

Report of the

**Baker County
Agricultural Economic
Conference**

Baker, Oregon
November 15 and 16
1927

Suggesting an
Agricultural Program
FOR
Baker County

Baker County Farm and Business Groups, Oregon Agricultural College Extension Service and the United States Department of Agriculture Cooperating

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FOREWORD



HIS bulletin is published as a result of a resolution unanimously passed by the general assembly of the Baker County Agricultural Economic Conference on the concluding day of its two day session, November 15 and 16, 1927.

The Conference was planned by the agricultural and commercial interests of the county and was carried out mainly thru the efforts of the Extension Service of the State Agricultural College thru its local representative Roger W. Morse, County Agricultural Agent, the Baker County Chamber of Commerce and the Grange. All farm organizations in the county, in fact, participated in the arrangements for the Conference and in its successful accomplishments. The recommendations of the Conference constitute a compilation of the best opinion of the county supported by local experience and statistical data together with the results of extensive surveys of state, regional and national economic conditions affecting production and marketing activities in Baker County.

Painstaking effort was put into the preparation for this Conference by the various committees. Notwithstanding this fact and the fact that the best available data was at hand, as indicated, to aid in the formulation of conclusions, the recommendations herein set forth should not be considered as final, however. They will need revision and adjustment as time goes on and new conditions arise.

This Conference was one of a series of similar events being held in most of the important agricultural counties of the state. This series followed a state-wide Conference organized in a similar manner and held at Corvallis. The conclusions of this state Conference were available for consideration by the Baker county group and aided markedly in the interpretations of various phases of the local situation made by the committees. In the aggregate these committee reports formulate a substantial program for the development of agriculture in Baker county. Taken singly, they are generally a presentation of the most approved practices for production and marketing of Baker county's agricultural products.

If the Conference was a beginning, its ultimate value depends upon the knowledge and use of its findings by individual producers and by the communities of the county, individually and thru the farm and commercial organizations.

All parties taking part in this Conference express their appreciation to the County Court of Baker County for making possible the publication of this report of the Conference.

17 Apr 28
9 Nov. 28
2.00 x 50 p. 2.00

Agricultural History

For some twenty odd years prior to the first settlers locating in Baker County this section of the state was merely a part of the Old Oregon Trail. Restless pioneers of the covered wagon thought of Oregon only as that part of the great Northwest lying west of the Cascade Mountains. The threat of Indian troubles, lack of markets and the fact that arid countries at that time showed no agricultural possibilities made the "desert intermountain country" a place of use only as a means of getting to the promised land.

The first indication that potential wealth of any kind existed in this section was when a member of an adventuresome wagon train picked up pieces of yellow metal near the head of the Malheur River as this party was attempting to find a shorter route to Oregon. It was several years later, in 1861, before any attempt was made to follow up this discovery. In this year a party left Portland to find the so-called "Blue Bucket" diggings, as it was believed that a blue bucket had been left at the scene of the find. This party worked industriously and in October of 1861, Henry Griffin sunk a three foot shaft in what has since been known as Griffin Gulch, ten miles west of Baker. All but four of the party returned to Portland that fall and two of the members of the first party of men to spend a winter in Baker County, made a trip to Walla Walla during the winter for supplies, paying for them with gold dust. This news of the find spread rapidly and in April of 1862, a party of fifty men reached the gulch from "Oregon." Other parties came in during the summer from the Willamette Valley, Nevada and California. The beginning of 1861 saw no white men in Baker county while two years later a population of from four to five thousand were here, mostly around the old town of Auburn.

At first supplies were obtainable only from Walla Walla and provisions were high. The first agricultural enterprise of the county was started by William Baldock in '62 when he cut ripened bunch grass with a scythe and sold it at Auburn for from fifty to sixty dollars a ton. The first land claim of the county was filed on in '62 by Harden C. Estes in what is now known as Washington Gulch, while the first field crops are said to have been grown by Joel P. Kinnison, who in '63 grew fourteen acres of potatoes in the Pocahontas section which sold at ten cents per pound, a patch of corn, the crop from which was sold as roasting ears at one dollar a dozen and a forty acre tract of oats which brought from sixteen to twenty cents per pound.

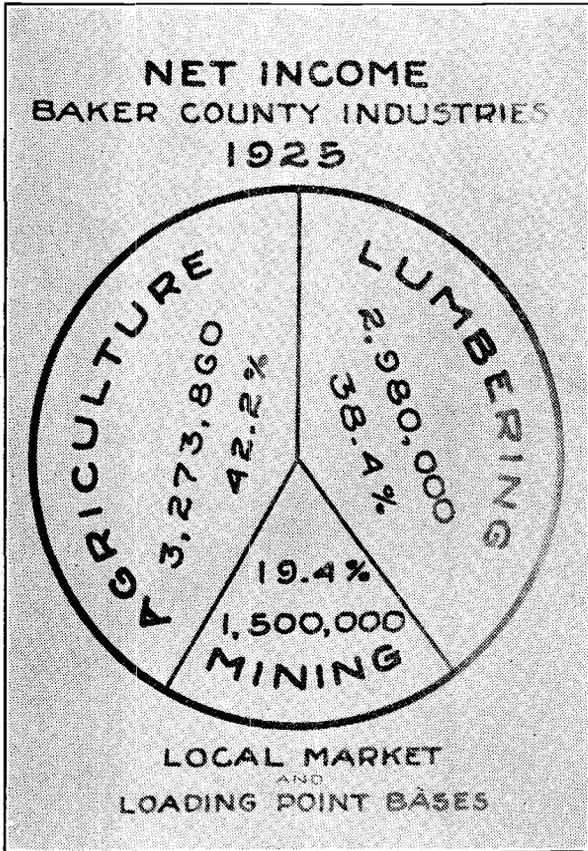
From this beginning, due to attractive prices, farm enterprises developed rapidly in the Pocahontas and Wingville sections and from the first irrigation was practiced. In spite of heavy settlement in the mining districts over-production came quickly and 1868 was the end of exceptional prices. Quotations in Baker City in 1870 according to an early issue of the Bed-Rock Democrat indicated no serious shortage of food supplies, wheat being quoted at \$1.80 per bushel, bacon 30 cents a pound, butter 50 cents and loose hay at 10 dollars a ton.

Transportation was at this time still a matter of covered wagons and pack trains. The only satisfactory method of moving agricultural products to other markets was by growing those products that could carry themselves to market and as the country was covered with "waving bunch grass" the livestock industry developed rapidly. Stock was left to graze out the year around and until after the severe winter of 1880-81 there was little hay put up for winter feed. Since that time to the present hay has been the major crop in the county.

In 1884 the Oregon Railroad and Navigation Company extended their line through Baker county and connected up with the extension of the Union Pacific at Huntington. Outside markets and quick

transportation were now available and lumbering started to develop. For many years, however, the local mining population formed a large part of the producers' market which was somewhat affected by every increase or decrease in mining operations.

Irrigation developed in proportion to the number of farms and aside from local food supplies livestock production was the major enterprise. Improved transportation methods have been the means of bringing outside competition for local food products with considerable decrease in the percentage used of locally grown produce. The fact that livestock and forage crops have been the major farm enterprises, together with the increase in dairying during the past fifteen years, has tended to a stability that is reflected in the relatively few farm and commercial failures during the deflation from 1920 to '25.



According to the 1925 census Baker county has an area of 1,975,040 acres of which 28.4 per cent or 560,915 acres of the total area were in farms. Of the 1464 farms in the county at that time 966 were operated by full owners, 173 by part owners, 22 by managers and 303 by tenants. The percentage of tenancy increased from 13.1 per cent in 1910 to 20.7 per cent in 1925. An interesting point in this regard was that 21.8 per cent of the cash tenants were related to the landlord while 28.3 per cent of share tenants were related to the landlord indicating that at least one-fourth of the tenants farming in the county were farming land belonging to their relatives, in most cases, probably, the parents of the tenants.

NUMBER OF FARMS, LAND AREA, ETC., IN BAKER COUNTY
Total Land Area 1,975,040 Acres

Census Year	Number Farms	ACRES IN FARM			% Land Area in Farms	Average Acreage Per Farm
		Improved	Unimproved	Total		
1870	53	13,010		13,010		
1880	453	49,949	34,007	83,956		
1890	455	60,753	50,542	111,295		
1900	725	78,389	98,066	176,455		
1910	1,304	187,759	159,936	297,695	15.2	228.3
1920	1,509	163,317	329,828	493,145	25.0	326.8
1925	1,464	227,420	333,495	560,915	23.4	388.1

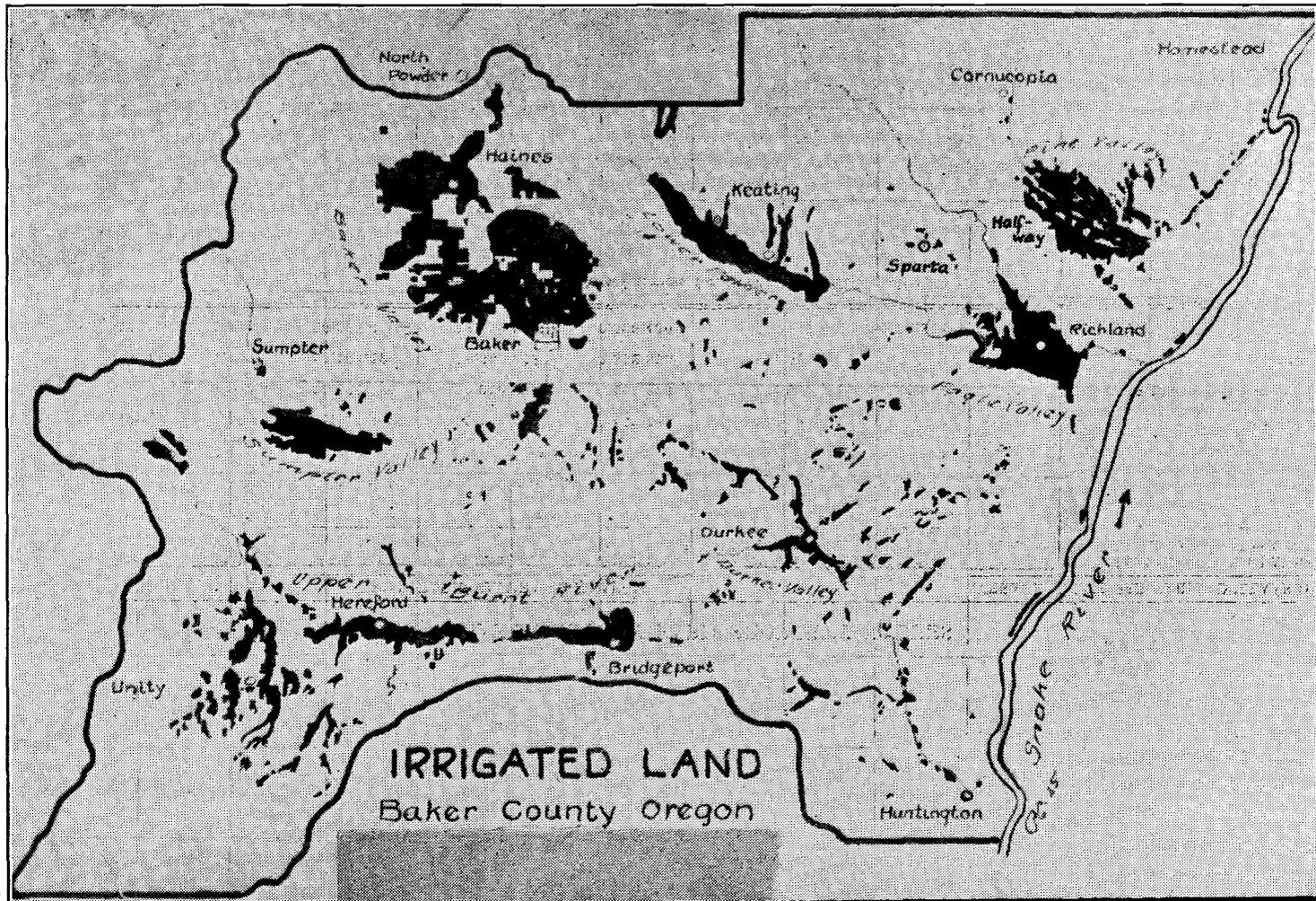
Railroads and Highways

As a whole Baker county is well served with transportation facilities by the main line of the Oregon-Washington Railroad Company crossing the county from southeast to northwest, the Oregon Short Line following the Snake River from Huntington to Homestead and the Sumpter Valley Railroad tapping Sumpter Valley and the timber belt through the western end of the county. The county is also fairly well fixed for improved highways with the Oregon Trail following generally the main line of the O. and W. railroad from North Powder to Huntington. The Baker-Unity highway extends from Baker to Unity, connecting with the John Day highway, which crosses the southwestern corner of the county. The Baker-Cornucopia post road is completed to Halfway and market roads are being built throughout the more important farming sections of the county.

BAKER COUNTY FARM PROPERTY VALUES

Census Year	Number Farms	TOTAL FARM VALUES (DOLLARS)				AVERAGE VALUE PER FARM (DOLLARS)			
		All Farm Property	Land	Buildings	Implements & Machinery	Livestock (*)	All Property	Land and Buildings	Land Alone Per Acre
1870	53	157,336	73,580		6,660	77,096			
1880	453	1,716,223	538,350		55,108	1,122,765			
1890	455	2,832,010	2,030,700		97,610	703,700			
1900	725	4,145,897	2,190,425	407,865	146,895	1,400,712		12.41	
1910	1,304	15,232,080	10,919,695	1,159,876	434,543	2,717,946	11,681	9,263	36.68
1920	1,509	27,164,596	18,346,093	2,352,873	1,144,928	5,320,702	18,002	13,717	37.20
1925	1,464	20,303,050	13,779,623	2,563,450	828,143	3,131,834	13,868	11,163	24.57

(*)—Prior to 1920 Census figures for livestock included poultry, bees, etc.



Report of Soils and Irrigation Group

I. THE SITUATION

Baker county agriculture is and always has been founded upon irrigation. Dry farming has only a very limited place in the county. The agricultural area of the county is largely made up of seven irrigated valleys. The irrigated acreage, the source of water and the elevation of the respective valleys is shown in tabular form below. There are numerous small streams supplying irrigation to adjacent land.

Community	Irrigated Acreage	Stream	Elevation
Baker Valley	71,694	Powder	3,325
Upper Burnt River	17,554	Burnt	3,800
Pine Valley	15,207	Pine	2,653
Lower Powder	10,544	Powder	2,681
Eagle Valley	9,003	Eagle	2,214
Sumpter Valley	5,028	Powder	4,100
Durkee Valley	3,572	Burnt	2,656

Climate

Any general statement relative to the climate of Baker county must be qualified relative to the exact section to which it refers. Land is farmed up to 4,500 feet elevation where there is usually a frost every month of the year and also at an elevation of 1800 feet where peaches are raised successfully.

Precipitation varies greatly although in the sections where the most of the crop acreage is found the precipitation will range from eleven to fifteen inches annually. The annual average and the precipitation for the two planting seasons is shown below for the four points where U. S. weather records are kept. The Ironside station is in Malheur county but conditions are similar to the Upper Burnt River section.

Point	Annual Mean	Planting Season	
		Spring	Fall
Baker	13.04	2.43	1.53
Richland	11.41	1.70	1.56
Sparta	23.80	3.47	2.58
Ironside	13.49	2.11	1.41

A peculiar feature of irrigation in this county is the large proportion of independent enterprises or individual water rights to the total number of farms. Of 1509 individual farms 825 had individual water rights, according to the 1919 census. Practically all of this water is used from the regular flow of the respective streams in contrast to reservoir storage as is common in the Western States. Every conceivable condition of water supply obtains in Baker county, from over-irrigation with all season water in parts of Eagle Valley to that involving the limited use of early water only.

Irrigated Valleys

Baker Valley with its 71,694 acres watered from Powder River and the creeks flowing out of the Elkhorn Range lies at an elevation of 3,325 feet, has a moderately short season, and very generally an inadequate water supply. On the East side and slowly extending farther year by year to the westward is an alkaline condition limiting the nature of cropping.

The Upper Burnt River country in total area is comparable to Baker Valley but its irrigated acreage is but 17,554, the water supply coming from Burnt River. The valley is high, has rather a short growing season and the water supply is short from mid-summer on. An opportunity exists for the storage of water on this stream.

Pine Valley, elevation at Halfway 2,653 feet, is watered by Pine Creek and its forming streams. While there is not the almost over-abundant supply of Eagle Valley the valley of Pine Creek has a thoroughly good supply of irrigation water. The precipitation is higher than in other irrigated sections. There are 14,207 acres under ditch.

The Lower Powder district averages about 2,680 feet in elevation. It is strung out along Powder River in a narrow strip, has a fairly long growing season and along the river is fairly well watered. A considerable quantity of water is brought over from the Eagle Creek water shed. The irrigated acreage is 10,544.

Eagle is the most abundantly watered valley of the county. Over portions of it too much water is applied. The elevation is 2,214, the seasons are long, the soil fertile, production conditions favorable. It has 9,993 acres under irrigation. The water supply comes from Eagle Creek, a tributary of Powder River.

Sumpter Valley is the first agricultural section on Powder River. The elevation is high, being 4,100 at McEwen, the season rather short, the water supply none too good as the rights have been held subsidiary to a number in Baker Valley lower down. The natural precipitation is high for this region. This valley is a splendid producer of hay plants on its 5,928 acres.

Durkee Valley is on the lower reaches of Burnt River. Soil and climatic conditions are not much different from those prevailing in Eagle Valley but the water supply is more restricted. The elevation at Durkee is 2,656 feet. The acreage irrigated is 3,572.

Since all the available water of the many streams of the county has already been filed on the only possible additional supply of gravity water for irrigation would come from extensive storage projects. Consideration of such projects must necessarily be based on extensive investigation and feasibility surveys.

II. RECOMMENDATIONS

1. In considering the use of the water on the farms it is often quite apparent that there is too much water put on the land to get the maximum production for the season. This is due partly to the supply of water being abundant while it lasts and fear that the supply soon will be exhausted. In the valleys having the longest water supply this problem is most serious and can be most easily controlled. If each irrigator will use his ditch water on the upper part of his farm and use his own waste water for lower fields the over-irrigation and drainage problems will be reduced greatly. Over-irrigation has caused a reduction in yields and drainage problems that are quite noticeable in Eagle Valley and to some extent in Pine Valley. It is recommended that the County Agent give consideration to means of improving this condition.

2. It is a generally recognized fact that the already large alkali area of Baker Valley is slowly extending its bounds each year farther into the area that has been profitably cropped. This is due to heavy irrigation of higher land causing heavy salting of the lower cropped land without ample drainage. Since the irrigation of the higher land is certain to continue, drainage is the most important factor in bettering this condition. Since the problem must be handled as a unit involving thousands of acres of Baker Valley this Conference requests that the Division of Irrigation Investigations of the United States Department of Agriculture and the O. A. C. Experiment Station make a feasibility survey and study of the soil and the cost and value of drainage of this area at an early date. Since the water table in this area probably would not be reduced more than five to ten feet by drainage it seems feasible that irrigation by pumping during June, July and August would be profitable where good forage crops could be established.

3. On average years the supply of irrigation water in Powder River is exhausted in Baker Valley by June 15th. This condition has caused a consideration of the possibilities of supplemental irrigation by pumping. The Eastern Oregon Light and Power Company has 17 irrigation pumps on their lines at the present time and several farms are pumping with gas engines. A new line has been built and a majority of farms along this line have indicated their intention to install a pumping unit within the next two years, according to the Eastern Oregon Light and Power Company. A study of the units already in use and the results obtained shows that efficient equipment properly installed can be made to pay a good profit. The cost figure for pumping is based on the electric power requirement to pump under farm conditions using a 5 H. P. motor at a 20 foot lift as shown by an extensive survey by Washington State College.

If electric power is available it is undoubtedly the most desirable as it requires very little attention. In order to take advantage of the power rates and make use of the minimum charge an electric unit must be operated at least 240 hours per month and it should be operated 360 hours or more (15-24 hour days) per month. If an electric unit is operated one-half of the total time at a total lift of 20 feet water can be delivered at a cost of \$2.32 per acre foot for power and interest, depreciation, taxes and maintenance. A 5 horse power unit should pump 25 acre feet a month under these conditions.

It has been found that some of the wells have limited capacity. The maximum on some of the wells in use at present seems to be about 350 to 400 gallons per minute. Where electric service can not be secured engine power will make a profitable installation if proper equipment is selected.

4. Potatoes have been irrigated from wells near Baker by D. L. Hughes and by Sylvester Hughes making yields of 175 to 240 sacks per acre while without irrigation they ran 50 to 100 sacks. Two irrigations were required. Irrigation of alfalfa will be profitable if shortage of gravity water is causing a reduction in yield of more than three-fourths ton per acre and the land is properly prepared for efficient distribution of water. Good pasture will also pay for supplemental irrigation by pumping. Good blue grass and white clover pasture with sufficient water, which would probably be about a foot of water per month, will carry two dairy cows per acre which is equivalent to six to eight ewes and their lambs per acre. Ladino clover pasture is carrying more than two cows per acre for five months in central Oregon and will certainly do as well here.

5. There are several thousand acres of land in Baker Valley valued at about \$10.00 per acre that have an unlimited water supply at from 4 to 8 feet. This land has considerable alkali, salt grass and rye grass and some blue grass and sage brush as natural vegetation. Since the cost of pumping water with such a lift would be very low and the chance of establishing pasture grasses by the liberal use of water offers possibilities it is urged that a demonstration trial be made to study this proposition.

6. The effect of sulphur on alfalfa has not generally been thoroughly tested in Baker county. Sulphur is making very profitable increases in many parts of the state and this year doubled the alfalfa yield on the W. O. Christianson farm at North Powder. It is recommended that trials be made in all the alfalfa sections of the county.

Respectfully submitted,

ARMAND PERKINS, Chairman
F. F. PRICE, Secretary
S. E. HUGHES
L. E. GARLINGHOUSE
A. J. RITTER

ERNEST CROCKATT
T. G. MONTGOMERY
HENRY MCKINNEY
JOE GIROUX
JAS. TRIMBLE.

Report of the Live Stock Group

I. THE SITUATION

A careful study of range and feed conditions in Baker county was made by your committee. This study shows that although the number of cattle has been very materially reduced in the past five years the combined number of beef cattle and sheep now in the county is as near as possible to the number necessary to properly utilize the grass produced. Likewise the combined number of sheep, beef cattle, and dairy cattle is sufficient to consume the hay crop. It is the sense of this report therefore that it is to the best interests of all concerned that the numbers of cattle and sheep in Baker county remain as at present and that either increase or decrease would be undesirable.

A supplemental report from the Forest Service shows an exceptionally good balance between summer range, spring and fall range, hay and the total number of livestock. This report also shows a satisfactory relation between sheep and cattle with but little need for further changes from cattle to sheep. National Forest ranges of Baker country are now fully stocked.

TABLE ON AREA OF RANGE LANDS AND LIVESTOCK CARRYING CAPACITY OF BAKER COUNTY SUBMITTED BY FOREST SERVICE

	AREA DATA	
	ACRES	ACRES
Whitman Forest in Baker County used for grazing.....	399,759	
Area closed to grazing on the Whitman Forest.....	24,435	
Waste and barren areas not grazed on the Whitman Forest	36,168	
Malheur Forest in Baker County.....	32,855	
Public Domain in Baker County.....	457,290*	
Private land within Whitman Forest in Baker County.....		73,177
State and County lands in Baker County.....		8,350
Private land Sumpter Addition to Baker County.....		34,534**
Private land in Lookout Mountain region.....		43,000
Additional private land in Baker County including farms and towns.....		848,562***
	950,417	1,007,623
		950,417
Total acres in Baker County.....		1,958,040

CARRYING CAPACITY DATA

Number of stock in Baker County in 1926—41,180 beef cattle and 96,320 sheep.

	CATTLE	SHEEP
Summer range on Whitman Forest in Baker County.....	9,150	34,294
Summer range on private land in Whitman Forest in Baker County.....	1,755	6,000
Summer range on pastures and meadows in Baker County..	19,000	6,000
Summer range in counties other than Baker.....		22,000****
Summer range on public domain and private range land in Baker County.....	11,375	28,026
	41,180	96,320

*—From Baker County Assessor's records in 1927 and includes unpatented claims and all Federal withdrawals except National Forest land.

**—Under W. C. Calder and Forest Service administration.

***—1925 census shows total of 560,915 acres in farms in Baker County.

****—Approximately 22,000 Baker County sheep graze on National Forest summer range in other counties and approximately 21,000 sheep from other counties graze on Baker County summer range within or adjacent to the National Forest.

About 20 per cent of all Baker county range cattle and 60 per cent of all sheep graze during part of the year on the Whitman National Forest. The average period forest grazing is three months for sheep and five months for cattle.

The spring and fall range now in use in the county carries approximately 90,000 head of sheep and 29,000 head of cattle. Taking the number of cattle and sheep as shown in the above table the Bureau of Agricultural Economics estimates of 10,570 dairy cattle and 11,285 horses and mules and figuring hay consumption at one-fourth ton per head for sheep, one and one-fourth for beef cattle, four for dairy cattle and two for horses and mules gives approximately 140,000 ton of hay fed to livestock in 1926. The Bureau of Agricultural Economics' estimate of the total hay crop in Baker county for that year was 170,000 tons or a surplus of approximately 30,000 tons. Part of this was shipped out to the coast market, part to mountain logging camps within and without the county and some of it fed to outside livestock wintering in Baker county.

World Production

A study of world production figures show a strong tendency for Europe to rebuild her flocks and herds to a pre-war basis and for Argentine to increase her exports of beef and Australia to increase her exports of mutton. A study of United States figures show that our net exports of beef are again decreasing and have almost reached the vanishing point while we have no net exports of mutton at all. This situation indicates a serious danger of a heavy importation of Argentine beef and Australia mutton if our tariff should be lowered or our quarantine regulations relaxed. It therefore behooves stockmen and stockmen's organizations to constantly be on guard to see that our tariff is not lowered, or our quarantine regulations relaxed.

Cost of Sheep Operations

Reports on the costs of range sheep operations were presented by six members of the committee. The total costs including interest in investment, labor, depreciation, death losses, and all other items ranged from \$9.27 to \$10.39 per ewe, with an average of \$9.82. The gross returns ranged from \$10.05 to \$12.50 per ewe, with an average of \$10.93.

II. RECOMMENDATIONS

1. The committee recommends conservatism in investment; although it is recognized that the past few years have been unusually favorable. Recent good returns can not be expected through a long series of years. It believes that further expansion of this industry would be undesirable, and might not only demoralize the market, but might easily bring about prohibitive prices for hay and grain.

2. The improvement in beef cattle prices which has taken place in this past year is noted with pleasure and gratification, and it is felt that the cattlemen have grounds for optimism as regards the future. Prices are, however, still below the cost of production except in the better managed herds and it is the belief of your committee that the publicity which has been given to recent advances in cattle prices may easily lead to speculation in stock cattle, hay, and grazing land which would ultimately be very injurious to the industry, and which might thereby counteract the good effects which should accrue from the present better price levels.

3. It is the judgment of your committee that while the prospects for live stock prices are favorable the future success of the business must depend largely upon more efficient management. It is the further judgment of your committee that the sheepmen of Baker county can not expect to succeed in the future with less than 100 per cent lamb crop, or with more than 10 per cent death loss in ewes. The cattlemen likewise can not expect to succeed with a calf crop of less than 75 per cent or a total death, theft and stray loss of more than 4 per cent.

4. In view of the fact that many livestock enterprises have failed through improper planning or unwise investments, it is recommended that all livestock enterprises be conducted on the budget basis, and it is particularly recommended that no new livestock enterprises be established until a budget has been prepared showing in detail probable expenses and income.

A BUDGET FORM FOR RANGE SHEEP MEN
 Issued by the Extension Service, Oregon Agricultural College
 Department of Animal Husbandry

This form is prepared for those range sheep men who wish to prepare an estimate of their income and expenses, either for their own information or for the purpose of obtaining credit.

BUDGET

For Year Ending.....
 Name
 Address

EXPENSES

Labor	Herders	\$	
	Tenders	\$	
	Lambing	\$	
	Ranch Labor	\$	
	Shearing and Marketing Wool	\$	
	Total Labor	\$	\$
	Forest Reserve Fees	\$	\$
	Leases	\$	\$
	Feed Purchased	\$	\$
	Bucks	\$	\$
	Taxes	\$	\$
	Interest	\$	\$
	Upkeep of Outfit	\$	\$
	Miscellaneous	\$	\$
	Total Sheep and Ranch Expenses.....	\$	\$
	Personal Expenses	\$	\$
	Total All Expenses	\$	\$

INCOME

Lambs	..... Head @ \$			
	..... Head @ \$			\$
	..... Head @ \$			\$
	..... Head @ \$			\$
Ewes	..... Head @ \$			\$
	..... Head @ \$			\$
	..... Head @ \$			\$
Bucks	..... Head @ \$			\$
	..... Head @ \$			\$
Wool	..... Pounds @ \$			\$
Miscellaneous	.....			\$ .....
	Total Income	\$		\$
	Less for expensee (as above).....	\$		\$
	Cash Balance	\$		\$
	Deduction for depreciation (if any)...	\$		\$
	Net Gain	\$		\$

Hogs

5. Oregon produces about 50 per cent of the hogs consumed in the state. The consumption of pork in the United States amounts to about one-half a hog per year per person.

It is considered a safe practice to produce at least enough hogs on Baker county farms to take proper care of farm wastes, skim milk and home grown feed grains where available. Generally it will not be profitable to buy grain for hogs except as a supplement to skim milk or farm waste.

The best price period for fat hogs as shown by the records occurs during March and August. It is recommended that pigs be farrowed and fed so as to bring them to the market during March and not later than April 15th and during August and not later than September 15th.

In view of the recent outbreak of hog cholera we recommend that all hogs in Baker valley should be vaccinated and that at the earliest possible date.

6. It is recommended that the following committee be appointed to investigate the advisability of a wool warehouse for Baker county: John Densley, Richland; Chas. Duby, Keating; Chas. Colton, Baker.

Respectfully submitted,

F. A. PHILLIPS, Chairman
 E. L. POTTER, Secretary
 NORMAN ELLIOTT
 CHAS. DUBY
 WM. DUBY
 F. C. VAUGHAN
 JOHN DENSLEY
 NOBLE HOLCOMB

JOHN C. KUHNS
 J. L. PETERSON
 J. P. RITTER
 CHAS. H. COLTON
 JOHN INNAS
 W. B. RILEY
 WALTER SAUNDERS
 WM. MORFITT

Report of Dairy Group

I. THE SITUATION

Baker county's dairy industry has been making steady gains for a number of years but recent gains have been so rapid as to make questionable further expansion except on those farms which continue to produce a surplus of feed. How rapid this increase has been may be seen by comparing the statistics of 1924 with those of the year ending September 1, 1927. In 1924 the total production of the county was approximately 1,420,000 pounds of butterfat valued at \$490,000.00 while for the year ending September 1, 1927, 1,350,000 pounds of butterfat was used in the manufacturing plants of the county. This amount with that used on the farms, in the city, and that shipped out of the county brings the total production to approximately 2,000,000 pounds of fat, valued at almost \$900,000.00.

The irrigated sections of Baker county are as favorable to dairying as are any of the irrigated sections of the state and conditions in some areas of the county are particularly favorable. As a rule dairying can only be profitable where there is an abundance of reasonably priced feed or there is an unusual market. Obviously Baker county must come in under the first case, and surveys made to determine the cost of producing forage crops show that Baker county's costs are less than those in most sections of the state.

Good Cows Necessary

Natural advantages alone are not enough to make dairying a successful enterprise. Good cows, proper management, and a study of markets are also essential. Concerning these factors it is well to further consider conditions in Baker county.

As to the quality of cows kept, it is only reasonable to suppose that many of the producing cows are not as good as the owners desire but in the rapid expansion of the business these rather ordinary individuals have been retained. Whether or not this has been good business in every case depends on whether or not there was better market for feed than through these poor cows and whether or not the dairyman could finance the purchase of better animals.

Census reports for 1924 indicate the average production per cow in Baker county to be about 170 pounds of butterfat. This is slightly less than the average for the state but included in this average there may be a number of beef cows that were milked only a portion of the year. Cost studies in other areas indicate that a production of 240 pounds of butterfat per cow is essential to profit. Many of the better dairymen of the county report even higher averages than this so there is no doubt but what the cows of the county compare favorably with the average. Continued improvement should be the aim, however.

Continued improvement in the productive ability of the cows in a herd is best attained by the use of high class pure-bred sires. In this respect much improvement can be made in the county for an average of all reports obtained show that at least 40 per cent of the bulls in use are grade, or scrub. At no time is the use of grade bulls to be recommended but especially is this the case at the present time when good pure-bred bulls can be obtained at such reasonable prices.

Cow Testing Association

More than 800 cows of the county are now being tested for production in the Cow Testing Association. Systematic keeping of records is the only sure method of weeding out inferior producers and the best basis for improvement. All dairymen should either be-

come members of an association or plan some method of record keeping.

Many of the dairy valleys of the county are admirably adapted to specializing on one breed, which is advantageous not only from the standpoint of purchase of breeding stock and the formation of pure-bred sire associations but will be of even greater value when the time arrives for the sale of surplus stock. The community that is in a position to sell surplus cattle of one breed in car lots has a distinct advantage.

Natural feed conditions as previously mentioned are conducive to successful dairying. Alfalfa hay is produced with high yields per acre. Irrigated pasture, which materially aids in low production costs, is abundant, but can be considerably improved. At present little rotation of cows from one pasture field to another is practised, and no special care is given the pasture. As a result the average carrying capacity of pastures is one cow per acre for the six month period. Other counties where special care is given and pasture crops are planted carrying capacities of better than two cows per acre are reported.

Succulent Feed Required

Some sections of the county produce silage to advantage and where yields of 18 to 20 tons are secured these crops are recommended but with lower yields than this more feed is raised per acre with alfalfa. Since it is desirable to provide some succulent feed to cows not on pasture, root crops can be grown in those areas which do not produce silage crops to advantage. A ton of roots per cow during the winter period will provide the succulence necessary.

While an abundance of grain is produced in the county only small amounts are fed to dairy cows on the average and except for the better producing cows no more need be fed. The average cow producing less than 200 pounds of butterfat per year needs no grain if she has good alfalfa hay and pasture. Cows producing up to 250 pounds will require grain during the winter period while cows producing over that amount will require grain throughout their lactation period and if not in good flesh will need it daily a few weeks before freshening. Home mixtures can easily be made; barley or feed wheat, or both, could form two-thirds of the ration and the other third could consist of oats, bran and oil meal or oats with either one of the other feeds.

As to the number of cows a dairyman should keep to have a profitable unit, the difficulty in this county is too many rather than too few. Too many because there may not be enough feed produced on the farm and the cows may be underfed. Estimates of dairymen indicate that there should be an acre of hay per cow, at least an acre of pasture, under present conditions, and on the average about one-half acre of grain and additional area of each for young stock. Less than twelve cows would not be an economical unit according to cost studies in other sections.

Abortion Disease

Even with an abundance of good feed and good cows unless those cows are healthy and free from disease, profits are not assured. Tuberculosis is not a serious disease in the county and county-wide tests are eliminating the small amount present. It is planned that these tests will continue. Of much greater importance is the abortion disease which is reaching proportions to seriously hamper the progress of the dairy industry of the county. Reports from the different communities indicate that more than 20 per cent of the herds of the county are affected, and one community reported probable infection in 75 per cent of the herds.

This disease is costing dairymen of the county and of the state more than all other diseases combined and in many cases is the one thing that prevents success. The loss of calves is a small portion of the losses occasioned by this disease. Of greater importance is the lessened milk flow and resultant udder troubles. It is estimated by veterinarians that less than 10 per cent of the calf loss is occasioned by other causes. It is therefore highly desirable to determine at once whether this disease is present when calf losses occur. The only reliable method of diagnosis is the blood test. By means of this test the dairyman can determine the extent of disease present in his herd, and if only a small number are infected it would be advisable to sell those to the butcher but if a high percentage is affected and the cows are among the good producers it often pays to divide the herd and gradually build up a clean herd and gradually dispose of the infected animals. If infected animals are in a herd one test is not sufficient usually to locate all of them. Three or four tests per year should therefore be made. Some counties are contemplating county-wide testing and the testing of all animals brought in to the county.

Experience of dairymen in this county indicates that shelter sheds are of advantage for dairy cows especially in those parts of the county where there is a heavy snow-fall, and experience also indicates they will prove to be of value in the other sections if well bedded with straw.

Marketing Conditions Good

In the marketing of dairy products the principle of payment on the basis of quality is the proper one and while this system was established in the county some time ago it merits the continued support of the dairymen.

Marketing conditions in the county for dairy products were never better than at the present time, with prices comparing favorably with quotations in marketing centers on the coast. These favorable conditions are particularly noticeable since the advent of cooperative organizations and may be due in part to the competition they induced.

There has been much discussion in the county relative to the value of minerals in dairy cattle feeding. Experimental tests indicate that high producing cows may need minerals and that the minerals which may be needed are calcium and phosphorous, both of which are supplied in sterilized bone flour or "spent bone black." These materials can be purchased reasonably and may be mixed with grain at the rate of two pounds per hundred pounds of grain, or mixed with equal parts of salt, or may be used without mixing by placing where accessible.

II. RECOMMENDATIONS

In view of all these facts your committee makes the following recommendations:

1. That since there is so high a percentage of grade sires in the county all dairymen be urged to use only pure-bred ones and that all dairymen use greater care in their selection of herd sires.

2. That in the management of pastures the value of rotation be recognized and that because of the low average carrying capacity of the county's pasture dairymen cooperate with the county agricultural agent in the establishment of demonstrations of Ladino and sweet clover pastures.

3. That because of the prevalence of the abortion disease in the county and its serious effect on the dairy industry a committee be appointed by the conference chairman to determine the possibility of making blood tests compulsory especially at sales.

Committee appointed E. E. Holman, Roy Vanderwall, Walter Cundiff.

4. That dairymen recognize the importance of grain feeding to cows of better than average producing ability.

5. That the feeding of succulent feeds is advisable when cows in milk are not on pasture.

6. That in view of the advantages derived from testing associations and the small percentage of cows now being tested the conference chairman appoint a committee to assist the county agricultural agent in forming more testing associations. Committee appointed J. F. McPartland, C. K. Fisher, W. Lovell Gover.

7. That the value of shelter sheds be given greater consideration by all dairymen and especially by those in the sections of heaviest snow fall.

8. That all dairymen continue to support the plan now established in the county of paying for cream and all dairy products on the basis of quality.

9. That, due to the price stimulus given dairy products during the past year which appeared to be caused by the competition of cooperative organizations, these organizations receive continued support.

Respectfully submitted,

E. E. HOLMAN, Chairman
 N. C. JAMISON, Secretary
 ROY E. VANDERWALL
 LEROY C. WRIGHT
 W. LOVELL GOVER
 WALTER E. CUNDIFF
 J. F. MCPARTLAND
 FRED BROWN
 J. ROSCOE LEE
 MRS. W. R. HAWLEY
 JOHN ROHNER

JESSE P. BROWN
 L. C. HANSEN
 EAGLE BENNEHOFF
 FLAVIUS PERKINS
 WALTER WELLMAN
 W. A. FUNK
 F. L. HILL
 J. W. WYNN
 HENRY SASS
 SAM DEARTH
 HAROLD HURSCH.

Report of Farm Crops Group

FORAGE CROPS

I. THE SITUATION

Baker county's most important farm crop is hay and forage which is largely consumed by the livestock fed in the county. Only a small percentage of the hay produced is shipped out. The average yearly shipment for 1925 and 1926 was 110 cars. Most of this was timothy, mixed timothy and clover. Very little alfalfa was shipped. The hay problem at present is therefore largely a local one with shipping an outlet in some seasons.

There now seems no surplus of hay in the county although there is a good deal still unsold. There is practically no carry over of old hay. The wild hay is in less demand than the other hays.

Grain hay production mainly takes place on dry land where grain is the most successful hay crop, or where a crop intended for grain must be cut for hay to save it, or where grain is sowed as an emergency hay crop.

II. RECOMMENDATIONS

1. Owing to the fact that hay inspection in Oregon is not carried out efficiently and believing that hay grading should be on a sound basis, we recommend that Federal supervision of hay grading be established in Oregon in a manner comparable to Federal grain supervision.

2. Wild hay production is being reduced by meadow improvement and by pasture. Hay fields should be improved to get better yields and better quality of hay for local feeding.

3. Wild hay meadows may be improved by sowing in clover and timothy. Best results follow sowing in early spring on the snow or when the ground is heaved up with frost so that the seed will be covered when it thaws. Sowing after irrigation is started is not very successful.

4. Alfalfa is the most important hay crop in the county and is replacing other hays on lands suited to its production. Average yields of alfalfa are often low in various sections of the county because of short lived varieties, winter killing, thin stands and lack of water for late irrigation. In some sections yields may be increased by the use of land plaster or sulphur. Good increases are had following the use of these materials in some sections with no result following the application on some other soils. Land plaster spreaders are useful in getting an even spread of sulphur.

5. Better quality of alfalfa hay is probably the most important forage problem in the county. Thin stands, grasses and weeds, too late cutting and some hay handling methods are hurting the quality. Fine stemmed, leafy, well cured hay cut fairly early is most desired. Much depends on getting a good durable stand of alfalfa to begin with. Seeding methods recommended are:

(a) Sow alone in the spring or fall plowed or potato land where there is a limited water supply.

(b) Sow in summer alone on some weedy, irrigated land that needs cleaning up.

(c) Sow in spring with grain on some irrigated lands.

(d) Sow just after harvest on grain stubble free from weeds.

Sowing may be after an irrigation on soils not inclined to dry out and bake. On soils inclined to bake watering had better be just after sowing. The amount of seed used varies from 5 to 15 pounds an acre. It is best to use plenty of seed to get a good even thick stand. Stands must be in keeping with the water supply. Thinner stands are suited to short water sections. Shallow sowing on a firm moist seed bed is the sure way to bring a good stand.

6. Opinions on the kind of alfalfa to sow vary considerably. Local seed from old stands in Baker county is undoubtedly well suited to Baker conditions. Common alfalfa on the market may be most anything and is not recommended. It is not as certain as local seed from old stands, common alfalfa of known origin in a cold climate, or the genuine hardy types like certified Grimm or Cossack. There being but very little difference between the Grimm and Cossack and Grimm being easier to get it is recommended as the best variety where a long lived stand is desired. Because of the demand for it it is recommended for seed production.

7. Cultivation of alfalfa stands is recommended where they are weedy, infested with the cheat grass or other bearded grasses or where the hay is to be baled for market. Cultivation should be with a spring-toothed harrow or alfalfa cultivator. Disking often injures the roots and is not recommended where the other tools are available. Cultivation usually brings little or no increase in yield but mainly improves quality on somewhat thin stands by getting rid of weeds and objectionable grasses. Cultivation should be completed before the buds start from the crowns in the spring.

8. Thin grassy stands of alfalfa should be plowed up, usually put in some other crop to get rid of the grass and then sowed back to alfalfa.

9. Quality of hay is much influenced by time of cutting. Coarse woody hay results from late cutting. Recommended times of cutting are: When the new buds or shoots are coming up from the crown; or if there is no budding when the crop is about one-tenth to one-fourth in bloom. On dry land where there will be no second crop or with water where there is time for only two crops, later harvest will often yield more hay at some sacrifice to quality. Too frequent early cutting, as for green feed, weakens alfalfa stands. Prompt curing and stacking is desirable to avoid bleaching and loss of leaves.

10. According to Oregon Experiment Station data hay is more cheaply handled in Baker, Union and Umatilla counties than elsewhere. Much of it is bucked in Baker county. More slips are used in Umatilla. Bucked hay is usually more trashy and dirtier than slipped hay and is not of as good quality especially for chopping. Slipped hay is likely to grade better than that which is bucked.

**PROGRESS REPORT ON AVERAGE COST PER ACRE OF
ALFALFA HAY
1925 AND 1926 CROPS COMBINED**

	BAKER-UNION	STATE AVERAGE
Number of Farm Records	44	427
Number of Acres	2830	18101
Number of Tons	12715	61806
Direct Man Labor	\$ 6.18	\$ 9.56
Overhead Man Labor	2.88	2.16
Horse Labor	3.09	2.62
Machinery	1.89	1.59
Automobile .....	.35	.31
Fertilizer .....	.20	.43
Irrigation Water .....	.03	2.60
Taxes	1.51	1.89
Interest on Land	5.77	7.48
Depreciation of Stand .....	.64	.92
Miscellaneous .....	.28	.16
TOTALS	\$19.78	\$29.72
Credit for Pasture .....	.82	1.57
NET COST PER ACRE	\$18.96	\$28.15
TONS PER ACRE	2.9	3.5
COST PER TON	\$6.56	\$ 7.99

11. Oregon uses approximately 150,000 to 250,000 pounds of alfalfa seed each year. The demand is mainly for Grimm. Many places in Baker county where there are unfavorable conditions for good hay growth, such as a short water supply, slight alkali, thin soil, old stands crowded by grass will fill an alfalfa seed crop. Certain farms may seed down certain places and build up a seed business. Grimm seed may be certified if kept pure and we can develop a seed business to at least supply local and state needs. Some sections of the county may grow alsike and red clover seed if hulling facilities are provided. Paying crops have already been harvested. The crop should be standardized on the hardy types suited to the Mississippi valley and eastern states where the market demand exists.

12. Baker county contains many of the best irrigated pastures in Oregon. Many of the steep lands with water supply and natural drainage are among the best pastures in the state. Probably the best means of utilizing some of the low producing or waste lands or of improvement of return from these lands is through better pasture. Steep irrigated soils make excellent permanent pasture if sod-forming grasses like blue grass or brome grass and ladino or white clover are established. Orchard grass in the mixture often increases carrying capacity especially where soils dry out to some extent and for late feed. Smooth brome grass is good on dry soils likely to have only a medium water supply. Sweet clover is good when the soils are rather dry at times. For alkali lands white sweet clover is best for temporary pasture and yellow sweet clover for more permanent pasture as it reseeds itself better. Of the grasses for rather strong alkali land, as that too strong for timothy, Zawadke alkali grass is good, and stands almost as much alkali as salt grass. It is usually early spring sowed on the surface while the land is still wet. When in danger of drying out, the sowed land is sometimes covered lightly with straw or strawy manure. For rather seepy or springy land not too wet, red top, blue grass, and ladino clover are excellent. For rather wet springy or rather swampy lands reed canary grass is very promising.

13. We recommend that the county agent establish demonstration plantings of the newer grasses and legumes such as reed canary grass, Zawadke alkali grass, brome grass, ladino and both sweet clovers, in sections suited to them.

CEREAL CROPS

I. RECOMMENDATIONS

1. We recommend standardization of varieties and seed treatment on all grains to get better yield, quality and prices for the crop. Spring wheat generally is better suited to Baker irrigated conditions than fall wheat although some sections are excepted. Fall wheat is good on the dry land after good fallow. Recommended varieties of wheat are Federation and Hard Federation for spring planting, using Hard Federation where the season is very short and on dry land and the Federation on the lands of good moisture. For fall dry land planting Turkey Red is best with some Hybrid No. 128 also good under best moisture conditions. Under irrigation, Hybrid No. 128 is best where winter conditions are severe. Where winter conditions are not so severe and an early harvest is necessary, Federation may be fall planted. There will be occasional winter killing necessitating resowing in the spring. Hard Federation is too tender for fall sowing.

2. More barley instead of so much oats seems a desirable program from the standpoint of feed produced per acre, cost of threshing, ability to use a combine and the need for grain here. Trebi is the best barley under irrigation. Golden Rain, Swedish Select, and

Idamine are good irrigated oats and Markton is the best dry land variety being smut proof and a high yielder.

3. We recommend enlarging the grain certification program in Baker county to get needed supplies of certified seed.

4. All seed wheat should be treated with the copper carbonate (dry) treatment and barley and oats (except Markton) with the formaldehyde treatment. Care should be taken with formaldehyde to plant or air out the seed soon after treatment to avoid killing.

5. We believe that the bulk handling facilities of the county on farms and at shipping point should be increased and that more of the coarse grains should be fed to stock.

POTATOES

I. RECOMMENDATIONS

1. Baker county is so situated that freight rates are more favorable to other producing sections located between Baker and the main table stock consuming centers. The production of table stock while very profitable in years of high prices is not so attractive as seed production. Since Baker county has a good freight rate on potatoes to Malheur county and south Idaho we recommend the production of certified and standard Rural and Nettle Gem seed for that market. We further recommend the investigation of the Yakima market for Nettle Gem seed. All seed sent out should be of good quality, either certified or standard, and all this good seed should carry a trade mark or label identifying it as a Baker county product.

2. We further recommend the establishment of demonstration trials of Baker potato seed in the consuming districts to counteract the injury already done by dealers shipping out bad stock as seed.

3. We recommend that an association of potato growers be organized for purposes of education and more uniform understanding as to standards, pack, price, etc. The association can register a trade mark or brand, pool orders for corrosive sublimate, bags and similar needs and can take steps to get local customers and dealers to use Baker grown potatoes rather than those shipped in from outside.

4. We recommend uniform seed treatment of all seed potatoes, for seed or table stock, with the corrosive sublimate treatment and that the potatoes be grown in a rotation of four years, or longer. Rurals especially must be planted on alkali free land to prevent scab. In some cases the use of sulphur in the row is recommended.

5. We recommend putting up a good pack of potatoes and that the State Market Agent enforce the labeling law to help keep out unfavorable competition of low grade potatoes.

6. We recommend elimination of the so-called combination grade of potatoes.

7. We recommend that the U. S. Department of Agriculture revise the U. S. grades for potatoes making about 3 grades from the present U. S. No. 1 and No. 2 grades and that they be worked out on the basis of food value and keeping quality.

Respectfully submitted,

CLYDE WARD, Chairman	F. S. JOHNSTON
G. R. HYSLOP, Secretary	C. K. FISHER
W. T. LAMPKIN	WILBUR MARTIN
O. GROSS	J. P. HOLLAND
G. H. PERKINS	F. W. NORTHUP
W. A. BUCHANAN	J. H. SCHOLL
SWEN LARSON	ART OLIVER.
FRED ENTERMILLE	

Report of Poultry Group

I. THE SITUATION

Poultry production in Baker county should be studied both from a production and a marketing view point. We believe it would be possible to effect an enormous increase in the production of chickens and eggs in this section, but we do not believe this to be practical. Climatic conditions here are not favorable to winter egg production as compared with southern Idaho. As a consequence, southern Idaho furnishes strong competition in our local egg market, and also in the markets in Union and Wallowa counties. The Idaho Cooperative Poultry Association reported \$0.25½ per dozen as the total average price received by members for the year 1926. We do not believe eggs can be produced at that price in Baker county except at a loss. The Idaho Association shipped during 1926 a total of 101 carloads of eggs.

With the above situation in mind we do not believe the existing number of chickens should be increased. Efforts to improve the situation here should be directed to improving methods in practice and to improving marketing conditions. We believe the following recommendations should be put into practice in Baker county.

II. RECOMMENDATIONS

An association of poultry producers should be formed. This association should cooperate with the county agent in arranging for lectures and demonstration meetings on housing, feeding and culling of poultry. Better methods adopted would make it possible, we think, to double the present yearly egg production without increasing the number of hens.

2. Baby chicks, whether hatched locally or shipped in, should be secured in time so that they will mature by September first. Mr. Walter Coles, chairman of this committee, believes the time of hatching for White Leghorns should be early April. Heavy breeds should be hatched in late February or early March. Chickens should be secured all at one time as different ages can not be successfully brooded together. If winter eggs are to be secured enough chickens should be hatched so that half the winter flock will be pullets. Baby chicks should be purchased from the best Oregon breeders and from flocks which have been tested and culled for white diarrhea.

3. Growing chicks should be fed a balanced ration to secure good body development before the laying season begins. Laying flocks should receive equal parts of whole grain and mash. Ready mixed feeds may be secured locally or prepared by the individual poultryman. The poultry department at the Oregon Agricultural College has during the last two years made exceptionally high egg records from hens developed and fed on home mixed feed. We request the county agent to secure bulletins describing the O. A. C. laying mash and others describing the feeding of baby chicks, and to keep these on file for distribution to poultrymen.

Poultrymen producing winter eggs should provide green feed consisting of fifty per cent alfalfa leaves and fifty per cent carrots or stock beets.

4. We believe that good housing of poultry is especially important in this section. We suggest that poultrymen planning to build new houses first study the open front straw loft type of house, one of which is now in use at the poultry plant of P. J. Powers at Medical Springs. We request the county agent to secure and keep on file plans for the construction of this type of house.

5. The turkey industry seems to offer opportunity for expansion in this section. Mrs. Snyder of Keating reports excellent success in producing turkeys, and she has hatched as many as 300 in one year. In her flock most of the eggs will be hatched either under turkey hens or Rhode Island Red hens. After hatching careful feeding is practised. Later the turkeys should be herded on alfalfa or other green pasture. The Idaho Cooperative Turkey Growers' Association has recently extended its membership to Baker county farmers, with the result that some very satisfactory prices have been secured.

6. We believe a local poultry association if formed can do much to improve marketing conditions here. If enough members can be secured, it might be possible later to market eggs cooperatively, as has been done successfully by Union county poultrymen during the past three years. At the present time, we recommend that all poultrymen carefully grade and candle all eggs produced.

If possible each egg should be marked with a "Baker County" label, name of owner and date produced. The cost of this practice would be very small and we feel sure it will result in a decided advantage to local poultry producers in distinguishing their product from the low grade Idaho eggs.

Respectfully submitted,

WALTER COLES, Chairman
 H. G. AVERY, Secretary
 WM. SNYDER
 MRS. R. V. WAGNER

MRS. WALTER COLES
 MRS. BYRON RUDELL
 MRS. MIKE HORNBECK

Report of Pest Control Group

RODENTS

I. THE SITUATION

Rodent pests, particularly ground squirrels, pocket gophers and jack-rabbits, are a serious problem to the farmers of the county.

We do not believe that absolute extermination of any of these pests is possible under existing conditions but we do feel that control of their numbers and the consequent reduction of the losses caused by them is easily possible.

Pocket gophers particularly are increasing in numbers in the county. These animals are a pest of major importance in irrigated lands wherever they become established. We wish to point out the importance of constant effort to keep their numbers reduced to as low a point as is possible.

II. RECOMMENDATIONS

1. The present system of mixing and distributing squirrel poison is giving generally satisfactory results and we believe it should be continued.

2. While squirrels have decrease markedly in the past five years lack of uniform efforts and the presence of large acreage of idle land and government lands that are unpoisoned hamper the work to a considerable extent. We believe that community effort, so that all lands will be poisoned at the same time, and the formation of poison districts where necessary will assist greatly in solving this problem.

3. It is believed that cooperation between resident and non-resident land owners wherever possible will give better results than compulsory action alone. As a practical basis for this cooperation it is suggested that non-resident land owners be requested to supply poison for their holdings, this poison to be distributed by resident farmers without charge on these lands in districts where community clean-ups are undertaken. We find that the Biological Survey is willing, so far as funds are available, to furnish poison and assistance in poisoning all government lands lying within and adjacent to such districts. This will help materially in solving the problem of re-infestations in these districts.

4. Jack-rabbits have become quite plentiful in parts of the county and we believe that control campaigns should be undertaken whenever possible. Suitable weather conditions for such campaigns do not usually prevail in this county for long periods so that prompt action is necessary when conditions are right.

5. Methods of control of various other rodent pests such as woodchucks, meadow mice and pocket gophers can profitably be demonstrated further in the county as many people are as yet unfamiliar with these methods.

WEEDS

I. THE SITUATION

The weed situation in Baker county is a serious one. Several bad weeds are widely distributed and often there is little done to keep them from seeding and spreading.

Canada thistle and quack grass are the most serious and widespread of the perennials in the county. Wild Morning Glory is also present.

II. RECOMMENDATIONS

1. The best and most economical farm practice in the control of established patches of these weeds is the clean cultivation method which absolutely keeps them cut off below the ground and before green leaves appear. This makes the plant use up the reserve food

supply stored in the roots. If no new food is manufactured in the leaves and the new growth is cut off before the shoots get up, eventually the food supply will be exhausted and the plant killed. This may take one season with young patches or where roots are shallow, or it may take longer on old patches and on deep mellow moist soil with a large deep rooting system six or eight feet deep.

2. To eradicate Canada thistle or Wild Morning Glory the patches should be marked off to get all the plants located. All surface trash and growth should be burned off clean, or removed or so cut up that when plowed under it will not interfere with the blading to follow. The patch may be plowed in early spring or just after harvest. Plowing should be done with a sharp share, making narrow furrow slices and to cut off all roots and turn out as many as possible. After plowing, the patches should be thoroughly bladed every 4 to 6 days or often enough to keep every plant below ground. Missed plants should be hoed off. After the plants are weakened, cultivations will be farther apart. When the ground packs so the blade will not run deep the land should be replowed. Thick alfalfa is a good smother crop for badly weakened thistles and morning glories.

3. Quack grass is best controlled by pasture for a season or two to get roots rather shallow. Then plow in a hot dry time, as June or July, and keep thoroughly spring-toothed or disked all summer. This will work on land that may be kept dry during the plowing and cultivation period. It is best to follow with a cultivated crop.

4. We recommend that the clean cultivation method be adopted as the most certain and economical method and that the County Agent establish demonstration plots in cooperation with the Experiment Station to test out the chemical weed killers.

Salt will kill perennial weeds but is too expensive and kills the land. K. M. G. has failed to kill in most cases and is too expensive. Carbon bisulphide is too expensive and results, while occasionally good, are very uncertain on account of different soil and moisture conditions. Sodium arsenite has not made good kills. Sodium chlorate in a 15 per cent solution sprayed on shows some promise.

J. H. KING, Chairman
 IRA N. GABRIELSON, Secretary
 P. A. ROCKNE
 W. A. HUDDLESON

BYRON RUDELL
 CHAS. E. BAIRD
 BYRON VANDECAR
 N. E. DODD.

Report of Market Survey Group

I. THE SITUATION

The Marketing Committee which has been named to study the marketing conditions affecting production, distribution, and consumption of Baker grown produce sets forth herewith its report and recommendations.

Your committee had in mind during its study of these problems the fact that only general recommendations can be made and that parts of these recommendations will not be applicable to every locality in this county. Local conditions are an important factor. It may be well to add also that your committee in recommending an increased production of certain commodities does not have in mind the stimulation of specialists who might expect to raise one or two particular products, and by these recommendations expect success and prosperity.

II. GENERAL RECOMMENDATIONS

Your committee makes the following recommendations:

1. That the growing of small fruits and berries in Baker county be increased to a point which will fill the local demand during the season when these commodities may be produced. Certain sections of Baker county are adapted to the growing of small fruits and berries. The local demand for these far exceeds the production. Commercial varieties only should be grown.

2. That a systematic, continuous, informal educational campaign be undertaken by Baker county growers and distributors for the purpose of informing the local consumers relative to the produce that is grown locally and as to the time that it will be on the market. Numerous consumers are uninformed on this point. Many of these parties could conveniently adjust their canning and heavy buying program to favor locally grown produce.

3. That the producer and distributor maintain close contact with each other for the purpose of keeping each other informed relative to the different local products on hand for distribution and relative to the needs of the consumer. Your committee refers here to a program of keeping the markets filled with Baker produce so that the supply on hand will fill the demand.

4. That a stamp, label or some mark of identification be adopted by the growers in Baker county for the purpose of stimulating increased use of Baker grown produce. Local consumers could then identify Baker grown products and insist upon having the same. This identification is impossible at present, and there is frequent mislabeling.

III. SPECIAL RECOMMENDATIONS

Your committee with reference to different commodities submits herewith the following recommendations:

1. That there be an effort extended on the part of growers and merchants to coordinate the shipping in and out of potatoes, and that the production of market stock be governed by the demand. Throughout the year potatoes are shipped into Baker from other potato growing districts during the same months that local potatoes are being shipped out. During 1926 carloads of potatoes were shipped in 7 months and shipped out 8 months.

That grading be done by all growers, and that only good quality produce be sold locally, and further that growers extend every effort towards coordinating prices on the part of fellow producers. Your committee refers here to the low quotations of certain growers which results in demoralizing the market and loss to all producers.

2. That the egg production in Baker county be increased through the breeding and selection of high quality birds, and by

the use of modern methods of care. It is further recommended that the producer together with the distributors conduct an investigation relative to the feasibility of storing selected eggs from the summer surplus to be sold to satisfy the winter demand. This recommendation applies particularly to the farm flock. Many of these flocks contain birds that have little or no value as laying hens and these should be replaced by birds with records of production. A replacement process can bring about the desired results. High producing flocks cost little more to maintain and are of profit to the producer.

3. a. That the producers and buyers keep in close touch with each other relative to the availability and demand for poultry (chickens, ducks, and geese). It is necessary to keep a continuous flow of poultry through the channels of distribution. Excessive sales or dumping will invariably result in a glut where the market is primarily local. The committee further suggests that caponizing be encouraged on larger breeds.

3. b. That the production of turkeys be increased as the experience of the growers makes this possible without excessive expenditures of time and money. Both local and outside markets have opened an outlet for a great number of turkeys and prices are good. However, those increasing their turkey flocks must be mindful of the heavy losses often entailed with this fowl and conservative progress is vital.

4. That the production of dairy products be materially increased.

5. That the marketing committee write to the merchants in Baker county and ask them to refrain from handling oleomargarine and butter substitutes, and further that this committee communicate with the Masters of the Granges in Baker county, and also the Pomona Grange urging them to strongly condemn the use of these products by the producers. It is recognized that the use of butter substitutes decreases the consumption of butter and thereby restricts about 10 to 15 per cent the normal demand for butter. This fact is detrimental to Baker county.

6. That an effort be made to coordinate wherever possible the shipping in and shipping out of such products as squash, pumpkins, onions, carrots, and parsnips. These commodities are all shipped in during the season when they are produced locally and definite efforts should be extended toward stimulating a maximum consumption of local produce during such seasons as these products may be supplied by the growers.

7. That the production of summer and fall cabbage be increased to fill the local demand. There is a considerable quantity of cabbage shipped into Baker county through the different seasons of the year when cabbage is available.

8. That the growers of cauliflower be encouraged in those sections where it may be grown. Ninety per cent of the total consumption of cauliflower in Baker county is shipped in from other sections. The 10 per cent which is grown locally is reported to be of a high quality and is sold at good prices.

9. That the production of lettuce be increased to fill the local demand. The local demand for lettuce is constant and the local supply is seasonal. Efforts should be made on the part of the growers to furnish local needs during the season when it is available in this county.

10. That experimental tests might be made in the line of producing celery with the view of supplying the local demand. Tests might reveal the fact that celery can be grown in certain sections of Baker county.

11. That growers and distributors coordinate their efforts to the end that the Baker grown tomatoes may have the advantage on

the local markets during the season when they are available. Tomatoes are shipped in during the four months when the local tomatoes are on the market in vast quantities to compete with local growers. Distinct steps should be taken to remedy this situation.

12. That the growers, distributors, and consumers extend every effort toward the consumption of local hams and bacon to the end that the local pork production may be increased. Less than 10 per cent of the total consumption of hams and bacon is from local packing plants. This fact affects decidedly all the pork raising in Baker county. Steps should be taken to educate the public to consume locally cured meats.

13. That no more planting of peach trees on a commercial scale be undertaken but that better care be taken of those orchards now bearing with the view of increasing the yield and improving the grade of fruit. Further, that the peaches when sold be sold by grade. The peach prices suffer due to inferiority of the packs. Peaches are shipped in during the same period that they are in production locally, and are being shipped to other points from here.

14. That no more commercial orchards of apples be planted, but that the poor varieties be grafted with the good commercial varieties and that the orchards be improved with the view of increasing the production and of raising the grade of fruit presented for sale. There is a continuous importation of apples throughout the year. The local supply should be distributed to offset this condition.

15. That no more commercial cherry orchards be established, but that the improved care of the orchards be extended with the view of increasing the yield, and improve the quality of the fruit that is grown.

16. That since some sections are adapted to the raising of apricots, grapes and other products, growers might advantageously devote some time and money toward bringing about the production of these products in sufficient quantities to meet the local demand.

It is recognized that a community is in a healthful condition when there is a maximum consumption of locally produced commodities and when prices are obtained that permit the growers to enjoy a profit. Growers and distributors should bend every effort toward reducing the quantity of foreign produce that is distributed during the seasons when produce of similar kind and quality may be obtained from Baker county growers. Coordination of these forces is a decided factor in the progress and prosperity of a community.

Respectfully submitted,

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SANFORD HEILNER

Boys' and Girls' Club Work

At the meeting of the Baker County Economic Conference on November 16 the following motion was made and unanimously passed at the general meeting:

THAT the Baker County Agricultural Economic Conference go on record as favoring the extension of boys' and girls' clubs in the different communities in Baker county as fast as adequate leadership can be developed in these communities.