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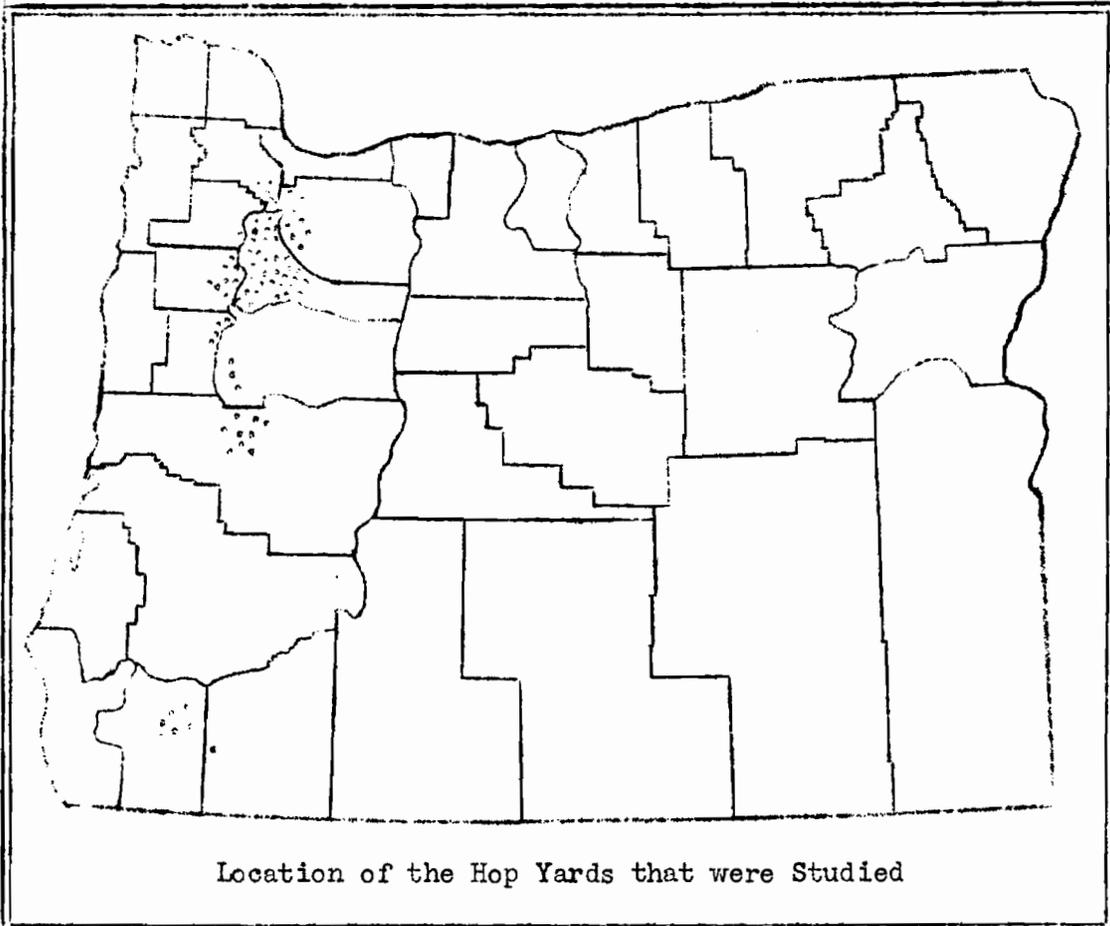
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COSTS AND PRACTICES IN HOP PRODUCTION IN OREGON

Progress Report No. 2

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Location of the Hop Yards that were Studied

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SUMMARY

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* The Oregon hop growers have a capital *
* investment of almost \$10,000,000 and an annu- *
* al production cost of more than \$4,000,000. *
* Much of the latter amount is expended for *
* wages and supplies within the community. *
* * * * *

* The total cost of producing hops in *
* Oregon in 1935 was \$161.46 an acre or 16.6 *
* cents a pound. The average harvested pro- *
* duction on 79 yards containing 3830 acres *
* was 973 pounds an acre. These growers esti- *
* mated that only 83 percent of their acreage *
* had been harvested. *
* * * * *

* Sixty-nine percent of the total cost, *
* or \$112.36 an acre was direct cash outlay. *
* A price of $11\frac{1}{2}$ cents a pound was required to *
* meet this portion of the total cost. *
* * * * *

* The cost of production varied widely, *
* ranging from 10.6 cents a pound up to 55.5 *
* cents a pound. Yield was a major factor *
* affecting costs. The yards reporting nor- *
* mal harvest conditions had an average cost *
* of 15.8 cents a pound on a yield of 1128 *
* pounds an acre. *
* * * * *

THE COST OF PRODUCING HOPS IN OREGON

This report covers briefly some of the major findings from the second year's survey and analysis of representative hop yards in Western Oregon. It is interesting and indicative of the standardization of production methods in this highly specialized enterprise, to note that the average cost of production for 1935 is almost identical with the cost for 1934. This study is being continued to cover the 1936 crop season.

For the benefit of those who have not read the previous report * on this project, a brief review of the situation and needs of the hop enterprise, and the purpose and extent of this study, is given.

THE SITUATION

Oregon ranks first in the United States in the acreage devoted to hop production. Its 26,000 acres reported in 1935** constituted 66 percent of the American acreage and 19 percent of the estimated world acreage. In some sections of the Willamette Valley, and particularly in Marion county, the income from hops is of major importance.

To some extent every established hop grower is familiar with the fact that this enterprise involves high investment in planting, buildings, and machinery, and requires large operation expenditures. Also most growers have, at some time, suffered the losses or expenditures that accompany insect and disease infestations. Sooner or later most growers experience the effects of unfavorable weather conditions and of labor difficulties, and after the crop is ready for market the average grower finds himself dealing with buyers who operate in a world-wide market. Many growers, however, are not familiar with the effect of these factors on cost of production.

The prospective hop grower does not generally recognize the many serious hazards of the enterprise, but is attracted by the infrequent though greatly publicized high yields or prices. In order to present the entire facts for the industry as a whole, the research committee of the Oregon Hop Growers Association requested the Oregon Agricultural Experiment Station to cooperate with the producers in compiling information on the cost and practices for representative hop yards in Oregon. Such information should protect not only the present producer against an unwise increase of acreage, but particularly should guide those farmers who are still considering the addition of hops to their farm organization.

Acknowledgments: The authors express their appreciation to the hop growers and dealers, county agents, and others, whose helpful cooperation has made this study possible. Special credit is due Clair Wilkes of the Farm Management Department for assistance in taking field records; to Ross H. Wood, president of the Oregon Hop Growers' Association in 1935, and to Ray Glatt, chairman of the research committee, for their help in launching and carrying out the project.

*Circular of Information 130, Oregon Agricultural Experiment Station, THE COST OF ESTABLISHING HOP YARDS IN OREGON (1935).

**1936 Agricultural Statistics, U. S. Department of Agriculture.

PURPOSE OF STUDY

The purpose of this study is to determine (1) the cost of establishing a hop yard, (2) the cost of producing the crop and, (3) the factors in organization and operation of hop farms, the proper adjustment of which will increase efficiency and reduce costs.

EXTENT OF STUDY

The results of the first year of this study were issued in 1935 as Circular of Information 130-The Cost of Establishing Hop Yards in Oregon. This report presented data on the cost of establishing 60 new plantings, totaling 1126 acres, and the cost of producing the 1934 crop on 24 yards containing 850 acres of bearing hops.

During the second year of the study, the results of which are briefly summarized in this report, the complete costs of producing the 1935 crop were obtained on 79 yards totaling 3830 acres of bearing hops. The location of these yards is indicated in the map on the cover page. Figures given in this report are subject to revision when data for the entire study are available.

Complete analysis of the data covering several years of production on a large number of farms should point out the factors in the organization and operation of the hop farm which have most influence in reducing costs and increasing profits of this enterprise. This is the major objective of the study. Until completion of the final year's study, conclusions regarding these factors will necessarily be given very little discussion.

REGIONS STUDIED

In order to obtain a reliable picture or cross-section of the hop enterprise, a carefully selected number of Oregon hop yards was studied, comprising 15 percent of the hop acreage in Oregon. The number of farm records obtained in each of the counties visited is as follows: Benton, 4; Clackamas, 9; Jackson, 1; Josephine, 6; Lane, 9; Linn, 3; Marion, 35; Polk, 8; Washington, 3; Yamhill, 1.

TYPE OF FARM

The hop enterprise is distinctly a commercial or cash-producing venture. Records were taken on yards as small as six acres with no harvesting or drying equipment, up to the very largest organizations with no other source of income besides hops. As a rule these larger yards are fully equipped with driers, cooling rooms, storage, and camp ground facilities. Between these extremes are quite a number of growers who although they produce hops as a major source of income, have more or less diversified their program by maintaining additional enterprises.

THE HOP FARM ACREAGE

The average number of acres per farm on all the hop farms studied in 1935 was 174 acres (Table 1). Of this total 49 acres were in hop yard, 18 in small grains, 16 in hay and seed crops, 4 in cultivated crops, 5 in orchards, 3 fallow, 4 tillable pasture, 68 acres of other pasture and timber, and 7 in farmstead and waste. These figures clearly indicate the diversity present on the average hop farm, even though a number of the large plantings are extremely specialized.

TABLE 1. UTILIZATION OF LAND IN HOP FARMS

(Average for the 79 farms studied in 1935)

| Use of land | Number of farms having the item | Acreages per farm for farms having the item | Acreages per farm for all farms |
|----------------------------|---------------------------------|---|---------------------------------|
| Hop land | 79 | 49 | 49 |
| Wheat | 25 | 20 | 6 |
| Oats | 36 | 21 | 10 |
| Barley | 9 | 16 | 2 |
| Hay and seed | 54 | 24 | 16 |
| Corn, potatoes | 25 | 11 | 4 |
| Orchard and miscellaneous | 37 | 9 | 5 |
| Fallow | 13 | 16 | 3 |
| Tillable pasture | 8 | 36 | 4 |
| Total tillable land | 79 | 99 | 99 |
| Other pasture and woods | 62 | 86 | 68 |
| Farmstead and waste | 68 | 8 | 7 |
| TOTAL LAND IN FARM | 79 | 174 | 174 |

CAPITAL INVESTMENT

The present value of the capital invested in hop yards, buildings, and equipment, as estimated by 79 operators cooperating in this study, is \$355 an acre.

TABLE 2. THE BEARING HOP YARD INVESTMENT IN OREGON

79 yards, having an average size of $48\frac{1}{2}$ acres

| Items | Investment per yard | Investment per acre | Percentage of total investment |
|-------------------|---------------------|---------------------|--------------------------------|
| Land in hop yard | \$8450 | \$174 | 49% |
| Plants | 1820 | 38 | 11 |
| Trellis | 2230 | 46 | 13 |
| Drier & storeroom | 2300 | 47 | 13 |
| Machinery * | 2410 | 50 | 14 |
| TOTAL | \$17,210 | \$355 | 100% |

* The inventory of all machinery and equipment used on hops (except the auto and truck) was taken, and then the proportion chargeable to the hop enterprise for the year was estimated.

Land of the quality found in these hop yards was appraised at an average of \$174 an acre or almost half of the total hop investment. The value of the land with its trellis and hop planting was estimated at an average of \$258 an acre. Farm machinery owned by the operators and used on hop work was valued at an average of \$2410 a farm or \$50 for each acre of hops. Hop buildings were inventoried at a present value averaging \$2300 a farm or \$47 for each acre of hop yard served.

Since these improvements and equipment are figured at present depreciated or average values, the total capital required for these items in establishing a hop enterprise would be somewhat higher.

THE COST OF PRODUCTION

The average cost of hop production in 1935 was \$161.46 an acre on the total of 3,830 acres studied (Table 3). The cost for 1935 is almost identical with the cost of \$160 reported for the 24 yards studied in 1934. The estimated production of dry hops averaged 1,232 pounds an acre, but a combination of adverse weather conditions, pest damage, labor difficulties, and low market prices resulted in failure to harvest about 17 percent of the acreage in this survey. On the basis of the actual harvested yield of 973 pounds an acre the total cost was 16.6 cents a pound, as compared to a total cost of 15.3 cents on a yield of 1,048 pounds an acre in 1934.

TABLE 3. COST OF PRODUCING HOPS IN OREGON

79 yards, 3,830 acres, producing 3,724,315 pounds dry hops
Average yield, 973 pounds per acre
1935 crop

| Cost items | Average cost per acre | Average cost per pound | Percentage of total cost |
|----------------------------------|-----------------------|------------------------|--------------------------|
| Trellis maintenance* | \$8.73 | .90¢ | 5.4% |
| Stand maintenance | 3.78 | .39 | 2.3 |
| Fertilizing and cover crop | 4.35 | .45 | 2.7 |
| Cultivation | 9.76 | 1.00 | 6.0 |
| Training | 16.41 | 1.69 | 10.2 |
| Spraying and other pest control | 5.78 | .59 | 3.6 |
| Irrigation | 2.09 | .21 | 1.3 |
| Pre-harvest costs | \$50.90 | 5.23¢ | 31.5% |
| Picking | \$59.57 | 6.12¢ | 37.0% |
| Drying | 16.22 | 1.67 | 10.0 |
| Baling | 5.25 | .54 | 3.2 |
| Harvest costs | \$81.04 | 8.33¢ | 50.2% |
| Supervision | \$8.15 | .84¢ | 5.2% |
| Use of auto and truck | 2.68 | .28 | 1.6 |
| Compensation insurance | 1.48 | .15 | .9 |
| Taxes | 2.45 | .25 | 1.5 |
| Interest on land and plants @ 5% | 10.60 | 1.09 | 6.5 |
| Miscellaneous | 4.16 | .43 | 2.6 |
| Other costs | \$29.52 | 3.04¢ | 18.3% |
| TOTAL COST OF PRODUCTION | \$161.46 | 16.60¢ | 100.0% |

* Includes interest, depreciation and repair (See Appendix).

Slightly more than half of this total cost was for harvesting and preparing the crop for the market. About a third of the cost was for yard maintenance and pre-harvest operations, while all other costs of a miscellaneous or overhead nature comprised less than a fifth of the total amount.

CASH AND NON-CASH COSTS

The cost as computed in this study includes non-cash as well as cash expenditures. The total cost is the long-time determinant or measure of the desirability which an enterprise holds for the producer, but he is also interested in analyzing and studying his costs on the basis of cash or out-of-pocket expenditures as contrasted to the so-called non-cash items (Table 4). During periods of low prices the advisability or even the ability of the individual producer to continue with a specific enterprise may be gauged by the relationship of his cash costs to the prices received.

TABLE 4. CASH AND NON-CASH COSTS OF PRODUCING HOPS IN OREGON

Averages for 79 yards containing 3,830 acres of hops
1935 crop

| Cost items | Cost per acre | | |
|--|-----------------|-----------------|----------------|
| | Total | Cash | Non-cash |
| Operator and family direct labor | \$ 5.82 | - | \$5.82 |
| Picking (3683 pounds green hops) | 48.70 | \$48.70 | - |
| Other hired labor | 28.20 | 28.20 | - |
| Contract operations | 2.70 | 2.70 | - |
| Total labor and contract operations | \$85.42 | \$79.60 | \$5.82 |
| Use of horses | \$ 2.37 | - | \$2.37 |
| Rent of equipment | .39 | \$.39 | - |
| Tractor operation | 3.12 | 3.12 | - |
| Use of auto and truck | 2.68 | 2.68 | - |
| Other equipment operation | 3.89 | 3.89 | - |
| Total equipment operation | \$12.45 | \$10.08 | \$2.37 |
| Trellis repair materials | \$.90 | \$.90 | - |
| Manure | 1.67 | .84 | \$.84 |
| Commercial fertilizer | 1.10 | 1.10 | - |
| Cover-crop seed | .29 | .29 | - |
| Stakes, training twine, roots | 3.46 | 3.46 | - |
| Spray material | 2.16 | 2.16 | - |
| Wood, oil, sulfur, electricity, etc. | 4.37 | 4.37 | - |
| Burlap and sewing twine | 3.35 | 3.35 | - |
| Tickets, wood, light | .33 | .33 | - |
| Other harvest and miscellaneous supplies | .18 | .18 | - |
| Total materials and supplies | \$17.82 | \$16.98 | \$.84 |
| Insurance | \$ 3.21 | \$ 3.21 | - |
| Taxes | 2.49 | 2.49 | - |
| Depreciation on buildings and machinery | 14.16 | - | \$14.16 |
| Interest on hop investment @ 5% | 17.76 | - | 17.76 |
| Supervision | 8.15 | - | 8.15 |
| Total overhead | \$45.77 | \$ 5.70 | \$40.07 |
| TOTAL COST OF PRODUCTION | \$161.46 | \$112.36 | \$49.10 |
| Percent of total cost | 100% | 69% | 31% |

The cash cost amounts to 11.5 cents a pound of hops harvested.

Naturally such a division of expense items must involve some assumptions, arrived at more or less arbitrarily, but the divisions of costs presented here is, on the whole, indicative of the situation.

Of the \$161.46 total cost an acre for producing hops in 1935, \$112.36 or 69 percent was direct cash outlay. With the yields obtained in 1935 a price of $11\frac{1}{2}$ cents a pound would be required to meet these cash costs alone.

Practically half of the total cost or 71 percent of the cash cost is represented by wages paid and the cost of contracted operations. Much of the operator and family labor expense listed is for work done on the smaller yards where the hiring of help is usually limited to harvesting operations. In the larger yards the operator frequently assumes the role of a manager, and the value of his services appears in the item "supervision." While there were a few salaried managers in the group studied, this item has been designated as non-cash. Supervision averaged \$75 a month for $5\frac{1}{4}$ months or \$395 per yard for the season.

The item of horse labor was also classed as a non-cash item, although it is true that some miscellaneous cash costs are involved for harness repair, horseshoeing, and veterinary. A few operators rented horses from a neighbor, mainly during the hop training season.

The item "other equipment operation" includes cash repairs on hop buildings as well as on field machinery.

Approximately half of the barnyard manure applied on hop yards during the year was purchased. Where the operator furnished the labor to apply the manure this labor was included among the labor cost totals, but if the manure was delivered, the price included cost of hauling to the hop yard.

Insurance includes both fire insurance and industrial accident insurance. The intention of the enumerator was to limit the cost of the fire insurance to that on the hop drier, the farm warehouse, and the crop as long as it was kept on the farm, and not to include insurance premiums paid for a prolonged storage period in town.

Taxes refer only to assessments on hop land and buildings. A water tax was paid on one yard and charged to irrigation.

Depreciation and interest charges against buildings and machinery, and interest on the yards amounted to an average of \$32, or 20 percent of the total cost of growing the crop. Although these items are listed as non-cash, some farmers are actually paying interest on farm indebtedness, and sooner or later the equipment will require cash for repair or replacement.

VARIATION IN COST

Cost of production data invariably show a wide range of costs among farms in any given year. The cost of growing hops on the farms in this survey in 1935 varied from 10.6 cents a pound on the lowest-cost yard up to $55\frac{1}{2}$ cents on the highest-cost yard reporting some harvesting operations (Table 5). One small yard harvested none of the hop crop in 1935.

TABLE 5. VARIATION IN PRODUCTION COST OF HOPS IN OREGON

3,830 acres produced 3,724,315 pounds of dried hops
 Average net cost 16.6 cents a pound
 1935 crop

| Range in costs per pound | Average cost per pound | Number of pounds harvested per acre | Percentage of acreage unpicked | Number of farms |
|--------------------------|------------------------|-------------------------------------|--------------------------------|-----------------|
| Below 15.0¢ | 13.4¢ | 1173 | 9% | 38 |
| 15.0¢ - 19.9¢ | 18.0¢ | 962 | 6% | 30 |
| 20.0¢ & over | 23.0¢ | 616 | 55% | 11 |

The yield factor. The relationship of yield to cost is clearly indicated above. The high-cost group is greatly affected by several of the records taken in Josephine county where serious storm damage, harvest labor trouble, and low prices resulted in much of the crop not being picked.

The facts regarding yield are still more evident when the records are grouped according to this factor (Table 6). Those yards with yields of less than 600 pounds of harvested hops had costs about half as high per acre as had the yards with yields of 1000 pounds or more but their average cost per pound was 40 percent higher.

TABLE 6. EFFECT OF YIELD ON COST OF PRODUCING HOPS IN OREGON

Average yield, 973 pounds; average cost 16.6 cents a pound
 79 yards - 1935 crop

| Items | Pounds of dried hops an acre | | |
|-------------------------------|------------------------------|-----------|-------------|
| | 0 - 599 | 600 - 999 | 1000 - 1800 |
| Number of yards | 15 | 37 | 27 |
| Average area of yards (acres) | 37 | 41 | 65 |
| Average yield (pounds) | 467 | 816 | 1268 |
| AVERAGE COST AN ACRE | \$102 | \$140 | \$ 198 |
| AVERAGE COST A POUND | 21.8¢ | 17.2¢ | 15.6¢ |

The size factor. The contention made by some growers that the costs on the very large hop operations are higher than those on the smaller units is at least partially supported by this one year's data (Table 7). Costs on yards of less than 15 acres were found to be identical with those containing from 15 to 30 acres. The main factor affecting cost in this group of smallest plantings, which averaged 18 acres each, was the relatively low yield.

TABLE 7. THE EFFECT OF SIZE OF HOP YARD ON COSTS

79 yards - average $48\frac{1}{2}$ acres
Oregon - 1935 crop

| Item | Number of acres in yard | | | |
|---------------------------------|-------------------------|--------------|--------------|--------------|
| | Less than 30 | 30- 59 | 60 - 99 | 100 & over |
| Number of yards | 40 | 20 | 12 | 7 |
| Average size of yards (acres) | 18 | 40 | 82 | 190 |
| Yield harvested (pounds) | 775 | 1026 | 1078 | 967 |
| Percent unpicked | 12% | 12% | 15% | 25% |
| Cost per pound of dry hops: | | | | |
| Interest on investment | 1.1¢ | .9¢ | 1.1¢ | 1.2¢ |
| Trellis maintenance | 1.1 | .9 | .8 | 1.0 |
| Stand maintenance | .4 | .3 | .3 | .5 |
| Fertilization | .4 | .1 | .5 | .6 |
| Cultivation | 1.3 | 1.0 | .8 | 1.1 |
| Training | 1.6 | 1.5 | 1.7 | 1.8 |
| Pest control | .3 | .5 | .4 | .9 |
| Pre-harvest costs | 6.2¢ | 5.2¢ | 5.6¢ | 7.1¢ |
| Harvesting | | | | |
| Drying | 5.3¢ | 5.5¢ | 6.3¢ | 6.7¢ |
| Baling | 1.6 | 1.5 | 1.3 | 2.1 |
| Harvest costs | .6 | .6 | .6 | .5 |
| Harvest costs | 7.5¢ | 7.6¢ | 8.2¢ | 9.3¢ |
| Other costs | | | | |
| Supervision | 1.0¢ | .8¢ | .9¢ | .7¢ |
| Use of auto and truck | .4 | .3 | .2 | .3 |
| Compensation insurance | .1 | .1 | .2 | .2 |
| Property taxes | .3 | .2 | .2 | .3 |
| Miscellaneous | .2 | .3 | .5 | 1.1 |
| Other costs | 2.0¢ | 1.7¢ | 2.0¢ | 2.6¢ |
| TOTAL COST OF PRODUCTION | 15.7¢ | 14.5¢ | 15.8¢ | 19.0¢ |

The yield and the costs on the largest yards were greatly influenced by the 25 percent of the crop that had not been harvested. The large operators also have certain expenses which some of the smaller or diversified operators may avoid. Large operators more commonly try to prevent disease and pest infestation, while many of the smaller operators take a chance by not spraying at all or less frequently. More of the large yards are irrigated and fertilized. They have more elaborate equipment facilities, with greater depreciation costs; and in some instances they use more expensive labor, especially in the harvesting operations.

THE EFFECT OF CROP ABANDONMENT ON COSTS

Because of the adverse conditions affecting harvesting of the crop on a number of the yards in this study, a separate analysis was made of those plantings which operated under more nearly normal conditions. These included 40 yards which were completely harvested and 14 with more than 90 percent of their acreages harvested. Less than two percent or 43 acres of the 2341 acres in this group of 54 yards was not harvested. These yards, averaging 43 acres in size, produced 1128 pounds of harvested hops an acre.

The total cost of production on these farms was \$178.58 an acre or 15.8 cents a pound. These costs are only slightly less than the costs reported for all farms studied. Hence, for the industry as a whole, the heavy abandonment was not of major significance in increasing costs in 1935. On the individual farms affected, however, failure to harvest was of major significance, as indicated by the results obtained on the group of 25 yards reporting heavy abandonment. These growers, estimating their crop at an average of 1250 pounds an acre, actually harvested only 726 pounds an acre on the basis of their total acreage in hops, and had a cost of $18\frac{1}{2}$ cents a pound on this amount.

A P P E N D I X

EXPLANATION OF COST ITEMS

Land, trellis, plant investment. Each grower made a careful estimate of his land value and then of his yard in its present condition. By deducting from the total figure the value of the land and assuming the trellis value to be \$46 an acre as determined earlier in this study, there remained \$38 as the investment in planting. (The net cost of establishing plantings as reported in this study was \$36 in 1933-34)

Buildings and equipment. The proportion of the value of the farm buildings and equipment used for hops, except the auto or truck, was estimated. Expense for repairs, a depreciation charge based on the years of remaining life, and 5 percent interest on the investment represented, were charged to the hop enterprise.

Auto and truck use. A rate per mile for use of car and truck in hop production was used. This ranged from 4 to 8 cents a mile, depending on size of vehicle and amount of depreciation incurred.

Man labor. A considerable amount of the work done on hops was contracted on the acre or piece basis, and for this the actual price paid was used. Labor expended on hops on a time basis was charged at the wage rate prevailing in the community, including a value for board if furnished.

Horse labor. Use of horses was charged uniformly at 10 cents a horse hour.

Tractor work. The hourly rate for work done by the farm tractor was computed on the basis of the annual depreciation, repairs, and fuel costs incurred, and 5 percent interest on the value of the tractor.

Supervision. This item was arrived at from a careful estimate of the proportion of the year's work of the operator chargeable to hops. After deducting from this gross amount the hours of his direct labor on hops, the remainder was considered as overhead labor and management.

Trellis maintenance. This item includes labor and materials for repairs made during the year, 5 percent interest, and 10 percent depreciation on the investment in trellis.

Stand maintenance. Cost of stand maintenance consists of expenses for replanting, grubbing and pruning.

Taxes. This item was obtained for hop land and buildings by prorating to hops its portion of the total property taxes.

Individual costs. To be of the greatest possible service to each hop grower cooperating in this study a report of his individual costs are returned to him in order that he may compare them to the average and to the high and the low cost groups. These individual cost figures are confidential and go only to the one person concerned. Comparison, item by item, should indicate where the individual's costs are satisfactory and where they may be improved and thus make the hop enterprise more profitable.

OREGON EXPERIMENT STATION
Hop Enterprise Study - 1935

INDIVIDUAL COST REPORT
(Confidential)

Farm of _____ Address _____

| Items | Twenty high cost farms | Twenty low cost farms | Average of all farms | YOUR FARM |
|----------------------------------|---------------------------|--------------------------|-------------------------|--------------|
| Number of acres in hops | 83 | 29 | 48 | |
| Percent of crop unpicked | 25% | 7% | 18% | |
| Yield per acre (Pounds) | 866 | 1068 | 973 | |
| Investment an acre in yard | \$277 | \$204 | \$258 | |
| Average cost per pound dry hops: | | | | |
| Trellis maintenance | 1.12¢ | .72¢ | .90¢ | |
| Stand maintenance | .52 | .24 | .39 | |
| Fertilization | .75 | .12 | .45 | |
| Cultivation | 1.20 | .77 | 1.00 | |
| Training | 1.84 | 1.17 | 1.69 | |
| Spraying and other pest control | .89 | .24 | .59 | |
| Irrigation | .49 | - | .21 | |
| Pre-harvest costs | 6.81¢ | 3.26¢ | 5.23¢ | |
| Picking | 6.77¢ | 5.34¢ | 6.12¢ | |
| Drying | 2.26 | 1.11 | 1.67 | |
| Baling | .51 | .61 | .54 | |
| Harvest costs | 9.54¢ | 7.06¢ | 8.33¢ | |
| Supervision | .97¢ | .66¢ | .84¢ | |
| Use of auto and truck | .34 | .22 | .28 | |
| Compensation insurance | .19 | .09 | .15 | |
| Property taxes | .31 | .19 | .25 | |
| Interest on land and plants @ 5% | 1.33 | .74 | 1.09 | |
| Miscellaneous | .69 | .15 | .43 | |
| Other costs | 3.83¢ | 2.05¢ | 3.04¢ | |
| TOTAL COST OF PRODUCTION | 20.18¢ | 12.37¢ | 16.60¢ | |