider use of the principles of

deferred and rotation grazing on these native pastures. The forest service has successfully applied this system to public lands, doubling the carrying capacity of the ranges in many cases. We believe that many of our hill pastures would show equal or better results if this or a similar method were used.

3. Where water is available, either by gravity or by pumping with a small lift, we recommend the use of irrigated pastures. Irrigated pastures may be expected with good management to carry two mature dairy cows on an acre through the summer.

4. Grass seed bought for pastures should be tested for purity and germination. Each kind of seed should be bought separately rather than buying an unknown lot of seed such as is sold in the ordinary pasture mixture by the average seed company. Too frequently these mixtures are largely weeds or trash.

**SUGAR BEETS**

Trial plots of sugar beets grown throughout the Willamette Valley have demonstrated that beets of a good quality can be grown here.

The development of a sugar beet industry is of course dependent upon the erection of a sugar factory. The only way a factory could ever be secured would be for trial plantings to be made.

The western representative of the Utah-Idaho Sugar Company has stated that if a sufficient number of farmers showed interest, he would recommend to his company that the company try out an experimental acreage in the Willamette Valley.

According to this arrangement, each grower would put in from 2 to 5 acres and would ship the beets to the nearest factory, the company to absorb

the freight up to \$1.75 per ton. Payment for the beets would be made on the same basis as in the beet growing sections, the price depending upon the price of sugar and the sugar content of the beets, with a minimum of \$6.00 per ton.

**Sugar Beet Recommendations**

1. The growing of a very small experimental acreage of beets would do no harm to the average grower, even if the results were not satisfactory. We recommend therefore, that as many farmers as possible write to Mr. J. W. Timpson, at Toppenish, Washington, and assure him of their interest in the project.

2. The beets should be tried only on land which will produce satisfactory yields of other root crops.

## FLAX

Flax for fiber or seed offers promise in this county. The growing of fiber flax is dependent upon the establishment of linen mills, but seed has an established market.

Flax grown for seed requires varieties different from those used for fiber. A Portland oil mill annually imports many car loads of flax seed from the east and from foreign countries.

### Flax Recommendations

1. We recommend the growing of small trial plots of fiber flax in order to demonstrate its possibilities here.

2. We call the attention of grain farmers to the market already existing for seed flax. It has been demonstrated that seed flax will do well here.

3. Flax of any kind should not be sowed on weedy ground. The seed bed must be well prepared.

## HAY

### I. The Situation

The hay acreage has remained about stationary for the past five years and is now 21,500 acres with an average production of about 43,000 tons, or approximately two tons per acre. This is divided between vetch, grain hay, clover, and tame and wild grass hay.

In some seasons 50 cars or more of hay move out, depending upon the crop here and the demand. This goes to the coast counties. A few cars usually come in every year, mainly alfalfa from Eastern Oregon.

Production is therefore about balanced with consumption. A few hundred acres less in hay crops would put the county upon an importing basis and although this would be desirable from the standpoint of people who sell hay, it would not be desirable from the standpoint of dairymen.

A few growers along the river are growing alfalfa successfully. Trials on upland needing drainage have been uniformly failures.

### II. Hay Recommendations

1. We recommend no change in the hay acreage as a whole although some readjustments may be profitably made in kinds of hay grown.

2. Grimm alfalfa should be used on all farms where it will grow. It should be tried only on open free working soil with good drainage. Inoculation is necessary.

3. A hay crop from wheat or oats is seldom profitable. A mixture of vetch will make more hay per acre of a better quality.

4. Legume hay only should be grown on dairy farms, both because it is cheaper to supply protein in hay than in any other form and because the legume hay is needed in crop rotations.

5. On wet lands, alsike clover and rye grass will often give good returns. Hungarian vetch will make a paying hay crop on part of these lands.

G. H. HECTOR, Chairman.

### Resolution Presented by the Crops Group

**Whereas**, The only drawback to the development of a big seed industry in the Willamette Valley is the danger of cheap foreign competition; and

**Whereas**, This county is admirably adapted to the production of good paying crops of grass, clover, and vetch seed; and

**Whereas**, The present tariff on such seeds is only 1 cent per pound for common vetch, and crimson clover, and only 2 cents per pound for grass seeds and hairy vetch; therefore be it

**Resolved**, That we ask our representatives in Congress to use their best efforts to secure added tariff protection to these seeds. We believe that such protection should be 4 cents for grass and hairy vetch seed and 2 cents for crimson clover and common vetch.

The chairman of the general conference is hereby asked and authorized to forward this resolution to the Oregon representatives in Congress.

# REPORT OF THE HORTICULTURAL GROUP

Horticulture in Benton County, as in Oregon as a whole, has had its ups and downs. It has passed through periods of prosperity and also through times of depression. In this respect, however, horticulture does not differ materially from other enterprises attempted under new conditions. It is only as a result of experiment that any industry becomes established upon a sound and permanent basis. But with its past experiences properly interpreted, together with a growing appreciation of business sense and understanding of economic conditions, horticulture here should be on the road to stability.

Since the advent of modern transportation facilities, fruit from all sections competes in the same markets.

The United States as a whole has become a unit so far as fruit consumption is concerned. No one district, therefore, can solve its problems without taking into account the general status of the fruit business. Consequently this group has attempted, so far as possible, to formulate a horticultural program for Benton County based upon the economic status of fruit production not only here but elsewhere. It has followed, in general, the recommendations of the State Agricultural Economic conference held at Corvallis last year. So far as canning fruits are concerned, it has adopted the recommendations of the cannery committee of this conference.

## I. PRESENT STATUS OF THE FRUIT INDUSTRY

### 1. Great Increase in Commercial Production, Nationally

Commercial fruit production in the United States has increased materially during recent years. For example, in 1917, the total car lot shipment of all fruit was 275,231, while in 1923 the total was 443,397 cars. This is an increase of more than 61 percent in seven years. Indications are that this tonnage will increase considerably beyond these figures during the next few years, when the present acreage of such fruits as the prune, the fig, the orange, and the grapefruit comes into full bearing.

### 2. National Production Almost Equals Maximum Requirements

In this connection, it is well to take into account the fruit requirements of the American people. How much more fruit can they be expected to consume? This question cannot be fully answered at this time, but indications are that the total consumption of fruit in the United States will not be materially increased, except when brought about by increases in population. According to the estimates of dietitians, an adequate fruit diet for the present American population would be about 340,740,000 bushels. Actual production in 1922 was 332,318,400 bushels or 97½ percent of an adequate diet.

## II. GENERAL FRUIT RECOMMENDATIONS

### 1. Diversified Horticulture Should Be Developed

Present indications are that fruit growing is destined to continue as one of the important ventures of Benton County. Experience has shown that certain fruits do especially well here and that sufficient acreage is available for their culture. To make

the best of its opportunities, Benton County should lend its efforts to the development of several phases of horticulture. The range of fruits and other crops that can be produced here makes diversification possible, and this principle should be applied to the end that each grower's enterprise shall constitute a workable and effi-

cient economic unit. Work needs to be done along this line that will result in ascertaining proper economic units for Benton County conditions. This applies to the small fruits in particular.

#### 2. Absentee Ownership Is Undesirable

Experience proves beyond a doubt that absentee ownership of fruit growing ventures is undesirable. Fruit growing as practiced today, is a highly specialized business which at best requires one's entire time and attention. It is especially desirable that owners of Benton County orchards should be residents of Benton County, who take a personal interest in their venture and in Benton County.

#### 3. Should Eliminate Abandoned Orchards

As a result of the ill-advised plantings of past years, there are now in this county a number of abandoned and neglected orchards. Some of these have become permanently damaged while others are diseased and constitute a menace to the commercial orchards of the county. It is the sense of this meeting that such orchards should be eliminated as rapidly as possible, and this conference goes on record as supporting the county fruit

inspector in his enforcement of the law on these matters.

#### 4. Diseased Fruit Should Not Be Sold

Further than this, fruit from neglected and unsprayed orchards is still finding its way into local markets. This fruit is not only a disgrace to Benton County horticulture, but offers illegitimate competition to the product that has been properly grown. It is the sense of this conference that the state laws covering the sale of diseased fruit be rigidly enforced.

#### 5. Investigate Physical Factors Before Setting Out Orchards

Experience has clearly shown that the matter of yields and quality here is dependent upon the proper selection of sites and soils for each particular fruit. Air and water drainage play an important part in the successful culture of fruit plants. No one, therefore, should attempt fruit production here without thoroughly investigating these factors.

#### 6. Federal Inspection Favored

This group favors the adoption of Federal inspection to all car lot shipments of fruit from Benton County to points outside the state of Oregon.

### III. APPLE RECOMMENDATIONS

#### 1. No Increase in Plantings Unless Conditions Are Very Favorable

It is generally agreed that an average production of the present apple acreage of the United States is sufficient to meet the demands of both the national and export trades. For the present, therefore, planting of apple trees seems justifiable only to complete an economic unit already begun, or in cases where unusual advantages are enjoyed. For the grower who has his orchard in a desirable location, who has the proper varieties, who obtains large yields of quality fruit, and who is not too seriously handicapped by excessive production costs, fair profits over a period of years may reasonably be expected.

On the other hand, apple orchards that are permanently injured by cold, drought, or disease, that are planted in poor locations, or that are of the wrong varieties, will never be money makers and should be eliminated.

#### 2. Best Varieties Are Named

The varieties that have been most satisfactory for Benton County are Yellow Newtown, Ortley, Grimes, Red Rome, and Gravenstein.

Top working of undesirable varieties is to be recommended only under certain conditions. When the trees are young and vigorous, this practice may be expedient, but topworking older trees or trees that are devitalized from one cause or another is in most cases unsatisfactory.

#### IV. PEAR RECOMMENDATIONS

##### 1. Very Limited Plantings Advocated

Figures show that during the past few years the pear has been extensively planted in Pacific Coast states and that commercial production has increased materially. General pear planting in Benton County does not seem advisable at this time. A moderate increase of Bartlett plantings to take care of local and cannery needs may be desirable. It appears now, how-

ever, that a total of about 100 acres would supply these needs. Plantings of such winter sorts as Anjou and Bosc may be advisable in a limited way. Pear growing, in the main, is a business for the specialist. In all probability, the commercial culture of the pear will continue to be centered largely in certain definite localities that enjoy special advantages and that make pear growing more or less of a business.

#### V. CHERRY RECOMMENDATIONS

##### 1. Moderate Increase in Sweet Cherries Is Feasible

The sweet cherry at the present time is practically a Pacific Coast monopoly. While heavy plantings of sweet cherries have been made in recent years, a moderate increase of certain varieties appears feasible. Markets for the sweet cherry can doubtless be stimulated to a certain extent.

##### 2. Royal Ann Is Best Variety for Canning

Present indications are that Benton County should center its efforts, so far as the sweet cherry is con-

cerned, upon the canning varieties. Royal Ann should continue to be the leading variety, but since this sort is largely self-sterile, it should be interplanted with proper pollenizers, which should be taken only from proved stocks.

##### 3. No Plantings of Sour Cherries Advocated

Sour cherries should not be planted in quantities at this time. The eastern states in general are heavy producers of these cherries, which for the most part are of good quality and which would offer serious competition to the western grown product.

#### VI. CANE FRUIT RECOMMENDATIONS

##### 1. Increase Acreage to Meet Fresh and Canning Demands

This committee recommends that the present acreage of red raspberries, blackcaps, blackberries and loganberries be increased to take care of local fresh fruit and canning demands. It now appears that the present acreage of blackberries might be increased up to 100 acres, that of red raspberries to 150 acres, that of blackcaps to 200 acres and that of loganberries

to 75 acres. Proper care of the present acreage would go a long way toward filling the present demand.

##### 2. Best Varieties Are Named

Cuthbert seems to be the only variety of red raspberry suitable to the canning trade at present. Evergreen blackberry is practically the only sort popular with canners at this time. Plum Farmer and Munger blackcaps appear to be the best sorts under local conditions.

#### VII. STRAWBERRY RECOMMENDATIONS

##### 1. Immediate Increase in Acreage Is Justified

For the next few years at least, the prospects for strawberries here are encouraging. At the present time, Benton County does not produce sufficient strawberries to supply even the

local fresh fruit demand. The acreage of this fruit might well be increased at once up to 200 acres.

##### 2. Best Varieties Are Named

Ettersburg 121, Marshall and Oregon are probably the best sorts for planting here.

## VIII. NUT RECOMMENDATIONS

The acreage of nut trees in the United States is rapidly increasing. California now has 106,000 acres of walnuts and is still planting at the rate of 5000 acres each year. California, in addition, has 90,000 acres of almonds which for the most part are just coming into bearing. About 200,000 acres of pecans have already been planted in the Southern states, and from 20,000 to 25,000 acres are being set out each year. The United States now imports 32,000,000 pounds of filberts which sell in the wholesale

markets at prices ranging from 8 to 12 cents per pound.

**Solid Plantings Not Advisable**

Walnuts and filberts appear to be desirable crops for certain sections in Western Oregon. The present acreage of these, however, is already large and future plantings should be made with this fact in mind. It is questionable whether solid orchards of walnuts or filberts should be planted at this time. Rather these should be considered as part of a diversified horticultural program.

## IX. PRUNE RECOMMENDATIONS

**No Increase in Acreage**

This committee believes that the recommendations of the State Agricultural Economic conference are ap-

plicable to the industry in Benton County. For the present at least, it does not believe that the acreage of prune trees should be further increased.

## X. VEGETABLE RECOMMENDATIONS

**1. Increase Tonnage for Canning**

To supply the needs of the local cannery, more vegetables of certain kinds might be produced in Benton County. The cannery committee of this conference believes that with the present equipment, 200 tons of pumpkins, 100 tons of beets, 50 tons of beans, 50 tons of carrots, and 50 tons of onions could be handled.

**2. Local Market Can Use Fresh Vegetables**

Benton county still imports many vegetables that might be grown at home. Certain local dealers are anxious to cooperate with Benton County growers in order that the needs of

the local markets may be understood, and that vegetables of the proper kinds and varieties may be grown in suitable quantities.

**3. Proper Strains and Varieties Should Be Grown for Cannery**

Growers desiring to grow vegetables for the cannery should confer with the cannery authorities and with the section of vegetable gardening of the Oregon Agricultural College. For cannery uses it is especially important that the proper strains and varieties be grown and that the product be handled according to cannery needs.

GEORGE W. THORNQUIST,  
Chairman.

# REPORT OF THE LIVESTOCK GROUP

## BEEF CATTLE

The present situation of beef cattle production is critical. In this industry the cost of production is high, and only those that are especially favorably situated, where feed is cheap and grass abundant, are breaking even. Beef cattle come in competition with dairy, beef, poultry, rabbits, pork, mutton, and fish.

In Benton County beef production is far less than consumption. Much of the beef now consumed in the county is supplied by the dairy farm in the form of veal and worn out dairy cows.

From the grass and other feed standpoints, conditions are such in the county, that little expansion is recommended except in areas where poor drainage, dogs and disease make other classes of livestock inadvisable.

It is recommended that where beef cattle are found justifiable, a good quality of beef be produced by using better cattle. Marketing beef cattle at an early age is recommended. Experience of producers shows this is most desirable, both from a producer's and consumer's point of view.

## SHEEP

### I. The Situation

Present conditions show that all cheap range suitable for sheep production in the world has been fully taken up.

The United States produces 50 per cent of her wool consumption.

The industry over a period of years has shown a fair return to the man who has remained permanently in the business.

Benton County carries 24,000 sheep, according to the last estimates. It is the experience of the men now engaged in the business that farm flocks of sheep can be produced profitably under proper conditions and management.

### II. Sheep Recommendations

#### 1. Heavy Expansion is Unwise

At present conditions are such that profits are high, and breeding stock is likewise high. The livestock group feels that under such conditions a drastic expansion in the farm sheep business is unwise.

#### 2. Sound Grazing Practices Needed

In conservatively building a permanent sheep industry in Benton County, the adoption of sound grazing management practices such as have been developed on the national for-

ests is recommended, rather than rapid increase in numbers of stock.

#### 3. Better Management of Greatest Importance

Greater attention and care in lambing as a means of increase and a proper rotation of pastures as a means of maintaining their grazing capacity and reducing losses from intestinal parasites are believed to be sounder methods of increasing both profits and numbers than the outright purchase of breeding stock at prevailing high prices.

#### 4. Adequate Feed Is Necessary

The best returns are possible only where sufficient feed is provided at all times to allow for the development of the lamb or wool.

#### 5. Lambs for Market Should Be Docked and Castrated

In view of the fact that lambs undocked or uncastrated yield a carcass that brings from 50 cents to one dollar less on the market, we urge all Benton County sheepmen to conduct these operations on lambs intended for market, while the animal is still young.

#### 6. Dog Law Should Be Amended

Since sheep owners suffer a heavy loss from dogs and since the present

dog law does not bring proper protection, it is recommended that the present dog law be amended in the following points:

(a) That failure to pay the tax on a dog by the owner be declared a misdemeanor.

(b) That the present dog tax be increased.

(c) That the duty of collecting the dog tax be placed in the hands of the assessor.

(d) That the owner failing to pay tax on his dog not be permitted to collect indemnity.

It is recommended that the aid of the district attorney be asked in properly drafting amendments covering the points mentioned. Benton County

representatives in the legislature should be provided with the amendments and with a copy of this recommendation.

#### 7. Unused Sheep Range on Nearby National Forest Should Be Utilized

It is urged that the county agent of Benton County, the Extension Service of the Oregon Agricultural College, and the United States Forest Service cooperate in encouraging use of such unused sheep range on the Cascade, Siuslaw, and Santiam National Forests as may be used to advantage as summer range in the development and rotational use of Benton County farms suitable for this purpose.

### GOATS

We recommend at least a 50 percent increase in goats in the county as a means of swelling farm returns, but more especially as a means of clear-

ing land of brush. This is based on the fact that goats serve well in this capacity and also that use of mohair has been increasing recently.

### HOGS

Oregon produces about 210,000 hogs, while the annual need of the state is 390,000 head.

Experience of local swine growers has shown that until such time as there will be an increased acreage in feed grains in the county, profit from hogs is possible only on the farm waste basis.

It is therefore recommended that only sufficient hogs be kept to utilize

the farm wastes such as skim milk, cull fruits, vegetables, and garbage, together with pasture and such grain as is necessary to produce a satisfactory market hog.

We recommend to Benton County farmers that more attention be given to the home curing of pork products with the idea of standardizing its quality.

### HORSES

Lack of interest in horses has resulted in a shortage in good young horses in Benton County. Because horses are indispensable for certain

types of work we recommend that farmers breed such mares as will produce good draft horses, at least to provide for their own use.

### MISCELLANEOUS

In view of the need for united action in solving of livestock problems coming up that require united action,

we recommend the forming of a County Livestock Association.

ROBT. H. GELLATLY, Chairman.

# REPORT OF THE POULTRY GROUP

## I. INTRODUCTION

The poultry industry of Benton County is a valuable agricultural asset. According to the census report for 1919 the value of poultry and eggs produced in the county was \$314,093, as compared with \$126,223 for 1909. The poultry industry returns about 7 percent of the total income from agricultural products. The county ranks tenth in the percentage of value of poultry products, but ranks first in the percentage of agricultural income derived from poultry products.

The poultry industry has had only a normal increase in size and number of flocks since 1919. There has been a great increase in hatcheries and day old chick business. The statistics given are not comparable to the present day status, and are given only to show the general trend.

Poultry keeping, when the flock is given reasonable care, has proved a profitable crop during each year of the post-war deflation period. This fact caused many farmers to rush into the poultry business without due knowledge of the problems involved and without necessary experience.

The major part of the total volume of poultry products in Benton County is produced by farms where poultry is not considered an important phase of farming, and where the small flocks receive only haphazard care.

Oregon produces a surplus of eggs above the needs of home consumption.

This surplus must be marketed outside the state. The Benton County poultry industry cannot be considered as an independent unit, but must be considered in relation to the poultry industry of the state. It would make little, if any, difference in the national poultry situation if Benton County discontinued the poultry business or doubled its volume. The state of Oregon exported approximately 200 car loads of eggs in 1924.

The fact of interest is that a strong, outside buying demand exists for the surplus eggs of good quality produced in Oregon. No difficulty is foreseen in marketing the surplus of quality eggs from Benton County or the state.

The rapid turnover of the poultry personnel, the many failures of amateurs, losses through diseases, mismanagement, lack of capital, a general stabilization of other farm crops, increased population, and increasing consumption of poultry meat and eggs, are factors which have an important bearing in preventing a national overproduction.

Poultry keeping, whether a specialized enterprise or a farm side-line unit of four or five hundred hens, is a technical business which requires more detailed management than the average person is willing to give. Hence there is no reason to assume that a higher percentage of persons will succeed in the poultry business than in any other line of endeavor.

## II. POULTRY RECOMMENDATIONS

### 1. Increase in Poultry Keeping Is Justified, Subject to Good Management

Climatic conditions and availability of green feed are factors favorable to poultry in the county. The marketing of surplus eggs of quality can be done efficiently through the state cooperative agency now functioning. Railroad and highway agencies furnish

favorable transportation to market. The smaller farms of the county frequently have surplus labor to invest, which might be used economically with a balanced poultry enterprise.

Inasmuch as a market exists for good eggs, it is therefore recommended that poultry keeping be increased in the county; provided such increase

is guided by the principles of management as outlined in the following articles of this report.

### **2. At Least 400 Hens for the Farm Flock**

Farm flocks too small to be considered an important unit of farm work usually suffer from poor management. During the flush season of production, a surplus of inferior quality eggs is dumped on the overproduced markets of the state. The greater volume of the aggregate product is produced haphazardly on the general farm rather than by well managed flock units. Such quality undermines, to a degree, the entire industry.

On farms where some labor is available each day; where green feed can be produced throughout the year; where proper housing and management can be given, the poultrymen hereby recommend the gradual establishing of a minimum unit of not less than 400 laying hens and pullets.

On farms not interested in poultry, where the major farm activity does not include surplus labor, it is recommended that present flocks now carried be reduced to the number necessary to supply only the needs of the home table.

### **3. At Least 10 Tillable Acres for Each 1000 Hens**

Many poultry enterprises, successful for a time, have been compelled to quit business because of soil contamination. This is caused by using the same area over and over for brooding and ranging the stock. One and two acres devoted to poultry keeping on a large scale is hazardous where young stock is reared annually. Real estate agencies should not exploit such small tracts for intensified poultry raising.

It is recommended that commercial poultry keeping should not be attempted on less than 10 acres of tillable land, for a unit of 1000 hens. A system of field alternation must be worked out on this minimum area to make poultry keeping a success

over a period of years. Additional range territory may be needed at times for growing stock, such as orchards, groves or fields in order to provide disease-free soil.

### **4. Movable Brooder House Is Best**

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

The movable brooder house is recommended as the safest system for brooding chicks. Producers may guide their construction plans by Experiment Station Circular 52.

On farms where permanent brooder houses must be used, due to hill land, it is recommended that they be located on an area in such a way that the land may be divided into three or four yards. Under this system only one yard is to be used each year in its logical turn.

In any system of brooding, the brooder house and particularly the brooder yard are to be used only until the chicks no longer need artificial heat and are old enough to be moved out on free range. Range houses are explained in Experiment Station Circular 54.

### **5. Secure All Chicks at One Time**

It is very unsatisfactory to attempt to brood and range together chicks of different ages. In terms of financial results, labor and economy, it is, for example, cheaper to secure 500 day old chicks at one time in order to secure 200 pullets, than to attempt two or three hatches from an incubator of small capacity. A uniform lot of chicks simplifies the brooding, feeding, growing, housing, labor, and production problems.

It is therefore recommended that where only one brooder and one range is available, producers secure all chicks at one time.

### **6. Buy Chicks Early**

Poultry producers must have the benefit of the fall and winter prices for eggs in order to secure a better

average price per dozen for the year. They must have fall and winter production in order to get the most months of lay from the pullets before moulting season.

It is strongly recommended that producers secure the chicks early enough in the spring so that they will be old enough to come into flock production in October. Late February, March and early April is recommended as the most suitable time to secure chicks!

#### **7. Follow Proven Types in Building Laying Houses**

Proper poultry housing is essential to successful poultry keeping. The amateur has a tendency to construct laying houses according to some untried hobby, rather than to use as a pattern some type of house that has proved satisfactory. It is recommended that producers desiring to build new laying houses be guided by the building plans set forth in Experiment Station Circular 51.

#### **8. Study of Diseases Is Needed**

One of the serious, limiting factors of poultry production in the county or state is the increase of poultry diseases. The poultry industry in Oregon was valued in excess of \$10,000,000 for the year 1924. The rapid development of commercial poultry keeping, high rate of egg yields, intensified systems, concentrated rations, and other factors, are constantly producing troubles which result in heavy losses to the individual owners and to the state as a whole. A growing industry of this magnitude and an industry which has returned a profit to the grower during the period of deflation, should at least warrant one man's study of its disease and nutrition problems.

#### **9. Green Feed Should Be Provided At All Times**

Green feed is one of the four major classes of poultry feeds necessary to growth and egg production. Kale does not always live through the winter in the county, hence root crops, alfalfa hay, cabbage, etc., must be provided to use during the winter for

laying stock. Green feed is perhaps the most important feed item in the ration of growing chicks. Summer kale, legumes, rape, or other succulent greens must be provided for growing stock.

It is recommended that poultry keeping be discouraged on farms where green feed in some form cannot be economically provided throughout the entire year.

#### **10. Repeal of Present Cold Storage Law Is Urged**

Those engaged in or interested in the poultry industry of Oregon believe the consumption of eggs is reduced by the present Oregon law, which regulates the sale of cold storage eggs. Meats, fruits, vegetables, and dairy products held in cold storage are not required to be sold under a prominent cold-storage sign.

Placing of eggs in cold storage is necessary in order to care for the surplus eggs and to prevent a demoralizing price during the flush season. The present storage law is not rigidly enforced, and admittedly cannot be enforced.

There is a nation-wide effort to eliminate the cold storage egg regulation. The poultry industry of Oregon as well as the consuming public would be benefited by a different sales standard.

The success of poultry farming depends upon its products being consumed. It is conceded that many inferior eggs reach the consumer due to a very loose system of marketing and grading throughout the nation. Bad eggs strangle consumption. A uniform buying and selling of eggs on a uniform, national grade would do much to insure good eggs reaching the consumer. The average price would be better because the buyer would pay for good eggs only and would not have to buy at such a low price in order to absorb the loss.

The poultrymen hereby endorse the efforts of the U. S. Department of Agriculture in establishing a uniform grading system throughout the nation.

ED. SNOW, Chairman.

# REPORT OF DAIRY GROUP

The dairy group of the Benton County Agricultural Economic conference, recognizing that prices for dairy products are determined by world market conditions and that the dairymen of the county must therefore so manage their farms that they may satisfactorily compete at these prices, has made the following recommendations

as a guide to economical dairy farm management. It is our hope that conditions on all dairies of the county may be so improved that the owners may attain that goal sought by all, namely a better home.

It is desired, however, to call attention first to certain statistics relative to the industry:

## I. STATISTICAL DATA

### 1. Production Statistics Are Listed

Local data, according to the 1920 census, show that there are 5,474 cows two years old or over on 1,320 farms in the county. This is an average of 4.2 cows per farm.

There are 207 dairy sires one year old or over, 50 percent of which are pure bred.

In the production of feeds approximately 12,000 tons of legume hay and 15,000 tons of succulent feeds are raised.

The total butter-fat produced in the county is 765,308 pounds, which is an average of 148 pounds per cow.

### 2. Marketing and Manufacturing Statistics

There are 3 creameries operating in the county, and one city milk distributing plant. In addition, creameries in adjoining counties draw some product from the county.

The average price paid for butter-fat in the county for the year ending October 1, 1924 was 44.2 cents.

## II. ANALYSIS OF STATISTICS

### 1. Production Per Cow Is Too Low

The production of 148 pounds of butter-fat per cow is below the state average, much below that of many counties, and according to cost data obtained in other valley counties, is too low for profitable production.

### 2. Too Many Grade and Scrub Bulls

Considering the advantages of using only pure-bred sires, and in view of their present low cost, 50 percent is too high a proportion of grades and scrubs to be kept in use.

### 3. Legume Shortage May Be Overcome

The shortage of legume hays, which amounts to approximately 10,000 tons, may be largely overcome by improved management of crops and the use of adaptable varieties.

### 4. Shortage of Succulent Feeds

There is equally as great a shortage of succulent feeds, which may be overcome in like manner.

### 5. Herds Are Too Small

An average of 4.2 cows per farm is too few for economical production, and these smaller herds are frequently the source of products of poor quality.

### 6. Local Plants Can Handle Milk Output

The plants of the county are entirely adequate to care for products of the county. In view of the findings of the State Agricultural Economic conference cheese factories and condenseries are not recommended.

### 7. Local Price for Butter-fat Is Relatively High

The average price paid for butter-fat in the county for the year ending October 1, 1924, is six tenths of one cent higher than the price paid in Portland for the same period.

### 8. Area Available for Irrigated Pastures

Soil surveys show that there is additional acreage that may be utilized

## III. DAIRY RECOMMENDATIONS

for irrigated permanent pasture. Experience in other sections indicates that such pastures are profitable.

In view of these considerations, the dairy group recommends:

1. That dairymen of the county strive to increase the average production of their herds, by

(a) Eliminating those cows which systematic records of production show to be low in production.

(b) Breeding up better cows through the exclusive use of approved pure-bred sires.

2. That since present competitive conditions make the use of succulent feeds and legume hays essential to profitable production, every dairyman to insure profits should provide these in adequate amounts.

3. That where feed conditions justify, herds be built up to profitable units of at least 10 cows.

4. That dairymen and creamerymen of the county and state cooperate in the production of products of the highest quality to the end that any products exported from the state may command premium prices.

5. That the attention of our representatives in Congress be called to the disastrous competition caused by tropical vegetable oils and that Congress be requested to impose ad-

ditional duties or taxes, as may be applicable.

6. That in view of prices paid for dairy products during the past year by local plants these deserve our continued support.

7. That we request our representatives in the legislature to introduce a bill at this session which will provide for compulsory testing for bovine tuberculosis of all cattle in the county, the testing to be done on the self-supporting basis.

8. That dairymen of the country give greater consideration to permanent grass pastures both irrigated and non-irrigated and that the necessity of rotating pastures be recognized.

9. That because of the seriousness of the abortion disease, which is estimated to be costing this state more than \$1,000,000 annually, dairymen should purchase cattle only from herds in which the herd history and tests of individual animals indicate that they are free from the disease.

That as soon as knowledge of the disease and accuracy of the test will make feasible and practical, health certificates for abortion disease as well as tuberculosis be required by law before animals can be offered for sale.

F. W. KARSTENS, Chairman.

## REPORT OF LAND DEVELOPMENT COMMITTEE

Benton County has proposed drainage districts involving 22,700 acres. One drainage district has recently been organized at Summit, where development work is progressing. The committee has carefully considered the question of a program for developing the large area of land in need of a drainage outlet channel. The principal area considered was the 18,500 acres of land in south Benton County adjacent to the Pacific highway.

### Only Two Percent of County's Area Is White Land

The committee wishes to state for the information of this assembly that the area of "white land" in Benton County as shown by the soil survey of Benton County recently completed and published by the U. S. Department of Agriculture and Oregon Agricultural College Experiment Station represents only 2.2 percent of the area of the county. This is not a large portion of the county, as is believed by some people. Unfortunately the Pacific highway extends through or adjacent to this long narrow body of land for a length of about 10 miles.

### Large Areas of Excellent Soils

It should also be stated that large areas of Benton County are of the best soil types. These areas include 15,000 acres of valley floor, known as Willamette silt loam, one of the Willamette Valley's best soil types; 17,000 acres of Newberg and Chehalis types, which are first and second Willamette River bottom soils and are adapted to vegetable and truck crops.

### South Benton Drainage Development Not Feasible Now

After carefully considering the status of the 18,500-acre district in south Benton County the committee believes that it would be impossible under present agricultural economic conditions to organize a drainage district for the development of that area. Such a development would involve the construction of a straight channel

of proper size in the place of the present Muddy Creek.

We believe that under conditions of favorable production a drainage district could be perfected, and we further believe that the benefits from such drainage would justify the costs and would be far reaching in the land development of Benton County.

We especially recommend that this conference request the Geological Survey to continue the water run-off readings of Muddy Creek, inasmuch as the two years of run-off records now completed are not sufficient to calculate the design of drainage channels for the proposed Muddy Creek area. This information will be of great value when the organization of the district is put under way.

### Drainage Is Fundamental in Land Development in This County

This committee believes that drainage is fundamental in land development in Benton County. Many farms of the county are cut up by meandering draws, and include a small percent of low, wet land which seriously reflects upon the entire farm. Where outlets are available, tile drainage will aid in timely farming operations instead of necessitating waiting for the low areas to dry or mucking through the wet areas when the higher part of the field is ready to farm. We believe that drainage will profitably increase yields on farms having wet areas, by making these lands adapted to fall crops, preventing drowning out, allowing spring farming to be done earlier, and causing the soil to hold moisture longer in the summer.

We believe that tile drainage is a sound investment and should progress at such a rate as the finances of the farm will permit.

### Irrigation by Pumping is Feasible

The committee has considered irrigation in an endeavor to state its place in Benton County agriculture. Testimonies from members of this

committee show that irrigation by pumping has been successfully and profitably carried on by farmers in the county for several years. Irrigation has increased the yields of practically all crops grown in the county, but the costs must be balanced with increase yields to justify the project.

Those crops that are necessarily grown on the free working soils and which give comparatively large yields per acre have been most successfully irrigated.

Such crops include peaches, berries, and truck gardening crops. Other crops that offer opportunity for profitable irrigation are clover, potatoes, corn, alfalfa, and grass pastures providing they are grown on a well drained soil, where the topography is such as to allow economical distribution of water, and where the water cost is not excessive.

A. L. STEVENSON, Chairman.

## REPORT OF BOYS' AND GIRLS' CLUB COMMITTEE

Our record of club work has been as follows: one club in 1922; seven 100-percent clubs in 1923; eight 100-percent clubs in 1924.

There are now 12 clubs at work in the county with at least two prospective organizations. One sewing club at Irish Bend has already completed its work for 1925.

Club leaders' training meetings have been started to improve the work and eliminate some of the expense of visits to individual clubs.

The results of Benton County club work for the club year ending November 30, 1924, have been as follows: In all there were four different projects (pig, sheep, cooking, and sewing clubs) totaling 69 completed courses; the value of the different products

used in carrying on the work totaled \$635.84; the cost of all of the projects amounted to \$379.44; and the profit of the 69 completed club projects totaled \$256.40.

As an organization of clubs, we recommend the following:

1. That the Benton County court make appropriations for prizes for a club fair.

2. That each club have a local exhibit, to instruct the children in judging their own work.

3. That we have more livestock clubs in the county.

4. That we have an achievement day in which all clubs take part.

5. That we hold a county club picnic some time in the late spring.

MRS. A. N. LEBARE, Chairman.

# REPORT OF HOME ECONOMICS COMMITTEE

There has been no county wide home survey in regard to sanitary and health conditions, nutrition practices, clothing, and conveniences for every day living. Information has been received from community groups concerning the general use of dairy products, fruits and green vegetables in the diet, and other fundamental nutrition practices, the kind of clothing made in the home and the various problems involved in selection and construction, amount of labor saving equipment in use and other conveniences for efficient house keeping. This information has served as a basis for planning projects of profitable interest throughout the county.

## Nutrition:

Fourteen schools or 11 percent of the total enrollment in rural schools are being served hot lunches. Every rural school should serve, and with the cooperation of the school board and patrons this could be accomplished. No equipment is provided for regular weighing and measuring, only one school being provided with scales, while nine others depended upon the home demonstration agent's scales last year.

Physical examinations have been given in rural schools, a small percentage of physical defects were remedied, a larger percentage of food habits and faulty posture were corrected.

More emphasis is needed to establish correct essential food habits in many families to prevent and to correct abnormal physical conditions. Adult study groups considering diet for the entire family are the best means of accomplishing this and such classes will be continued or started in several communities. Men as well as women have a responsibility in establishing correct food habits in the family, and in producing both spring and winter gardens in order to provide an adequate diet.

One home cooking club for girls is now at work and two others will be organized to contribute toward this well balanced meal program, since the girls are the future homemakers.

## Clothing:

A large percentage of women do family sewing; many encounter difficulties with selection of styles, fitting and finishes. Few have found it convenient to attend courses offered to town women by the college. Suitable dress affords great satisfaction and is worth every woman's consideration since it is a factor in contentment and happiness.

Clothing schools have been held in fifteen communities to make dress forms, foundation patterns, discuss selection of color, materials and dress design. New and remodeled hats have also been made at a great saving.

The clothing program for this year will continue giving assistance along lines chosen by the women, working towards the goal of suitable, economical, and satisfactory clothing. Eleven sewing clubs for girls working under the direction of local leaders are helping solve these problems.

## Home Improvement:

Sixty-five homes in Benton County were covered in a recent survey by the home demonstration agent.

36 percent have running water in the kitchen.

67 percent have sinks.

32 percent have bath tubs.

25 percent have septic tanks.

28 percent have gas or electric lights.

These percentages do not differ greatly from those of the country as a whole.

Twenty-one kitchens have been remodeled since 1923 as a result of the home demonstration agent's work, and the following accomplished:

One house has been remodeled.

Ten water systems and 5 septic tanks installed.

Ten homes and 2 schools have taken the precaution to have their drinking water tested.

A kitchen contest in which fifteen women entered resulted in kitchen re-arrangement to save steps, adjustment of working heights, refinishing of walls, woodwork and floors, and some labor saving equipment which cost nothing except time and effort. Running water can be installed for thirty dollars and will save women's strength as effectively as more expensive systems. Home furnishings

are of special interest and will be considered by more groups this year.

The Better Homes Movement is one which needs the cooperation of the entire family to provide more convenient work shops, and suitable furnishings which contribute to the usefulness and attraction of the home.

This program will be accomplished through tours, contests, and observance of Better Homes week which will be conducted as county wide projects.

MRS. S. L. COLEMAN, Chairman

## PERSONNEL OF COMMITTEES

Committees were named in advance in the deliberations of their respective groups and assisted in preparing the conference to outline procedure to be followed in the various conference groups and to arrange for gathering local data to supplement state and national information that was presented for consideration. These committees took a very active part in the deliberations of their respective groups and assisted in preparing the group reports. The general organization committee was in charge of conference arrangements.

The personnel of the committees follows:

### GENERAL ORGANIZATION:

B. W. Johnson, Chairman  
Monroe  
H. C. Herron (Irish Bend)  
R. F. D. 4, Junction City  
Claude Buchanan (Willamette)  
R. F. D. 4, Corvallis  
Mrs. E. A. Blake (Mt. View)  
R. F. D. 1, Corvallis  
Harry Felberbaum, Secretary  
Corvallis  
W. E. Kyler  
Corvallis  
J. H. Wilson (Mt. View)  
R. F. D. 1, Corvallis  
W. A. Reid  
Corvallis

### CROPS:

G. H. Hector, Chairman  
(Fairmount)  
R. F. D. 4, Albany  
H. L. Wagner (Willamette)  
R. F. D. 4, Corvallis  
E. A. Blake (Mt. View)  
R. F. D. 1, Corvallis  
Bird Rickard (Irish Bend)  
R. F. D. 4, Junction City  
Ed. Graville (Ingram Island)  
R. F. D. 4, Junction City

### CANNERY:

C. E. Ingalls, Chairman  
Corvallis  
H. C. Herron (Irish Bend)  
R. F. D. 4, Junction City  
W. K. Taylor  
Corvallis

### DAIRY:

F. W. Karstens, Chairman  
(Fairmount)  
R. F. D. 4, Albany  
John Hubler (Alsea)  
Alsea  
H. L. Herse (Plymouth)  
Corvallis  
Fred Robbins (Philomath)  
Philomath  
Harry Asbahr (Fairplay)  
R. F. D. 1, Corvallis

### LIVESTOCK:

Robert Gellatly (Westwood)  
Philomath  
L. D. Porter (Willamette)  
R. F. D. 4, Corvallis  
O. B. Kyle (Monroe)  
R. F. D. 1, Monroe  
Fred Wiese (Corvallis)  
R. F. D. 3, Corvallis  
W. N. Locke (Mt. View)  
R. F. D. 1, Corvallis

### HORTICULTURE:

George Thornquist, Chairman  
Alpine  
A. Bystrom (Bellfountain)  
R. F. D. 1, Monroe  
W. S. Brown (Plymouth)  
Corvallis  
C. C. Buck (Monroe)  
R. F. D. 1, Monroe

### BOYS & GIRLS CLUBS:

Mrs. A. N. LaBare, Chairman  
(Wren)  
Wren  
J. F. Bradshaw (Plymouth)  
R. F. D. 2, Corvallis  
M. B. Dutcher (Plymouth)  
R. F. D. 2, Corvallis  
John Price (Wren)  
Wren

### POULTRY:

Ed. Snow, Chairman  
Monroe  
Mrs. J. M. Akers (Mt. View)  
R. F. D. 1, Corvallis  
Eldon Brush (Fairmount)  
R. F. D. 4, Albany  
C. L. Pettibone (Mt. View)  
R. F. D. 1, Corvallis

### LAND DEVELOPMENT:

A. L. Stevenson, Chairman  
Corvallis  
Robert Pfouts  
R. F. D. 4, Junction City  
J. T. Warman (Plymouth)  
R. F. D. 2, Corvallis  
J. R. Williamson (Kiger Island)  
R. F. D. 3, Albany