

REPORT OF THE

EXTENSION
FILE COPY

HARNEY COUNTY
AGRICULTURAL
ECONOMIC OUTLOOK
AND
PLANNING
CONFERENCE

BURNS, OREGON

APRIL 16,

1933

FAJR-XVII
Harney

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FORWARD

Recorded on the following pages are the findings and recommendations of the four committees of the Harney County Agricultural Economic Outlook and Planning Conference. The reports of these committees as presented in this document were given at a general conference meeting held on April 16, 1938 at Burns, Oregon. This conference was attended by about seventy ranchers and ranch women and all reports as given on the following pages were unanimously approved and adopted by those present.

This is the first conference of this kind ever held in Harney County. It is intended by the committees making these reports and by those in attendance at the general conference meeting that the recommendations made may be changed or amended as changing conditions make amendments advisable. From time to time, as the occasion demands, meetings will be held for that purpose.

Under the able leadership of Nelson B. Higgs, General Conference Chairman, with the help of the general committee cooperating with the Extension Service of Oregon State College, the conference was planned and conducted. The membership of the general conference committee is as follows: Nelson B. Higgs, General Chairman, Mr. & Mrs. Harry Williams, Mr. & Mrs. W. T. Van Derveer, Mrs. Chas. T. Lillard, Mr. George Vilas, Mr. Frank Whiting, Mr. David T. Jones, Mr. Frank W. Schmidt, and Mr. Paul C. Stewart. Sub-committees assigned to the different agricultural enterprises and related problems were assisted in their work previous to the general county conference by Nelson B. Higgs, General Conference Chairman; Paul Carpenter, Extension Specialist in Marketing; E. R. Jackman, Extension Specialist in Farm Crops; Harry Lindgren, Extension Specialist in Livestock Production; Miss Lucy Case, Extension Specialist in Foods and Nutritions; and the County Agent.

Purposes of the conference were:

1. Gathering and recording of accurate detailed information and statistics on the local and national phases of agriculture as it pertains to Harney County.
2. Making definite recommendations based upon these assembled facts.

Recommendations in this report are the best opinions of the committees made up of representative producers in the county and are a result of careful analysis and thought. These recommendations constitute a program for the guidance of agricultural developments in Harney County. It is hoped that these committee reports will be studied in the following manner:

1. As basis or guide for long time agricultural developments in Harney County.
2. As an aid to new settlers coming into Harney County.
3. As a source of facts and information, basic to Harney County's agriculture.

Respectfully submitted,
W. A. Sawyer, Secretary
Harney County Agricultural Economic
Outlook and Planning Conference.

(1) Climate - - -

24 YEAR AVERAGE - 1914-1937

HARNEY BRANCH EXPERIMENT STATION TEMPERATURE RECORD

24 YEAR AVERAGE - 1914-1937

* Only 23 year record.

The elevation of agricultural land in Harney County varies from approximately 3400 feet to approximately 4600 feet with the larger portion of the area laying at about 4100 feet. This elevation results in a relatively short growing season and frosts almost every month of the year. From records at the Harney Branch Experiment Station covering the last 24 years, there has been a killing frost during every month of the year, in about 8 of the 24 years. The records indicate that there is apt to be a heavy frost about the 20th of June and again the 15th to 20th of August with the possibilities of the temperature dropping to 29 degrees or below in July. On an average there is a range in temperature between day and night during the month of July of about 42 degrees. In other words if the temperature registered 80 degrees during the day it would fall to approximately 38 degree during the night. It will be noted from the study of the average maximum temperature in the table above that for the months of July and August, the average maximum was 87 and 86 degrees respectively, while the average minimum for the same two months was 45 degrees and 42 degrees. During the past 24 years, the average frost free period was 66 days. This period being in the months of July and August. This short period with a high chance of frost during the growing season along with the hazard of losing crops from the drouth makes crop production very uncertain except under controlled irrigation which lessens the danger of complete loss from frost and eliminates the drouth hazard.

(2) Types of Agriculture - - -

Harney County is essentially a livestock producing area and agriculture of necessity is largely devoted to the production of feed crops for livestock. Hay and other crops requiring more moisture than comes from the annual rainfall are produced on land irrigated by spring flood water. The irrigation season runs from approximately March 15th to approximately June 15th varying with the length of the run-off season and the date of the spring break-up. Only flood type irrigation is practical and in only a few communities can be found a systematic well planned distribution system. During the years 1927 to 1930 inclusive, the following amounts of water were used at the Harney Branch Experiment Station to provide adequate irrigation for crops produced there under pump irrigation.

	:	:	:	:	:	:				
	:	1927	:	1928	:	1929	:	1930	:	Average
Amount in acre feet	:	.64	:	1.30	:	1.70	:	1.46	:	1.28
	:	:	:	:	:	:	:	:	:	:

Water requirements are heavier considering the soil types because of the high evaporation.

Soil in general in Harney County is of a relatively heavy sandy loam type with variations running from a heavy adobe to a light sandy loam. The heavier types of soil run more strongly to alkali though very little soil in Harney County can be found to be free from alkali. In general the fertility of agricultural land is good with a possibility of a slight deficiency in phosphorous, sulphur and potash in certain areas.

~~The grazing capacity~~ of range and pasture lands in the county varies widely. It is estimated ~~that this variation will run from~~ approximately 25 acres per animal unit figured on a 12 months basis, to as high as 250 acres per animal unit with an average for privately owned range land running at about 60 acres per animal unit. The grazing capacity of the public domain averages, according to estimates made by the grazing service, about 120 acres per animal unit on a 12 months basis.

(3) Agricultural Income - - -

The following table shows the total average cash farm income for the period 1926-1930 inclusive for Harney County, and the percentage and amount in dollars earned by each agricultural and livestock commodity.

1926-1930 AVERAGE FARM INCOME FOR HARNEY COUNTY

1926-1930 Average Cash Farm Income-	- - - - -	\$3,580,000.00
From Sale of all Crops Products-	- - - - - 9.7%	\$ 347,268.00
From Sale of all Animal Products -	- - - - - 90.3%	\$3,232,740.00
Poultry and Eggs	.3%	\$ 10,740.00
Dairy Products	3.7%	132,460.00
Livestock and Products	86.3%	3,089,540.00
Other animal products	.1%	3,580.00

(4) Sources of Income Other Than Agriculture - - -

Accurate figures as to the approximate income to Harney County from sources other than agriculture are not available. The sources of income falling in this group are as follows:

Timber
Minerals
Game
Recreation and Tourists

(5) Size of Farms - - -

Trend in size of farms is indicated by the following table which shows the acres of land in farms for the years 1890 through to 1935. This table indicated a general increase in the number of farms along with the tendency for the size of the individual farm to decrease. There is a tendency also for the amount of improved land per farm to decrease along with a general decrease in the acres of improved land in the county. This has been brought about by the drouth which began in approximately 1915 which is about the time that the general decrease in acres of improved land started.

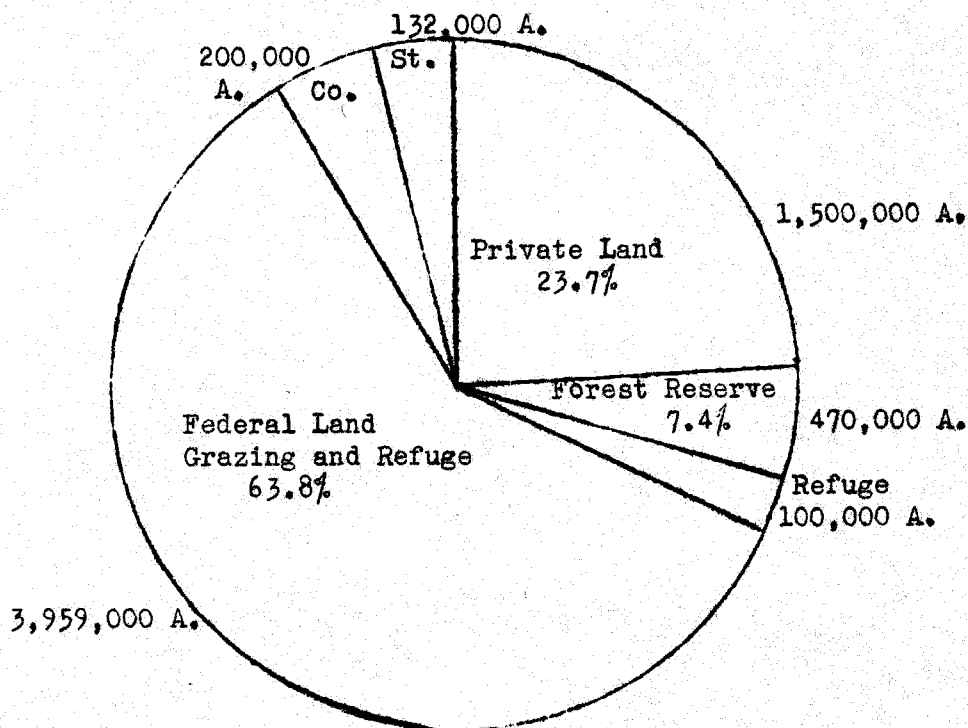
TREND IN AGRICULTURAL DEVELOPMENT

Census of	All land in farms		Number of Farms	Average Size of Farms		Improved Land in Farms		
	Acres	Per Cent		Acres	Acres	Acres	Per Cent	Per Farm
1890	469,813	7.4	482	974.7	220,347	46.7		457.1
1900	272,877	4.3	348	784.1	125,549	46.0		360.7
1910	562,204	8.8	443	1269.1	199,271	35.4		449.8
1920	524,678	8.3	589	890.8	176,934	33.7		300.4
1925	689,338	10.8	681	1012.2	177,297	25.7		260.3
1930	795,205	12.5	603	1218.7	184,126	23.2		305.3
1935	1,186,015	18.7	619	1916.0	161,418	12.6		260.7

(6) Land Ownership - - -

The federal government owns a total of 71.2% of the land in Harney County which includes the public domain land, the forest reserve and the United States Biological Survey Bird Refuge. Private individuals own 23.7% and the state and county own 5.1%. The following chart shows the land ownership pattern for 1938:

HARNEY COUNTY LAND OWNERSHIP IN PERCENTAGE IN 1938



LAND PATTERN OF HARNEY COUNTY IN ACRES

Total area of County - - - - - 6,357,120

Public Domain- - - - - 62.2% - - - - 3,955,842
 Forest Service - - - - - 7.4% - - - - 470,426
 Game Reserves- - - - - 1.5% - - - - 100,000

Total Federal - - - - - 71.1% - - - - 4,526,268

State School Land- - - - - 2.1% - - - - 132,000
 County Land- - - - - 3.1% - - - - 200,000

Total State & County Land 5.2% - - - - 332,000

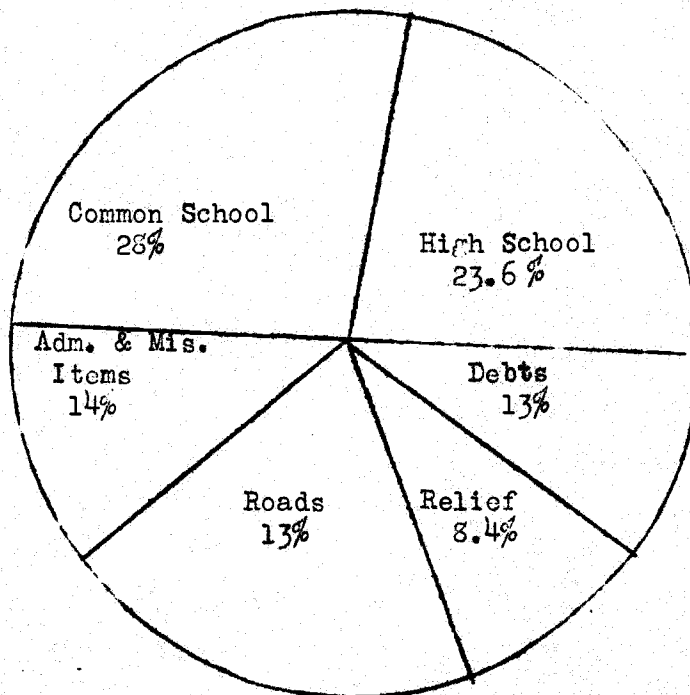
Privately owned range- - - 21.8% - - - - 1,387,200
 Privately owned crop - - - 1.8% - - - - 119,437

Total Private Land- - - 23.7% - - - - 1,506,637

(7) The Farmers County Tax Dollar - -

The total property tax excluding city tax is approximately \$237,000 for 1938. This does not include that portion of the state gasoline tax and other taxes which are not used in Harney County. The following chart shows the distribution of the expenditures of the farmers tax dollar on the basis of the 1938 budget.

HARNEY COUNTY FARMER'S TAX DOLLAR 1938 BUDGETS



1. Land Classification

The Situation - - -

The following table shows the land acreage for Harney County as set up by the County Conservation Planning Committee and also by the Land Use Committee. It will be noted, acreages in the long time goal set up by the Land Use Committee are identical with those set up by the Agricultural Conservation Planning Committee. The Land Use Committee has set up line 13½ which is state and county land leased to the Great Basin Grazing Association to be handled by that Association and allotted to livestock range operators on the basis of commensurate rights to be used as a part of the grazing set-up of these operators. The reason for making changes in the acreages of the different classes of land are outlined in detail under recommendations and conclusions.

HARNEY COUNTY LAND CLASSIFICATION AND ACREAGES

	: : 1935 Census :	: : Conservation : Planning Com. : Long Time Goal	: : Long Time Goal : Set-Up By Land : Use Committee
1. Rural farm population	: 1,939	: 2,170	: 2,170
2. Number of farms	: 619	: 700	: 700
3. Cropland, total	: 119,049	: 125,520	: 125,520
4. Harvested	: 56,836	: 121,120	: 121,120
5. Failure	: 49,995	: 2,000	: 2,000
6. Idle and fallow	: 12,218	: 2,400	: 2,400
7. Pasture land in farms, total	: 1,020,905	: 1,157,322	: 1,157,322
8. Plowable, rotation	: 1,000	: 3,000	: 3,000
9. Plowable, other	: 41,369	: 45,509	: 45,509
10. Other pasture	: 920,802	: 1,106,813	: 1,106,813
11. Woodland in farms, not pastured	: 408	: 408	: 408
12. Woodland pasture	: 57,734	: 2,000	: 2,000
13. All other land in farms	: 45,654	: 5,653	: 5,653
13½. State and county land leased to Grazing Assn.	:	:	: 332,000
14. Total land in farms	: 1,186,015	: 1,288,903	: 1,620,903
15. Land not in farms	: 5,171,105	: 5,068,217	: 4,736,217
16. Total Land Area	: 6,357,120	: 6,357,120	: 6,357,120

Recommendations and Conclusions

(1) Rural Population and Number of Farms

We believe that the rural population should and will increase to approximately 2170 and that the number of farms will increase to about 700. This increase will mean smaller farms which is indicated as a general trend in the table entitled "Trend in Agricultural Development" and it is the belief of this committee that this trend toward smaller farms will continue. This will ultimately result in a tendency to run a smaller number of livestock in place of the large range operations and the livestock will be confined for longer periods of the year within the boundaries of the ranch. There is no new farm land to be taken up in the county, which will cause places to be divided, in cases where sons of families operating large places, start ranching on their own.

(2) Total Crop Land and Acreages of the Different Crops Harvested

Considering the recommendations of the Crops Committee, we are recommending an increase in the total crop acreage to 125,520. This does not change the recommendations of the Crops Committee, except that realizing that there will always be some failure and some idle or fallow land, we have recommended the inclusion of approximately 4400 acres to allow for idle or fallow in the dry land areas and for crop failures in the various parts of the country. It is believed by your committee that the 1935 census, giving the total crop land, is inaccurate and smaller than the actual acreage of crop land because of the fact that many places not operated in 1935 were not reported. Also some land pastured during that year was no doubt included in the pasture land acreage because it had previously been producing native hay and had not been plowed, though has been since, or had been put back into production of hay. The large decrease in the acreage of failure and idle or fallow land when compared with the 1935 census figure, is possible in the belief of the committee by the use of better farming methods and by the use of the crops less susceptible to failure. Crested wheat grass should be grown on much of the land which has failed to produce a crop in the past few years.

*176,000
1935
and
mostly
change
in the
1935
census
figure
Bureau*

(3) Pasture Land in Farms

The acreage of pasture land in farms has been increased from 1,020,905, which is the 1935 census report, to 1,157,322 acres, or an increase of 136,417. We recommend this increase by improving approximately 40,000 acres now classified as other land in farms which produces little or no pasture, to the extent that it can be re-classified as pasture land, and by the purchases of state and county land sufficient to bring the total to the above figure. This purchase of state and county land is necessary to round out a ranch set-up on approximately 33% of the range livestock producers ranches. This land will enable these operators to balance their spring and fall range with their winter feed supply.

(4) State and County Land Leased to Grazing Associations

We recommend that the acreages of state and county land leased to grazing associations be included as part of the range operators setup, who receive portions of this body of land in allotments made by the association. Because this land is

of a slightly different classification than other land owned by the individual, we are setting up the acreage under the title of "State and County Land Leased By Grazing Association." This acreage then would be subtracted from the land not in farms and the total would be added to the total land in farms.

We recommend that this land be considered privately owned range land for the purpose of making improvements and developments under the range division of the Agricultural Conservation Program.

2. Changes in Land Use in Harney County

The Situation - - -

The drouth which began about 20 years ago has automatically brought about most of the changes in land use desirable from a long time agricultural standpoint. Most of the dry land cropping that is being carried on at the present time is in the better dry land areas from the standpoint of soil quality and moisture supply.

Recommendations - - -

We do not recommend further changes in land use, but do recommend that no dry land not now being farmed be broken up for agricultural purposes in the future. If conditions are favorable for dry land cropping, certain dry land areas of the county may be sold for agricultural purposes. We do not recommend continuing the practice of selling such land on the strength of the meager possibility of paying for the land from the income from such land. We urge that a thorough investigation be made by prospective land purchasers before buying, if crops were not grown on the land continuously during the period 1930-1937 inclusive. Because of the fact that sub-marginal land which should not be devoted to agricultural uses is located in relatively small areas and widely scattered over the county, we felt it impractical to attempt to make an accurate land use map. In general, three bodies of land include 75% of the acreage which might be classed as marginal or sub-marginal for agricultural purposes are the following: Catlow Valley, Sunset Valley, and large portions of the area lying within a 10 or 15 mile radius of Princeton. In all of these sections there are some tracts of land suited to dry land farming under proper management. We recommend the production of only crested wheat grass (or other dry land grasses of equal drouth resistance) on dry land not now producing either grain or hay.

3. Federal Purchase of Land Now on County Tax Rolls

The Situation - - -

Revenue coming into the county treasury from land taken off the tax rolls by government purchase, brings in a very much smaller return to the county than would be received if such land was privately owned and subject to regular county taxes. The situation has been particularly outstanding with reference to the United States Biological Survey Bird Refuge which took much valuable land off the tax rolls. The purchase of county owned range land by the Federal government would not present equal problems to that made by the purchase of crop land.

Recommendations - - -

We recommend that all county and privately owned land purchased by the government be taxed or assessed an annual fee equivalent to a base tax established by averaging the annual tax on such land for a period of five years prior to purchase.

4. Taxation

The Situation - - -

As will be noted from the chart in the first section of this report, approximately 51.6% of the ranchers tax dollar is spent for schools. Further discussion of this phase of the tax situation will be taken up under the heading of Schools. Only 14% of the tax dollar is used in county administrative expenses, a portion of which is miscellaneous, such as grasshopper, rodent and rabbit control. In the belief of the Land Use Committee, little change in distribution of use of the farmer's tax dollar could be made. The biggest taxation problem confronting ranchers of Harney County is that of tax equalization. In checking over the chattel mortgage records, it was determined that all the way from 7% to 100% of the stock owned by individuals is on the assessors rolls. On an average, about three out of ever seven head of stock is turned in. We would like to point out that none of the real or personal property tax leaves Harney County, which means that the failure to accurately report the number of head of livestock only increase the levy on other items.

Recommendations - - -

We recommend that the situation be discussed before agricultural groups in the county pointing out the fact that taxes must be raised and that failure to list stock on the rolls only creates a bad situation from the standpoint of tax equalization. All livestock must ultimately pay the taxes on land in this county and as livestock is the source of income it should be the source of tax revenue.

5. Schools

The Situation - - -

Schools in Harney County have been forced to consolidate from an economic standpoint to as great an extent as was possible. Because of road conditions making it impossible to transport children from one area to another, further consolidation of schools may not be advisable. We realize that the size of schools in Harney County makes it impossible in many instances to maintain the schools on a standard most desirable, but recognize the fact that everything possible is being done to maintain this standard, and further recognize the fact that the schools in Harney County are making a creditable showing when the situation is considered.

Recommendations - - -

We recommend careful study on the part of school officials looking toward the possibility of consolidating two or more the rural school districts, and looking

toward setting up higher standards in schools in the outlying communities. We do not recommend the county unit system for the schools of Harney County because of the difficulty likely to be experienced by a central school board in administering school affairs in communities with which they are not familiar. Distances in Harney County are too great to make this system practical.

6. Irrigation

The Situation - - -

During the past twenty years when irrigation has been most needed because of the prolonged drouth, the possibility of storing adequate irrigation water was nil. During years prior to this, there seemed to be little difficulty experienced because of lack of flood irrigation water. It was felt by your committee that if favorable rainfall conditions made storage of irrigation water possible, the need of such storage supply would not be great enough to make the project advisable. The per acre cost of irrigation and drainage as stated in the engineers report, was approximately \$30.00 for land in Harney Valley and Silver Creek.

Recommendations - - -

We do not recommend irrigation development which would require the construction of a storage reservoir, but do recommend the investigation of the possibility of developing a better irrigation water distribution system and study and demonstrations on the use of irrigation water. It was the feeling of this committee, that often in the Harney Valley region, land favorably situated receives too much water making for lower crop production and tending to prevent the widespread use of run-off water. It is the belief of this committee that additional production of feed crops under intensive irrigation made necessary by a storage system would not pay for the additional taxes and overhead expenses resulting from such a system.

7. Types of Farming and Ranch Set-Up Which is Most Successful

In the belief of this committee, the ranches who over the last number of years have been set-up with an economic unit as far as livestock is concerned (economic unit as set-up by the Livestock Committee), and has sufficient cropland to produce an adequate supply of hay, considering the necessity of a 30% to 50% carry over, is able to produce what feed grain he needs, and has privately owned range enough to fill out his spring and fall pasture, making a completely rounded out set-up with the summer pastures on the public domain, is most likely to be successful in Harney County.

8. Utilization of County Feed Resources

The Situation - - -

It is a recognized fact that one of the principal problems in livestock production in Harney County is the balancing of county feed resources so that

the winter, spring, summer and fall feed supply is some where equal. The table entitled "Actual Use of County Feed Resources", shows the situation as it exists at the present time regarding feed resources for July, August and September using the rate of carrying capacity for the public domain that was set up by the Taylor Grazing Administration.

In the judgement of the committee, either there is more stock on public and privately owned range land during July, August, and September, than the carrying capacity would indicate, or the carrying capacity of the range is set too low.

The following is a statement of the actual units of livestock in the county at the present time and of units recommended for the county by the livestock committee.

ACTUAL UNITS OF PRESENT STOCK

68,200	Beef Units
20,000	Sheep Units
8,000	Horse Units
<u>5,400</u>	Dairy Cow Units @ 1 Cow - 3 Units
101,600	Units

RECOMMENDED UNITS OF STOCK IN GOAL

68,200	Beef Units
34,000	Sheep Units
8,000	Horse Units
<u>6,000</u>	Dairy Cow Units @ 1 Cow - 3 Units
116,200	Units

ACTUAL USE OF COUNTY FEED RESOURCES

FEED	ACRES	TONS	A. OR T. PER A.U.	COW MONTH	JAN.	FEB.	MARCH
Hay Private	103,700 A.	114,100 T.	$\frac{1}{4}$ T. per A.U. Mo.	456,400 A.U.	114,100	114,100	57,050
Aftermath Private	103,700 A.		2 A. per A.U. Mo.	56,850 A.U.			
Hay Bird, Refuge	50,000 A.	50,000 T.	$\frac{1}{2}$ T. per A.U. Mo.	200,000 A.U.	50,000	50,000	25,000
Aftermath Bird Refuge and Pasture	75,000 A.		2 A. per A.U. Mo.	37,500 A.U.			
State and County Range	332,000 A.		10 A. per A.U. Mo.	33,200 A.U.			
Forest Reserve	470,426 A.		10 A. per A.U. Mo.	47,038 A.U.			
Public Domain	3,955,842 A.		10 A. per A.U. Mo.	395,584 A.U.			
Private Range, Summer	287,220 A.		4 A. per A.U. Mo.	71,805 A.U.			
Private Range, Spring & Fall	1,100,000 A.		5 A. per A.U. Mo.	220,000 A.U.			24,444
TOTALS	6,334,188 A.	164,100 T.		1,518,377 A.U.	164,100	164,100	106,494

APRIL	MAY	JUNE	JULY	AUGUST	SEPT.	OCT.	NOV.	DEC.
							57,050	114,100
						37,900	14,214	4,738
							25,000	50,000
						18,750	14,062	4,688
4,743	4,743	4,743	4,743	4,743	4,743	4,743		
		10,453	10,453	10,453	10,453	5,226		
56,512	56,512	56,512	56,512	56,512	56,512	56,512		
		17,951	17,951	17,951	17,951			
48,888	48,888	24,444				24,444	48,888	
110,143	110,143	114,103	89,719	89,719	89,719	147,575	159,214	173,526

RECOMMENDED USE OF COUNTY FEED RESOURCES

FEED	ACRES	TONS	A. OR T. PER COW MONTH	CCW MONTHS	JAN.	FEB.	MARCH
Hay Private	96,000	126,000	$\frac{1}{4}$ T. Per A.U. Mo.	504,000	126,000	126,000	126,000
Aftermath Private	96,000		2 A. Per A.U. Mo.	48,000			
Bunched Hay Private	10,000		.5 A. Per A.U. Mo.	20,000			
Hay, Bird Refuge	40,000	40,000	$\frac{1}{4}$ T. Per A.U. Mo.	160,000			
Aftermath Bird Refuge and Pasture	65,000		2 A. Per A.U. Mo.	32,500			
Bunched Hay Bird Refuge	10,000		.5 A. Per A.U. Mo.	20,000			
State & County Range	332,000		10 A. Per A.U. Mo.	33,200			
Forest Reserve	470,426		10 A. Per A.U. Mo.	47,038			
Public Domain	3,955,842		10 A. Per A.U. Mo.	395,584			
Private Range Summer	287,220		4 A. Per A.U. Mo.	71,805			
Private Range Spring & Fall	1,100,000		5 A. Per A.U. Mo.	220,000			
TOTALS	6,326,488	166,000		1,552,127	126,000	126,000	126,000

APRIL :	MAY :	JUNE :	JULY :	AUGUST :	SEPT. :	OCT. :	NOV. :	DEC. :
							63,000	63,000
				16,000	16,000	8,000	8,000	
						11,122	4,444	4,444
					20,000	30,000	50,000	60,000
					16,250	16,250		
					10,000	10,000		
6,640	6,640	6,640	6,640	6,640				
		10,453	10,453	10,453	10,453	5,226		
65,931	65,931	65,931	65,931	65,931	32,965	32,965		
		20,943	26,928	11,967	11,967			
62,858	62,858	31,428	15,714	15,714	15,714	15,714		
135,429	135,429	135,395	125,666	126,705	133,349	129,287	125,444	127,444

Recommendations . . .

The accompanying table entitled "recommended Use of County Feed Resources" shows the recommended distribution of the use of the feed resources in order to approximately balance the resources for the different seasons of the year. It will be noted in general, that we recommend utilization of some of our hay as bunched hay during the months September, October, November and December along with earlier use of aftermath pasture, thereby allowing a larger number of stock on both the public domain and the privately owned range land for a shorter grazing period.

This recommendation would not be correct if favorable years caused the carrying capacity of Harney County range land to increase, therefore we are assuming that the carrying capacity will remain more or less consistent for at least the next few years.

Respectfully submitted,

Frank Whiting, Chairman	Burns
Nelson B. Higgs, General Chairman	Burns
Glenn Sitz	Drewsey
Clyde P. Weittenhiller	Crane
Wilbur Haines	Diamond
Jack Peterson	Venator
Alfred Johnson	Suntex
Don Hotchkiss	Burns
Ray G. Purdy	Burns
Frank Schmidt	Burns
Obil Shattuck	Burns
George Vilas	Burns
Leland Crump	Andrews
Glenn N. Brown	Crane

THE REPORT OF THE LIVESTOCK COMMITTEE

1. Outlook for Harney County

The Situation - - -

The development of the sugar beet industry along with other general agricultural developments taking place in the Snake River Valley promises to make a larger outlet for feeder stock from the interior sections.

Recommendations - - -

The committee recommends that particular attention be paid to the improvement of quality of feeder stock in Harney County so that feeders in the Snake River Valley can and will be attracted to Harney County for the purchase of feeder stock.

2. Quality Improvement

The Situation - - -

Harney County needs to improve its quality of cattle. This situation is evident from the fact that first class feeders in many sections look for feeder stock in other counties and areas before coming to Harney County. The Silver Creek community and the area around Poison Creek and Silvies River in general have less difficulty in moving their feeder stock at a favorable price because of the general better quality of stock in these areas. It has been noted by your committee that buyers looking for good quality feeders go to these areas first. In the judgment of the Livestock Committee, this whole situation has come about because of the method used in running cattle on the ranges in Harney County. Many small operators have in the past found it difficult or impossible to purchase bulls of first class quality and because stock run in common, a relatively small number of poor quality bulls has resulted in general lack of interest on the part of other breeders in securing animals of the right type. Private or small group allotments on the public domain is going to do much to remedy the above situation, though it should be remembered that several years will be required to build up both the quality and the reputation for quality in cattle. In addition to the advantage in locating buyers, better feeders are becoming more necessary because of the general trend in demand for a better class of meat on the part of the consumer.

Recommendations - - -

(1) We recommend more of a spread in the price of feeder stock between good and poor quality. This could be brought about through government grading cattle and meat, and through the selling of meats in the retail shop on the basis of grade.

(2) We recommend the spaying of cull heifers and cows in order to help cull the breeding herd. This work should be done under the supervision of the Division of Animal Industry of the State Department of Agriculture.

(3) We further recommend the enforcement of the state law which requires that only purebred bulls of approved breeds be placed on the ranges and that there be at least one bull to every twenty five cows.

(4) We recommend the encouragement of the use of bull committees to pass on all bulls used in community or group allotment areas on the public domain and forest lands.

3. Livestock Numbers

The Situation - - -

Census figures on the numbers of livestock in Harney County have been found to be very inaccurate. The cause of this inaccuracy is believed to be the result of a feeling on the part of operators that census information will be used in making up the tax roll information. Operators fail to consider the fact that a large percentage of the stock of the county are accurately recorded on chattel mortgages which are on file as a public record in the county court house. The census figures for 1935 are considerably under the number of stock actually in the county at that time, though in general are not far from the present totals except in the case of the number of the sheep which was reasonably accurate in 1935. The following table gives the situation as to present numbers, also shows the 1935 census figures and the County Agricultural Planning Committees estimates, long time goal, and 1938 goal figures.

	: 1935 Census Figures :	: County Conservation Committee Estimates :	: Long Time Goal :	: 1938 Goal :	: Set-Up By County :	: Number as of Jan. 1 :	: Long Time Goal Set-up by Livestock Committee :
Total cattle all ages January 1	: 73,866 :	: 70,000 :	: 85,000 :	: 70,000 :	: 70,000 :	: 70,000 :	: 70,000 :
Milk cows January 1	: 1,733 :	: 1,800 :	: 2,000 :	: 1,800 :	: 1,800 :	: 1,800 :	: 2,000 :
Hogs and pigs January 1	: 622 :	: 3,000 :	: 4,000 :	: 2,500 :	: 2,500 :	: 2,500 :	: 2,500 :
Sheep and lambs January 1	: 174,079 :	: 125,000 :	: 170,000 :	: 125,000 :	: 100,000 :	: 170,000 :	: 170,000 :
Horses, Mules & Colts, January 1	: 9,417 :	: 10,000 :	: 12,000 :	: 10,000 :	: 8,000 :	: 8,000 :	: 8,000 :
Chickens January 1	: 16,514 :	: 16,515 :	: 18,000 :	: 16,500 :	: 16,000 :	: 20,000 :	: 20,000 :

Recommendations - - -

The Livestock Committee recommends that the number of sheep in Harney County be increased to approximately 170,000 head, and that the number of cattle be maintained at approximately 70,000 head. We further recommend that there be no further increase in the numbers of horses and hogs, and that dairy cows be increased to 2,000 head. We also recommend that the number of poultry be increased to about 20,000 head with more attention being given to the care of poultry in order to supply local demand for eggs.

4. Livestock Exchange List

The Situation - - -

People interested in buying livestock frequently write for information concerning stock and at present there is no central place through which information can be obtained. Having a convenient place for buyers who come into the county to secure information regarding livestock for sale would be a real convenience to the buyers and would often times aid ranchers in moving their stock.

Recommendations - - -

We therefore recommend that the county agent maintain an accurate exchange list, a complete list to be made available to all interested in purchasing livestock upon request. The complete list of livestock for sale should be given to each individual interested so that every rancher would have an equal opportunity in the sale. We further recommend that county agents in eastern Oregon be supplied with copies of this list at regular intervals, so that buyers may secure information more conveniently.

5. Organizations

The Situation - - -

The different livestock organizations in the state render a great amount of service to the livestock operators of Harney County, and at present are receiving very little support financially from ranchers in the county. These organizations are greatly handicapped by the lack of financial support and also by the fact that so few livestock operators are on the membership rolls.

Recommendations - - -

We recommend that such operators support the state livestock organizations by sending in their membership, and we further recommend that the advantages of belonging to and supporting these livestock organizations be discussed with ranchers in the county at every opportunity.

6. Feeding

The Situation - - -

Recommendations of the crops committee are for the production of slightly

more grain in order to round out a good rotation in the crops program of the county. Because of the cost of transporting grain, it is impractical to attempt to compete with outside markets in the sale of grain to livestock feeders in other areas. The production of alfalfa hay on ranches producing feed grains makes the situation favorable for livestock fattening on these ranches. It is recognized that livestock feeding is a specialized job which should not be attempted by every operator. It is further recognized that feeding can not be successful unless it is carried out as a regular annual enterprise.

Recommendations - - -

We recommend that more study and consideration be given the possibility of grain feeding steers in Harney County. This recommendation applies particularly to the rancher who is producing both alfalfa and feed grain. We further recommend that all feeding operations be conducted according to recommendations and information supplied by the Eastern Oregon Experiment Station at Union whose feeding work is carried on under conditions very similar to those found in Harney County. We do not recommend large scale feeding in Harney County, but do recommend feeding carload lots. We advise a livestock feeder to make this enterprise a regular annual project, the main purpose of which would be to market his feed grain and hay.

7. Economic Unit

The Situation - - -

Allotments both on the forest reserve and on the public domain for grazing permits are being based more and more on the number of stock required to make an income sufficient to maintain a reasonable standard of living. This standard of living varies widely with different counties and different areas depending upon the physical conditions of the county or area. Many operations in Harney County have been unsuccessful financially because an attempt was made to run too small a number of stock. In considering economic units, the committee is not taking into consideration the operator who is receiving income from sources other than the livestock produced in the ranch set-up.

Recommendations - - -

The livestock committee recommend ~~that~~ not less than the following as an economic unit for Harney County:

- (1) Cattle - 200 breeding cows
- (2) Sheep - 2000 breeding ewes

We further recommend that livestock people expecting to go into business in Harney County make a very careful study of the situation before attempting to set-up operations on less than the above standard except in cases where the operator has other sources of income.

8. Fencing Range Allotments

The Situation - - -

More efficient management of range land will be made possible by the fencing

of the range allotments of the public domain and the proper fencing of privately owned land. In addition to the more efficient management which will ultimately improve the carrying capacity of the range, the cost of handling stock on the range will be reduced. The lowering of the death loss of breeding cows by having the range fenced will go a long way toward paying for the cost of fencing privately owned land. In addition, a higher calf crop and better quality stock will result from this fencing program. Normal losses in breeding stock on the open range is about 8% which would be cut to 3% or 4% with proper handling of cattle on a fenced range.

Recommendations - - -

We recommend fencing of private and group allotments on the public domains by the grazing service ~~at~~ rapidly ~~as~~ finance ~~is~~ permits. We further recommend that privately owned range lying in bodies sufficiently large to be useful as range be fenced. The fencing of privately owned range land is greatly aided by the present range Agricultural Conservation Program.

9. Wild Life

The Situation - - -

Some wild life conservationists would have us believe that livestock and wild life do not belong in the same area or on the same ranges. We believe this attitude comes about from lack of understanding of actual conditions found in the game areas of the range country rather than any selfish desire to do away with the range livestock operations. With a view of explaining the opinions of people who have lived all of their lives with both game and livestock, we present the following statement:

Wild life conservation has a place in the livestock business of this and other counties, and should receive the support of every stockman in the county. Livestock and game management present similar problems and range properly handled by stockmen will improve both for game and for livestock. This area being largely a big game area, we wish to call attention to those concerned that the principal big game problem is one of winter feed. The supply of winter feed is in no way affected by the livestock on the ranges. Better distribution of big game in the winter feed area is important from the standpoint of maintaining both the winter feed and the herds of big game. We would like to point out further that predatory animals in Harney County take tremendous tolls on both big game and game birds.

Recommendations - - -

We recommend that the stockmen of Harney County cooperate with the wild life conservation program, and wherever possible become affiliated with wild life and sportsmen's organizations for the purpose of bringing about a better understanding between the two groups and to familiarize themselves with the problems confronting the sportsmen.

10. Carry Over Of Hay

The Situation - - -

Frequently your committee has heard comments regarding the so called oversupply of hay in Harney County. It has been said by many that there is a very great oversupply of hay, and that this condition has been brought about by the fact that grazing regulations have caused livestock numbers to decrease. We would like to call to your attention the fact that in the memory of the members of this committee, there has been little hay loss because of an oversupply of hay. A number of times, when a year or two before there was apparently too much hay in the county, livestock operators had to run for feed.

Recommendations - - -

We recommend that from 30% to 50% of the normal annual requirements of hay and grain be carried over as a safety measure to insure adequate feed for the following year. Based on present numbers of stock, this would seem to mean an annual consumption of approximately 120,000 tons with a carry over of from 40,000 to 60,000 tons or total hay in the stack for the fall of 1938 amounting to approximately 180,000 tons.

Respectfully submitted,

Paul Stewart, Chairman
Tom Jenkins
Glen Sitz
David T. Jones
Stanley Venator
Peter Obigie
Paul Peterson
Joe Fine
Grover Jameson
Harry Williams
C. A. Miller
Fred Smyth
Harley Hotchkiss

Crane
Diamond
Drewsey
Suntex
Venator
Burns
Venator
Frenchglen
Burns
Suntex
Drewsey
Diamond
Burns

THE GENERAL SITUATIONCrop Acreage by Census, Conservation Association and Crops Committees

	<u>GRAIN</u>				:County Agri. Cons. Committee Report:			
	: 1919	: 1924	: 1929	: 1934	: 1937	: 1938	: Long Time	: Crops Committee
	:	:	:	:	:	: Goal	: Goal	: Long Time Goal
Wheat for grain	: 1159	: 991	: 2160	: 1153	: 3000	: 3000	: 3000	: 6000
Rye for grain	: 2217	: 284	: 720	: 995	: 1500	: 1500	: 1500	: 1500
Oats for grain	: 549	: 1303	: 2816	: 2781	: 4000	: 2000	: 4000	: 2500
Barley for grain	: 1052	: 795	: 2667	: 575	: 2500	: 1500	: 5000	: 3500
Mixed cereals for grain	: 0	: 0	: 39	: 30	: 0	: 0	: 0	: 0
TOTAL GRAIN HARVESTED	: 4977	: 3373	: 8402	: 5534	: 11,000	: 8000	: 13,500	: 13,500

	<u>HAY</u>				:County Agri. Cons. Committee Report:			
	: 1919	: 1924	: 1929	: 1934	: 1937	: 1938	: Long Time	: Crops Committee
	:	:	:	:	:	: Goal	: Goal	: Long Time Goal
Grains cut for hay	: 9555	: 4473	: 8853	: 6606	: 6000	: 8000	: 5000	: 5000
Alfalfa	: 5611	: 10595	: 6462	: 3399	: 12000	: 5200	: 25000	: 15000
Sweet Clover	: 37	: 714	: 257	: 0	: 2000	: 700	: 5000	: 5000
Other tame hay	: 6310	: 4516	: 6279	: 68	: 70000	: 70000	: 56000	: 66000
Wild Hay	: 51494	: 29652	: 79232	: 40506	: 20000	: 20000	: 15000	: 15000
TOTAL HAY	: 73007	: 49,860	: 101,083	: 50,579	: 110,000	: 103,700	: 106,000	: 106,000

	<u>MISCELLANEOUS</u>				:County Agri. Cons. Committee Report:			
	: 1919	: 1924	: 1929	: 1934	: 1937	: 1938	: Long Time	: Crops Committee
	:	:	:	:	:	: Goal	: Goal	: Long Time Goal
Small Fruits	: 1	: 0	: 2	: 5	: 47	: 50	: 300	: 300
Potatoes	: 161	: 104	: 130	: 88	: 150	: 150	: 500	: 500
Roots crops for food	: 0	: 0	: 0	: 0	: 0	: 0	: 100	: 100
Clover & alfalfa seed	: 0	: 0	: 0	: 62	: 0	: 150	: 200	: 300
Grass seed	: 0	: 0	: 0	: 0	: 0	: 200	: 500	: 500
Vegetables	: 15	: 0	: 11	: 0	: 20	: 15	: 20	: 20
TOTAL	: 177	: 104	: 205	: 93	: 217	: 565	: 1620	: 1720

Because of climatic conditions, length of growing season, and distance from market, Harney County is essentially a livestock feed producing area. Crop production in the most part will be confined to producing hay and grain with a few specialty cash crops as alsike clover seed, crested wheat grass seed, and potato seed for export market, and a very small acreage of small fruits, vegetables and potatoes for local consumption. People buying land in Harney County expecting to make a business of producing crops other than livestock feeds should analyze the situation very carefully before making an investment. The opening statements in the report of the Land Use Committee deals further with the situation as to crop possibilities in Harney County. With a view of making any necessary changes in the figures compiled by the County Agricultural Conservation Planning Committee, the Crops Committee went over their report and made their recommendations as shown in the right hand column of the following table as being desirable from a long time goal standpoint. The following is a summary of that report showing the census figures for 1919, 1924, 1929, and 1934. The Conservation Committee estimates as of 1937, the long time goal, the 1938 goal, and this committee estimates on a long time goal. The only difference of any great importance between the Crops Committee long time goal and that set up by the Conservation Committee is in the acreage of alfalfa. This is taken up and discussed in detail in the hay section of this report. Also the committee thought more wheat and less barley and oats should be grown.

1. GRAIN

1. The Situation - - -

(1) It will be noted from the study of census figures given in the first part of this committee report that the acreage of grain varied from slightly under 4000 acres to over 8000 acres. In the period from 1919 to 1934 this variation can largely be accounted for by rainfall or moisture conditions along with the variation in the acreage of alfalfa, most of which variation was due to winter killing. In the years since 1934, the general trend has been upward in the acreage of grain and grain hay to supplement the amount of hay harvested which has been showing a general decrease since 1929. The acreage of hay harvested has been increasing slightly because of the necessity of cutting acreages pastured in former years. Lower yields has resulted in a relatively small amount of hay in the last 8 or 10 years bringing about the necessity of increasing the acreage of seed grain and grain hay.

(2) Census reports show the yields of wheat to be 12.3 bushels per acre in 1935. This is lower than the reported yield for 1930 and it is believed by your committee to be low for an average on land adapted to the production of wheat. Accurate yield data in different sections of Harney County is not available at the present time but it is believed yields of all grains will vary widely because of the wide variation in rainfall in different sections of the county.

(3) The following table shows the average price received for the various grains during the period of 1926 through 1935:

Wheat	- not available
Rye	- 85.8¢ per bushel
Oats	- 48.7¢ per bushel
Barley	- 62.0¢ per bushel

In general it is the belief of your committee that the price of grains does not

warrant shipping these grains to outside markets. This is particularly true when we consider the relatively low yields that have been made on the grain produced.

(4) In general the wheat, barley, and oats are being grown on land which is either partially irrigated by spring flood water or is in the sections where rainfall has been in excess of 8 inches per year. Barley and wheat have been grown in fields formerly in alfalfa and barley or oats on native meadows being broken up. Most of the rye produced in Harney County is in areas rather well defined by lack of irrigation and rainfall.

Recommendations - - -

(1) Your committee has recommended a general increase in the acreage of grain to 13,000 acres as compared with an average acreage of 5500 over the period 1919 to 1934. This recommended increase is in line with the recommendations of the Livestock committee that more consideration be given the possibilities of grain feeding livestock and is in line with the necessity of working out better rotation systems with alfalfa production and the necessity of breaking up low producing native meadows to either reseed or seed to alfalfa. Approximately 3 or 4 carloads of grain and 2 carloads of other concentrated feed are shipped in for livestock annually. Increasing the acreage of grain will tend to correct this situation. The present system of handling grazing lands in the public domain is tending to make a longer ranch feed period which ultimately will increase the demand for grain. We recommend a larger increase in the production of wheat than other grains, because of the fact that the price on wheat is usually slightly over other grains and the feed value of wheat somewhat higher. It was the thought of the committee that more land was adopted to the production of wheat than to the production of oats and barley. We realize that the present AAA program for wheat makes an increase in wheat unadvisable. Considering this fact the wheat acreage should be left at 3,000 and oats at 4,000 with 5,000 acres of barley, if the AAA program makes it not profitable to grow wheat for a local feed grain.

(2) We recommend the following varieties of small grains:

1. Wheat - Federation, Bart
2. Barley - Union Beardless, Trebi, OAC No. 7
3. Oats - Markton
4. Rye - We urge that further experimental investigation be made on varieties of both spring and fall rye adapted to Harney County. It is our belief that the rye being grown locally is badly run out and that improved strains of all varieties would increase present yields.

(3) We recommend that where production of grain on dry land is necessary, better summer fallow methods be practiced. It has been noted by your committee that summer fallow in many areas is not thorough enough to properly conserve moisture necessary to produce a good grain crop. In some cases this will involve the purchase of rotary or blade weeder used in shallow tilling the soil to prevent weed growth.

(4) We recommend that grain be grown on alfalfa land at least one year before an attempt is made to reseed to alfalfa.

(5) We recommend that all grain seeded in areas where smut has been a problem be treated preferably with the new sersan treatment. This treatment has been found to be very economical and more efficient than most other commonly used methods.

2. Hay

The Situation - - -

(1) Over the past 20 years the yields of native hay meadows has been steadily decreasing. This situation has come about as a result of less moisture and a probable decrease in the fertility of the land. In checking over census reports it will be noted that the total acreage of hay has in general decreased since 1919 though census reports are rather inaccurate because of the common practice of pasturing rather than cutting hay in years when the hay supply is large. We believe the acres of wild hay as reported in the census is much too high and wish to define wild hay as follows: "Wild hay is hay produced on land on which there is no possibility of producing hay of better quality or of producing other than hay crops. Tame hay is that produced on land suited to other agricultural crops or hay containing other than native grasses and hay produced under a system of artificial water distribution and control."

(2) The following table gives a summary of cost of producing both wild hay and alfalfa in Harney County as determined by a survey made in 1927. Cost would vary only slightly from that date except as they would be changed by a change in the yield per acre. Average yields on the ranches surveyed are indicated in the table.

SUMMARY OF COSTS OF ALFALFA HAY AND WILD HAY IN
THE HARNEY VALLEY IN 1927

	Alfalfa Hay		Wild Hay	
	(3.1 tons per acre)		(1.1 tons per acre)	
Number of farms	24		33	
Number of acres	1074		7507	
Number of tons	3285		8365	
Items	Per acre	Per Ton	Per Acre	Per Ton
Direct man labor	\$5.95	\$1.95	\$1.64	\$1.47
Overhead man labor	1.07	.35	.32	.29
Horse labor	2.26	.74	.66	.60
Machinery	1.08	.35	.32	.28
Automobile	.11	.04	.06	.05
Taxes	.84	.27	.49	.44
Interest on land value	3.62	1.19	1.96	1.76
Depreciation of stand	.95	.31		
Miscellaneous*	.32	.10	.01	.01
TOTAL	\$16.20	\$5.30	\$5.46	\$4.90
Credit for pasture	1.32	.43	.57	.51
TOTAL NET COST	\$14.88	\$4.87	\$4.89	\$4.39

*Seed for thickening stand, poison, and materials for fencing stacks and for irrigation dams.

The average estimated value of the wild hay land was \$39.00 per acre, and of the alfalfa land \$72.00 per acre.

Figures on the cost of producing ~~of~~ grain hay are not available.

(3) Alfalfa normally sells at approximately \$8.00 per ton with the price varying ordinarily between \$6.00 and \$10.00. The selling price of native hay varies from approximately \$4.00 to approximately \$6.00 per ton. Buying native hay at \$4.00 to approximately \$6.00 per ton in the stack is in many instances cheaper for the livestock feeder than growing his own hay and feeding it, when we consider that it costs approximately \$1.00 per ton to feed.

(4) We would like to point out that a larger hay production is going to be necessary with a shorter ^{range} period under the present set-up for range grazing program. At present ranchers figure it takes up to approximately 1 ton per animal unit which would probably be increased to about 1.3 tons per animal unit and at the same time a long ranch pasture period will be necessary.

Recommendations - - -

(1) We recommend increasing the acreage of land used for the production of hay to approximately 106,000 acres of which approximately 15,000 acres will be devoted to the production of alfalfa. Considering present available yields, this will produce about 136,000 tons of hay which could be increased by about 25,000 tons by thickening up low yielding meadows with adapted varieties of tame grasses and by reseeding low producing alfalfa stands.

(2) We recommend seeding alsike clover, timothy, red top, and meadow fescue, on native meadows with a mixture such that alsike clover will make up approximately 1/3 of the mixture by weight. This seeding should be done in the fall and the meadows should be thoroughly disced and drag with a spike tooth harrow after the seed is applied. We further recommend that trials be made under the supervision of the Experiment Station and the Extension Service to demonstrate the possibility of renovating low producing meadows by ^{different} this method of tilling or cultivating.

(3) We do not recommend that native hay meadows producing 3/4 tons of hay ^{or more} be broken up for the purpose of seeding to alfalfa. This recommendation is substantiated by the comparison of the cost per ton of native hay and alfalfa. It is the belief of your committee that the added value of alfalfa for wintering livestock does not warrant the extra cost of producing the hay and certainly does not warrant the additional purchase price of the hay. This is not true when considering alfalfa to use with grain in fattening stock or to use as feed during early lambing for ewes.

(4) We recommend the pasturing of native meadows in order to control surplus of hay, considering the recommendations of the Livestock Committee of a 30% to 50% carry over of hay as a safety measurement. More use of a native hay meadow for pasturing will result in stock coming through the winter in better shape and in a larger calf crop. This pasturing should be done while the hay is still green wherever possible.

(5) We recommend that experimental work be carried out by the Harney Branch Experiment Station on the following: (a) method of reseeding or thickening native

hay meadows; (b) cultivation or tillage of native hay meadows; (c) fertilizers on native hay meadows and alfalfa grown under flood irrigation; (d) growing native clovers or grasses in order to determine the possibilities of such native clovers and grasses for use in reseeding native meadows; (e) methods of seeding crested wheat grass on range land. We further recommend that wherever possible, ranch experiments and trials be conducted under the supervision of the county agent and that the county agent be urged to make collections of native grasses and legumes seeds for experimental work, and check the varieties and yields of various types of native grasses along with their relatives feeding value.

(6) We recommend the production of sweet clover for hay and pasture on lands too alkali or too wet for alfalfa on which the stand of native hay is such that the yield is running below $3/4$ tons per acre.

(7) We recommend that the county agent be responsible for organizing each fall and each spring a seed pool through which ranchers may purchase seeds of approved varieties and quality. And we further recommend that ranchers ^{who} seed alfalfa and standardize on the Ladak variety.

3. Miscellaneous Crops

The Situation - - -

Such crops as potatoes, crested wheat grass seed, alsike clover seed, small fruits (strawberries, currants and gooseberries and so forth), and certain hardy vegetables can be produced in sufficient quantities to supply demands within the county. As the potato industry develops in the Snake River Valley, growers in that section are going to have to look to areas of higher elevations for their potato seed supply.

Recommendations - - -

(1) We recommend the production of approximately 300 acres of small fruits to supply local demand. This acreage will be made up of hardy cane fruits, strawberries, gooseberries, and so forth. We further recommend that the Harney Branch Experiment Station conduct experiments to determine what varieties or strains of small fruits are adapted to Harney County.

(2) We recommend the production of approximately 500 acres ^{of} potatoes which about 100 acres would be seed of a variety recommended for the Snake River Valley. This area is now purchasing seed from Baker County, and from Idaho and Wyoming. We believe this market can be supplied at a price to compete with these areas. The additional increase in potato acreage is to supply the local market for Harney County. Potatoes should be grown on land carefully selected for that purpose.

(3) We recommend the production of approximately 300 acres of clover seed and alfalfa seed most of which should be in alsike clover. Alsike Clover seed can be successfully grown in areas with a shorter growing season than we have in Harney County. If meadow improvement by the use of grass and legume seed mixtures is carried out in Harney County, there will be sufficient demand to take care of the above acreage. During the past years, alsike clover has averaged approximately 19¢ per pound and makes a yield of between 200 and 300 pounds per acre, on an average. The uncertainty of the yield of alfalfa seed in Harney County makes this

project unadvisable except for production of seed for the ranchers own use.

(4) We recommend the production of approximately 500 acres of crested wheat grass seed to supply demand. We also recommend that further investigations be made as to the possibility of seeding crested wheat grass, first, on range land, and second, on dry crop land both for pasture and for hay.

Respectfully submitted,

W. T. Van Derveer, Chairman	Drewsey
Harry Withers, Vice Chairman	Burns
Josef Lillard	Drewsey
J. C. Cecil	Burns
Robert Drinkwater	Burns
Glen Clemens	Burns
W. L. Best	Suntex
Stanley Ausmus	Lawen
Dick Jenkins	Diamond
Fred Peters	Princeton
D. W. Williams	Drewsey
Lee Johnson	Suntex
Francis Venator	Venator
Obil Shattuck	Burns
Louis Hughet	Burns
Paul Weil	Burns

Report and Recommendations

of the

FARM HOME AND RURAL LIFE COMMITTEE

Purpose of the Committee

The purpose of the Farm Home and Rural Life Committee of the Economic Outlook Conference is to study and analyze national and local conditions that affect the home, and to draw up recommendations for a long-time program on the betterment of the homes of Harney County. The committee hopes that by having a clearer picture of the main problems of the homes of the county, and by suggesting possible ways of solving together these problems, families will be assisted in working and planning together for a finer home life and a more cooperative community life.

Family life is the basic social institution of the nation. The American farm home offers the best opportunity for the conservation of American civilization and culture. To that end we urge serious study and consideration of the problems involved, and a whole-hearted desire to eliminate the objectionable features which tend to reduce the ideal and practical as well as desirable standard of living.

The committee has studied three subjects that have direct effect upon successful and happy farm home life: (1) sound financial management; (2) a convenient, satisfying house; (3) good, nutritious food.

Additional discussion and suggestions are given in the last section of this report under the title of "Appendix of the Farm Home and Rural Life Committee *Report*". Information given in this last section maybe helpful in carrying out some of the recommendations in the report.

1. Report on Financial Management

A. Outlook and Findings

Statistics on the value of Harney County farm products sold, traded, or used by the operator's family are available for the year 1929. This year is chosen because conditions have scarcely been normal since then.

Under	\$ 600.	. . 16.5%
\$ 600 -	\$1,000.	. . 12.6
\$1,000 -	\$1,500.	. . 10.5
\$1,500 -	\$2,500.	. . 16.8
\$2,500 -	\$4,000.	. . 13.8
\$4,000 -	and over.	. 29.8

These figures represent gross incomes from farms. They do not tell how much money was made for the net income. Farmers' accounts are usually too incomplete to know what the net income is and for what it was spent. In order to receive maximum value for their expenditures, rural families should budget family expenses and should use simple farm and home accounts. The operation of a farm is also a business, and only

by conducting the farm and home on a business basis can the fullest benefit be derived from the farm income. Therefore -

We recommend that farm families budget their income carefully, and that they keep joint farm and home accounts in order to insure well-balanced spending and more abundant living. The family budget should provide, food and clothing necessary for health, comfortable houseing, family recreation, savings, provision for old age, and adequate insurance.

11. Housing

A. Outlook and Findings

A survey was taken in order to secure data on housing conditions in Harney County. Facts concerning a number of typical homes were checked and summarized.

This housing survey showed that only about 1/8 of the homes had running water systems. Two thirds of the women carried water on an average distance of 35 feet. About 1/2 had kitchen sinks with drains. Most of the homes had unimproved outside sanitary facilities and used surface drainage for disposal of sewage. Only one-fifth of the homes had bathtubs and lavatories.

One home had a private electric plant. None were on an electric power line.

A survey of the condition of the houses showed need of replacement and repair in many cases, especially of screens, floors, roofs and wall coverings. Insulation, which is so valuable in keeping houses warm in winter, was lacking in practically all houses surveyed.

About half of the home yards and lots had fences to keep out poultry and livestock; one-eighth had walks and drives and lawns.

B. Recommendations on Housing

1. Water system and sanitation

Water systems, including hot and cold running water, are one of the items of first importance in home improvement. Either gravity or pressure systems with hot water coils in cook stoves can be installed at comparatively low cost. Therefore

- a. We recommend that those homes not having hot and cold water system make this their major improvement.
- b. That more homes be provided with bathrooms and complete bathroom fixtures including lavatory and shower.

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Due to the importance to the family of a pure water supply, and recognizing the danger of pollution of the water supply from the large amount of surface drainage and lack of sanitation, -

- c. We recommend that the water supply for farm homes be tested for purity at least once a year, through the county extension office or the county health department, and if found impure, that means be taken to remove the cause.

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Due to the menace to health of the large number of unimproved outside toilets, which could be improved at a small cost, -

- d. We recommend that outside sanitary facilities be improved, and that an educational program be developed for this purpose.

Septic tanks are the only sanitary and healthful means of disposing of rural sewage, and they can be installed for about \$30.00 each exclusive of labor. Therefore -

- e. We recommend that those homes having water systems but not having septic tanks should make this one of their major improvements.
- f. We recommend that screening and control of the breeding of flies be prompted.

2. Fire Prevention.

Defective chimneys are a common cause of destruction of farm homes by fire. Chimney flues are often not built tight. Heat often causes flue tiles to separate and fall out, and the mortar between bricks to fall out, thus allowing sparks to fall on inflammable materials. Therefore -

- a. We recommend that chimneys and chimney flues to be inspected at least twice a year, and that defects be corrected.

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III. Report on Foods and Nutrition

A. Outlook and Findings.

An adequate food supply is one of the first necessities of the home. The foods supply should be adequate not only in amount, but also in its content of proteins, vitamins, minerals and other essential nutrients that comprise a balanced diet. The newer knowledge of nutrient teaches us that milk, eggs and other proteins, vegetables, fruits and whole grain cereals are the essential foods for normal persons. The maintenance of the health of the family, and the normal growth and health of children, depend largely upon the regular use of the right proportions of these foods in daily meals. Successful home life, efficiency in work, and happy social attitudes and relations are influenced, not only by sound economics and modern conveniences, but also to a great degree by the physical condition and health of individual members of the family. A large percentage of

the illness that comes to men and women in maturity is due to improper food habits at some time in life, often in early childhood.

A county-wide study of the nutritional conditions of Harney County has not been made. A federal study, however, has been made of diets of Pacific Northwest families of moderate income, and this study showed that one-fourth of the families were consuming adequate diets; 15% had second rate diets; 40% had third-rate diets; and 20% had fourth-rate diets. In other words, 60% of the families were using diets that were less than good.

B. Recommendations in Foods and Nutrition

1. Food selection habits

Homemakers could well devote more time and thought to a program of feeding the family for health. Therefore -

- a. We recommend that better nutrition practice be developed by an educational program in food selection. That this program be carried on through the public schools, the 4-H Clubs and through reliable agencies for adult education.

The men and boys on farms often realize the importance of balanced rations when feeding livestock, and they carefully provide proteins, minerals and vitamins for them. However, they often choose their own food for personal whim, fad or tradition. Homemakers cook to please the men folks. Therefore -

- b. We recommend that men and boys be included in the afore mentioned educational program in food selection

The public is continually being bombarded with statements about foods, drugs and cooking equipment for health, in commercially inspired magazine articles, advertisements, radio broadcasts and sales talks. Many of these statements are extremely misleading and gross exaggerating of scientific facts. It is very difficult to separate fad from fact and truth from chaff. The public is being exploited and frightened into spending large sums on unwise purchases of foods, drugs, saucepans and other equipment. State and national food and drug laws are inadequate. They do not protect the consumer from false advertising. Since advertising is the main source of income of the press, good bills are defeated by powerful press lobbies. In view of this confusing situation, therefore -

- c. We recommend that the homemakers of Harney County should seek reliable sources for facts on nutrition. That they should learn to evaluate advertising of foods, drugs, saucepans and other equipment as a protection of the health of the family and also as a protection of the family finances. That new food, drug and cosmetics laws should be passed that will protect the consumer from present fraudulent, misleading practices.
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The system on planned community meals is in harmony with the program for intelligent food selection and eating habits. Planned meals can also be served with less labor and less cost than unplanned meals. Therefore -

- d. We recommend that a system of planned community meals be used where possible instead of "potluck" meals.

2. Home Food Production and Home Food Preservation

The rural families of Harney County are able to supply many of the essential foods through home production. Home production and home preservation of the family food supply reduce expense, provide the healthful types of foods in fresh, palatable condition, and give healthful outdoor life to all members of the family. The money saved by home production and home preservation of food can wisely be invested in education of the children, in home conveniences and home beautifications, or for the enjoyment of whatever the family most desire^s.

In trying to raise vegetables for home supply, Harney County has a serious water problem. Many of the ranches lack water except in the early summer. Some sections have alkali water, which prevents the proper growth of vegetables. However the value of home production of vegetables is recognized, and demonstrations for gardens are ~~demonstrated~~^{desired}. Green and yellow vegetables and tomatoes should be emphasized. The growing of fruits is greatly limited. Therefore -

- a. We recommend that farm families where possible raise and plan for adequate supplies of vegetables and fruit to meet the family needs.

That demonstration gardens for irrigated and non-irrigated conditions be established.

That garden rows be wide enough for horse and man to cultivate.

That a campaign of insect and rodent control be made.

That 900 pounds of potatoes be stored and 90 quarts of tomatoes or tomato juice be canned, for every four persons in a farm family, as a safety measure in balancing the diet.

We recommend that at least 2 servings of vegetables other than potatoes be served daily to normal persons.

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The consumption of one quart of whole milk daily in some form by each child, and one pint by each adult, is recognized as one of the fundamental requirements of nutrition for normal people. Therefore -

- b. We recommend that each farm family maintain two or more dairy cows in order to provide a continuous supply of milk.

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A minimum of one egg daily per person throughout the year is a standard nutrition requirement for normal people. Therefore -

- c. We recommend that farm families where possible maintain a flock of at least 25 pullets for every four persons.

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Farm families can effect a large saving of expense for food and gasoline by preserving supplies of food for future use through canning, storing, drying, curing, and in some places by freezing. Therefore -

- d. We recommend that home preservations of surplus food is a desirable practice, the methods of preservation to depend upon individual circumstances.

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Non-acid foods are subject to botulinus poisoning when canned, unless a temperature higher than boiling is used in processing them. This higher temperature can only be produced by canning in a steam pressure cooker and by following correct methods. Therefore -

- e. We recommend that home canning of non-acid foods be done in pressure cookers. This includes all meat, fish, and other seafoods, and all vegetables except tomatoes. We request that reliable demonstrations be requested on the use of the pressure cooker.

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The presence of botulinus poisoning cannot always be detected by appearance or odor of the canned product. These deadly toxins can, however, be rendered harmless by boiling the product 20 minutes, covered with liquid, after it has been emptied from the jar. Therefore -

- f. We recommend that all home canned non-acid food must be boiled 20 minutes after emptying the jar - before testing - in order to prevent danger from botulinus poisoning. That members of the conference spread word of importance of necessary precaution against botulinus poisoning.

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IV. Report on Boys' and Girls' 4-H Club Program

Boys' and girls' can be encouraged to assist in the program of increased production and consumption of essential foods through enrollment of them in 4-H club projects in Agriculture, Home Economics and Growth and Health. Participation in 4-H clubs gives children training for useful citizenship. It also helps to furnish youth with wholesome social life and recreation. Harney County has approximately 993 children in the 4-H club age, and has only 138 4-H club members. Therefore -

- a. We recommend that 4-H Club Programs be supported by parents and teachers; that larger numbers of efficient leaders be secured; and that 4-H Club membership be increased.
- b. We recommend that each community appoint a 4-H Club organizer to work through the granges, P.T.A. and other community organizations, to assist the county club leader in securing local leaders and in organizing clubs.

c. We recommend that parents be better informed on the aims and objectives and the values of 4-H Club projects, and that information be given through community programs and county-wide meeting.

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V. Report on Recreation

Harney County has 1,023 young people between the ages of 15 and 24 years. Children of this age demand social life and recreation, and are bound to get it in one form or another. Higher standards could be developed among our youth if parents would take the time and energy to plan and provide for wholesome social life and recreation in the home and in the school. Therefore -

a. We recommend that each rural community provide a regular program of recreation for its young people. That adults also have a recreation program.

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We recognize the difference in value among motion picture shows. Therefore -

b. We recommend that moving picture shows of certain types be evaluated, especially in city districts, as a means of economy and also as a means of offering guidance to wholesome recreation.

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Since 17% of the population of the county is between the ages of 5 and 14 yrs. Therefore -

c. We recommend that more play areas and more homemade games and game equipment be provided in the homes.

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VI. Other Methods Of Developing A Home Improvement Program

In addition to the methods already mentioned for developing and carrying out the improvements recommended for Harney County, the committee suggests the following methods:

1. News articles, Radio, Letters.
2. Extension, Federal and State Bulletins.
3. Local group meetings.
 - Grange
 - Home Economics Clubs
 - Health Service
 - Schools
 - P. T. A. Organizations
 - Women's Clubs
4. Home call by specialists and agent
5. Federal agencies - WPA, Forest Service, Consumers' Council AAA
6. Local plumbers, architects, carpenters, hardware dealers, electricians, nurserman.
7. State Board of Health
8. State Nutrition Council

Conclusion

These recommendations are made by the Committee on Farm Home and Rural Life after careful consideration and analysis of existing conditions in the county. The recommendations were made with the idea that several years will be necessary to carry them out, and that it is advisable to begin making improvements as soon as possible in order that some changes may be noted in four or five years' time.

The ultimate purpose and design in making these recommendations is to make the farm home a happier, healthier and more convenient place in which to live. By so improving conditions of living on the farm, the standard of living is also raised for the entire community or district.

Signed: THE FARM HOME AND RURAL LIFE COM.

<u>Name</u>	<u>Address</u>
Mrs. L. L. Reynolds	Crane, Oregon
Mrs. Paul Stewart	Crane,
Mrs. Harry Williams	Suntex,
Mrs. David T. Jones, Secretary	Suntex,
Mrs. Hadden Elliott	Diamond
Mrs. Elsie Cleveland	Drewsey
Mrs. Chas. T. Lillard, Chairman	Drewsey
Mrs. Joe Fine	Frenchlen
Mrs. Al Wallace	Denio
Mrs. J. C. Clemens	Burns
Mrs. Don Hotchkiss	Burns
Miss Lucy A. Case	Corvallis

APPENDIX TO THE REPORT OF THE FARM HOME AND RURAL LIFE COMMITTEE

Suggestions for Improving Housing Conditions

The Water Supply

To safeguard the water supply from pollution, it is imperative that the water in a well or spring be at a higher level at all times than any nearby sources of filth.

Wells should be located on clean ground, and widely separated from probable channels of impure drainage. Wells should also be provided with water tight casing and watertight platforms.

Springs should be curbed and covered to keep out surface wash and to prevent dripping. Water should be drawn only through natural flow through a pipe, or by pumping.

Purity of Water

Surveys show that many water systems have small streams as the source of

the water supply. The impurity of a spring, well or stream is often suspected before the existence of a disease becomes definitely known. Suspicion may be created by odor or taste of the water, or by minor intestinal ailments. However, one cannot judge purity by appearance, taste or odor.

Wells and springs and all when properly located and protected should seldom become polluted. Streams on the other hand, are unsafe sources of water supply if the water above the point of diversion is not well protected. All new sources of water supply should be tested for purity before being consumed. Likewise, frequent testing for purity is a good practice. Purity of the water supply should be the first consideration of the farmer. The bacteriology department of Oregon State college is cooperating with the farmers to the extent that it will test samples of water for purity free of charge, and provide helpful suggestions for improvements. Instructions for taking water supplies and shipping are furnished by the bacteriology department upon request.

Types of Water System

Gravity

Many farms have elevated springs or streams as the sources of the water supply, which are piped to the buildings, forming a gravity system. Where this is possible, such a system is superior to any other kind, because the installation is generally inexpensive and simple, and the pumping cost is saved.

The size of the supply pipe from the source to the buildings depend upon the amount of water desired and the distance the water must be piped, as well as the height of the source above the buildings. These factors should be carefully determined before the system is installed. With almost no exception the size of the gravity supply pipe should be not less than $3/4$ of an inch in diameter.

Hydropneumatic tanks can often be used in connection with a gravity system which stores water under pressure. The tank can usually be located conveniently in a utility room, basement or cellar.

Pumping Systems

Automatic

Where electricity is available, the first and most useful job it can be given is that of pumping water.

There are two main types of automatic electric pump as applied to the farm: the shallow well pump and the deep well pump. The shallow well pump is for wells where the suction lift (vertical distance from the water level to the pump cylinder) is not over 22 feet. This type of pump may be installed in any convenient location in the basement, shed or pump house. The average capacity shallow well pump with a 42-gallon pressure tank will cost \$75.00.

Sewage Disposal

Septic Tanks

An effective sewage disposal system consists of drains for receiving the waste

from the house, a septic tank, and seepage drain. The septic tanks are merely a place where most of the sewage and solid materials are decomposed into liquids and gases. No septic tank can be constructed nearer than 10 feet from any building, and the drainage system should be located at least 100 feet from the well, spring or stream used as a water supply. This is in accordance with the Oregon Plumbing Code.

There are principally two kinds of septic tanks; the commercial metal tank and the concrete tank.

The United States Public Health Service recommends the use of a septic tank of not less than 500-gallon capacity. A metal tank of this capacity will cost approximately \$30.00, while a concrete tank of similar capacity can be built for a few dollars less.

Smaller tanks operate satisfactorily for a few months until it becomes necessary to clean them out in order to keep the sewage system functioning properly. If septic tanks are neglected for an indefinite period, the drainage system will become clogged with decomposed material, thus causing the fixtures in the house to operate sluggishly. Septic tanks of the proper size installed at the outset will reduce the necessity for tank cleaning to a minimum.

Drainage grease, etc. into septic tank. When normal amounts of grease, soapy water and cleaning materials are drained into a septic tank, no harmful results will follow. However, strong solutions in large amounts will have a detrimental effect on the bacteria in the tank. If excessive amounts of grease are to be handled it is advisable to install a grease trap between the sink and the septic tank.

Septic Tank Drainage System. V-Trough System. An improved drainage system consists of an inverted V-trough constructed of 2x12 planks lying in a ditch on a 6-inch bed of gravel. A few more inches of gravel is then placed over the inverted trough, and the ditch is filled to the top with ordinary dirt. With the space obtained with this system there is little chance for the drain line to become clogged, as is often the case when clay drain tile is used. The affluent flowing from the septic tank tends to collect at the joints in the clay tile and eventually seals the opening so that proper drainage is not obtained. This situation does not occur when V-trough drainage system is used. Under ordinary conditions only 10 feet of the inverted trough per person is necessary.

Outside Toilets

Outside toilets are still subject to much improvement. For health reasons it is necessary that cooperation be given by all members of the family in seeing that this feature of farm and home living be investigated and improved. The expense of such improvement to meet sanitary requirements need not be great, since home materials and home labor can be utilized cheaply.

The committee therefore recommends that more improvement in regard to outside toilets be made - their construction, ventilation and screening, and their position in regard to the source of water supply, stock drinking troughs, and drainage away from the house.

Assistance From Oregon State College Extension Service.

Farmers who desire assistance with their water supply and sewage disposal problems should consult their county agent.

Everett H. Davis, Extension Agricultural Engineer, with headquarters in Corvallis, is state specialist of the rural water supply project, and is available to make individual surveys, particularly during the winter months.

A few publications covering the subject of water supply, plumbing and sewage disposal are available through the Oregon State Extension service.

Electrification

Only 43.2% of the farms in Oregon having occupied dwellings are now receiving electric service. It is interesting to note, however, that the percentage of electrified farms in Oregon is double the average for the United States. Only 17.5% of the farms having occupied in the United States have electric service (June 1937).

Regardless of the advanced position or rural electrified conditions in Oregon, there are questions that should be answered relative to how the unserved farms in Oregon can or should obtain electric service.

How are the Electric rates in the rural areas of Oregon as compared with rates throughout the country?

An analysis of the report on Rural Electrification Service by the Federal power Commission in 1933 shows that the cost of electric service in the rural areas of Oregon falls considerably below the average for the United States.

Is it possible or feasible to organize cooperative power districts to be financed by a loan from the Federal Rural Electrification Administration?

A Minimum project would be twenty-five miles, with a minimum density of three customers per mile. This must not include farms now having electric service. The cost of management for a project of less than several hundred customers usually becomes so high per customer that the project is not acceptable to the farmers.

Are farm lighting plants a satisfactory source of low cost electricity?

If farms cannot get electricity from any other source, farm electric lighting plants can render a great service. ~~Machinery and Mechanically~~ they are quite dependable. The cost of electricity from these plants, however, is several times greater per kilowatt hour than the rural power rates in Oregon (University of Nebraska Bulletin 235). If a farmer should have to choose between paying \$200 to \$300 for a farm electric lighting plant, and paying the same amount to get a cooperative power district or power company to build a line to his farm, the latter would be less from the power line, and the farmer would not have the maintenance to pay on the power line as he would on the electric lighting plant.

The committee recommends that investigations be made into the cost of wiring the house and farm for electricity, and plan to install it if at all possible. Electricity is a convenient labor saver in executing farm as well as household duties, and is a stimulant for better living, physically and mentally. The committee wish

also to recommend that county-wide projects be conducted in Better Home Lighting, so that the family may obtain the most out of electricity employed for specific purposes in the home and on the farm; that demonstrations be given to better familiarize people with the cost of operation of electrical equipment, both on the farm and in the home; and to encourage proper home decoration so the principles of good lighting will not be contradicted by improper use of shades, wall furnishings, size of globes and location of lamps.

For the large number of Harney County homes that are not electrified, it is recommended that a special project be brought to the county covering Furniture Arrangement, with the purpose of demonstrating room arrangement that will give to the members of the family the maximum amount and correct uses of light from the sources available, and thus insure "seeing safety".

It is advisable to consult with the Home Service representatives of the local power companies for assistance on much of the desired information. Help can also be secured from the Oregon State Extension Service specialists in Agricultural Engineering and Home furnishings.

Devices for making old houses more convenient and comfortable

A. Storage Space

Where closets for clothing, bedding, linen etc are needed, they can often be built along the side of the room or in a corner by making a simple framework of plywood or other boards and painting ~~or~~ papering it to match the rest of the room. Pipes or rods may be fastened lengthwise to support clothes hangers. This portable closet may have doors of wood, or a curtain hung across the front side.

Where greater storage space for fresh vegetables and fruits is needed, several types of arrangements are possible. An insulated storage room on the level of the kitchen may be built, the walls to be lined with sawdust. Outdoor pits or cellars can be dug and insulated with dirt or stone. A cold room is often built in the side of a bank. It is possible to build waterproof basements under the old houses for food storage and for installation of furnaces. Where a basement performs both of these functions a stone, concrete or other insulated wall should separate the food storage room from the furnace room.

B. Insulation

Houses are easier to keep warm in the winter time and cool in the summer time if they are insulated. Insulated houses are also easier to keep clean. Old houses may have interior walls insulated by lining the inside of the room with one of the many types of wallboards or composition sheeting. The new interior wall surface may then be painted, papered or kalsomined according to taste and according to material.

Insulation of attic floors is one of the most practical ways of keeping a house warm. Warm air raises and often escapes out between the shingles on the roof. When an attic is insulated, the warm air is sent back down into the house, and helps to keep it warm.

An old house that has an attic can readily be insulated by filling the space between the floor joints with one of the many insulating materials and nailing boards or plyboards over it to hold it down tightly.