

Sacramento County

Hop Cost Study

1961

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GENERAL INFORMATION

June 1961

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ACKNOWLEDGEMENT: The assistance rendered by hop growers and brokers in the preparation of this study is gratefully acknowledged. Without their patience and tireless assistance the task could not have been accomplished.

FACTORS USED IN HOP COST STUDY

GENERAL: The figures presented are the best estimates which could be obtained through the cooperative efforts of the Hop Industry in Sacramento County and the Agricultural Extension Service.

NOTE: IT MUST BE UNDERSTOOD THAT THESE ESTIMATES DO NOT APPLY TO ANY GIVEN HOP RANCH. THEY ARE "SAMPLE COSTS". PERHAPS THERE IS NO HOP RANCH TO WHICH THEY CAN BE APPLIED DIRECTLY. IF GROWERS DO NOT PERFORM ALL OF THE LISTED OPERATIONS, THOSE WHICH ARE NOT EMPLOYED SHOULD BE RULED OUT TO OBTAIN AN ACCURATE ESTIMATE FOR A PARTICULAR HOP RANCH. AS CHANGES OCCUR IN COSTS, EFFICIENCY AND YIELD THE INFORMATION INCLUDED HEREIN SHOULD BE ADJUSTED ACCORDINGLY. THIS STUDY WAS PREPARED ONLY AS A GUIDE FOR GROWERS TO USE IN DEVELOPING THEIR OWN PRODUCTION COSTS AND AS A TOOL IN ANALYZING THEIR OPERATIONS.

LABOR COSTS: (As of March, 1961): Pre-harvest Common Labor \$1.32 per hour (includes \$1.15/hr. cash wages, labor contractor fees, camp fees and transportation fees). Harvest Common Labor \$1.42 per hour (includes \$1.25/hr. cash wages plus all of the above). Skilled Labor \$1.50 per hour throughout entire season (includes cash wages, housing and miscellaneous). Supervisory Labor \$1.80 per hour throughout entire season (includes cash wages, housing and miscellaneous). Social Security and Workmans Compensation are NOT included in direct labor costs in one column, but are listed in the table under "Miscellaneous". They ARE included in the second () column.

SOIL TYPES: Hanford very fine sandy loam, Hanford loamy fine sand.

HILL SPACINGS: Vary between 7' x 7' (889 hills per acre) and 6.5' x 6.5' (1031 hills per acre).

YIELD PER ACRE: Average California hop yield per acre over 12 year period 1949-60 was 1540 pounds per acre (8.24 bales) of dry baled hops ready for market. Information obtained from USDA Hop Market News dated January 5, 1961. Seedless hops of the Late Cluster variety at approximately 8% moisture are used in yield figures. Average bales are assumed to weigh 200 lbs. gross, 187 lbs. net and measure 22 x 28 x 56 inches.

ECONOMIC UNIT OF HOP PRODUCTION: A ninety (90) acre Sacramento County hop yard with one picking machine, one three-kiln dryer, one cooler building and one baling press is considered to be an economic unit of production. Ten additional acres of less productive land are devoted to buildings.

FARM IMPLEMENT RATES: Costs of operation for tractors, discs, plows, etc., used in this study were obtained from standard tables of the University of California, College of Agriculture, Dept. of Agricultural Economics, Davis, California. For Tractors: One 20HP track layer used 1,000 hrs. per year costs 90¢ per hour to operate; one 20HP wheel tractor used 750 hrs. per year costs 80¢ per hour to operate.

Operations listed are arranged chronologically starting with post-harvest subsoiling in September and continuing through August of the following year.

CULTURAL SAMPLE COSTS TO PRODUCE HOPS (HIGH TRELLIS)

JUNE 1961

90 Acre Economic Unit
Yield - 1540#/A Dried Hops (12 yr. Ave.)

SACRAMENTO COUNTY 1960-61

| Operation | Hours Per Acre | Cash and Labor Cost Per Acre | | | | Total ^{b/} | Growers Actual Cost |
|----------------------------------|----------------|------------------------------|--------------------|-----------|---|---------------------|---------------------|
| | | Labor ^{a/} | Fuel and Repairs | Materials | Total ^{b/} | | |
| | | (Excludes WC & SS) | (Includes WC & SS) | | | (Excludes WC & SS) | (Includes WC & SS) |
| Subsoil 1X | 1.0 | \$ 1.50 | \$(1.59) | \$ 1.05 | | \$ 2.55 | \$(2.64) |
| Spread Manure | 1.5 | 2.25 | (2.38) | 3.25 | 12 yds @ \$2.50 | \$ 30.00 | (35.63) |
| Ridge for Irrigating 2X | .5 | .75 | (.79) | .55 | | | (1.34) |
| Pre-irrigate for cover crop | 6.0 | 7.92 | (8.46) | 1.86 | 2/3 acre ft @ \$3.00 | 2.00 | (12.32) |
| Knock ridges & Disc 1X | .7 | 1.05 | (1.11) | .74 | | | (1.85) |
| Plant Cover Crop | .5 | .75 | (.80) | .65 | 25# barley @ 3 1/2¢ | .88 | (2.33) |
| Prepare Coir Twine for Stringing | 6.0 | 7.92 | (8.46) | | 180# Coir Twine @ 17¢ | 30.60 | (39.06) |
| Fertilize | .5 | .75 | (.80) | .90 | 150# nitrogen @ 10¢ | 15.00 | (16.70) |
| Trellis repair | 8.7 | 11.48 | (12.27) | .90 | Lumber | 10.00 | (23.17) |
| Disc under cover crop | .7 | 1.05 | (1.11) | .67 | | | (1.78) |
| Plow 2X (3M 2/3 hr.) | 2.0 | 2.73 | (2.95) | .93 | | | (3.88) |
| Grub & Prune | 20.0 | 26.40 | (28.20) | | | | (28.20) |
| Replant 50 hills | 2.0 | 2.64 | (2.82) | | 100 roots @ \$2.50 | 2.50 | (5.32) |
| Disc cultivate 2X | 1.4 | 2.10 | (2.23) | 1.41 | | | (3.64) |
| Treat crowns for mildew | .7 | .92 | (.99) | | 30# Sulfur @ 10¢ | 3.00 | (3.99) |
| Disc cultivate 1X | .7 | 1.05 | (1.11) | .74 | | | (1.85) |
| Soak Coir Twine | 2.0 | 2.64 | (2.82) | | | | (2.82) |
| String field | 11.0 | 14.70 | (15.69) | .99 | | | (16.68) |
| Disc cultivate 1X | .7 | 1.05 | (1.11) | .74 | | | (1.85) |
| Cut back shoots | 3.5 | 4.62 | (4.94) | | | | (4.94) |
| Dust for Mildew 1X | | | | | 50# Zineb & Sulfur @ 10¢ + \$2.50 plane | 7.50 | (7.50) |
| First training | 20.0 | 26.40 | (28.20) | | | | (28.20) |
| Dust for Mildew 1X | | | | | 50# Zineb & Sulfur @ 10¢ + \$2.50 plane | 7.50 | (7.50) |
| Second training | 7.0 | 9.24 | (9.87) | | | | (9.87) |
| Disc cultivate 1X | 1.0 | 1.50 | (1.59) | 1.06 | | | (2.65) |
| Third training and sucker | 7.0 | 9.24 | (9.87) | | | | (9.87) |
| Ridge for irrigation 2X | .7 | 1.05 | (1.11) | .84 | | | (1.95) |
| First crop irrigation | 8.0 | 10.56 | (11.28) | 2.09 | 3/4 acre ft. @ \$3.00 | 2.25 | (15.62) |
| Prepare twine & tie vines | 3.0 | 3.96 | (4.23) | | 10# Coir Twine @ 17¢ | 1.70 | (5.93) |
| Knock ridges & disc 1X | 1.0 | 1.50 | (1.59) | 1.06 | | | (2.65) |

Cont.

Yield - 1540#/A Dried Hops (12 yr. Ave.)

| Operation | Hours Per Acre | Cash and Labor Cost Per Acre | | | | Total b/ | Growers Actual Cost |
|--|----------------|------------------------------|--------------------|-----------------|-----------------------------------|--------------------|---------------------|
| | | Labor a/ | Fuel and Repairs | Materials | | | |
| | | (Excludes WC & SS) | (Includes WC & SS) | | | (Excludes WC & SS) | (Includes WC & SS) |
| Cultural | | | | | | | |
| Treat for Spider Mites | .2 | \$.30 | \$(.32) | \$.24 | 1 qt. Demeton or 6# Kelthane(ave) | \$ 7.00 | \$(7.02) |
| Ridge for Irrigation 2X | .7 | 1.05 | (1.11) | .84 | | 1.89 | (1.95) |
| Second Crop Irrigation | 7.0 | 9.24 | (9.87) | 2.09 | 3/4 acre ft. @ \$3.00 | 13.58 | (14.21) |
| Knock ridges & disc 1X | 1.0 | 1.50 | (1.59) | 1.06 | | 2.56 | (2.65) |
| Strip Vines | 7.0 | 9.24 | (9.87) | | | 9.24 | (9.87) |
| Ridge for Irrigation 2X | .7 | 1.05 | (1.11) | .84 | | 1.89 | (1.95) |
| Third Crop Irrigation | 7.0 | 9.24 | (9.87) | 1.86 | 2/3 acre ft. @ \$3.00 | 13.10 | (13.73) |
| Knock ridges & disc 1X | 1.0 | 1.50 | (1.59) | 1.06 | | 2.56 | (2.65) |
| Ridge for Irrigation 2X | .7 | 1.05 | (1.11) | .84 | | 1.89 | (1.95) |
| Fourth Crop Irrigation | 7.0 | 9.24 | (9.87) | 1.86 | 2/3 acre ft. @ \$3.00 | 13.10 | (13.73) |
| Knock ridges and disc 2X | 2.0 | 3.00 | (3.18) | 2.12 | | 5.12 | (5.30) |
| Install & Remove Field Bracing | 2.5 | 3.30 | (3.52) | 1.10 | | 4.40 | (4.62) |
| Miscellaneous | | | | | | | |
| Supervisory labor | 3.3 | 6.00 | (6.00) | | | 6.00 | (6.00) |
| Workmans Comp., Social Security | | | | | WC @4.5%, SS@ 3% cash wages | 17.00 | c/ |
| Insurance except WC & SS (bldgs, liability, supplies, consequential, crop, autos, etc) | | | | | | 40.00 | (40.00) |
| Taxes (as of 1960) | | | | | | 31.00 | (31.00) |
| Miscellaneous Labor | 10.0 | 13.20 | (14.10) | | | 13.20 | (14.10) |
| Office, Phone, Interest on operating capital | | | | 4.75 | | 14.75 | (19.50) |
| TOTAL CULTURAL COSTS | 167.9 | \$226.63 | \$ (241.48) | \$ 39.09 | | \$228.39 | \$494.11 |
| | 167.9 | | | \$ 39.09 | | (211.39) | \$(491.96) |

a/ **LABOR RATES:** The first column shows labor charges excluding Workmans Compensation (WC) and Social Security (SS). In this case WC & SS are lumped in the table under "Miscellaneous". The second column shows labor charges Including WC & SS. In this case WC & SS have been removed from "Miscellaneous". **USE ONE COLUMN OR THE OTHER.**

b/ **TOTAL CHARGES:** The first "Total" column should be used in conjunction with the first column of "LABOR". The second "TOTAL" column should be used with the second column of "LABOR". Use one or the other, not both. Do not mix columns.

c/ **WORKMANS COMPENSATION & SOCIAL SECURITY** have been included in labor charges for individual operations and are withdrawn from "Miscellaneous".

HARVEST
 90 Acre Economic Unit
 Yield - 1540#/A Dried Hops (12 yr. Ave.)

SAMPLE COSTS TO HARVEST HOPS (HIGH TRELLIS)

JUNE 1961

SACRAMENTO COUNTY 1960-61

| Operation | Hours Per Acre | Cash and Labor Cost Per Acre | | | | Total b/ (Excludes (Includes WC & SS) WC & SS) | Growers Actual Cost |
|---|----------------|--|------------------|-----------|--|--|---------------------|
| | | Labor a/ (Excludes (Includes WC & SS) WC & SS) | Fuel and Repairs | Materials | | | |
| Harvest | | | | | | | |
| Cut & Load Vines | 15.0 | \$ 21.30 | \$(22.80) | \$.50 | | \$ 21.80 | \$(23.30) |
| Haul Vines to Shed | 12.5 | 18.75 | (19.88) | 2.00 | 4 trucks hired 2.5 hr.ea.@1.75/hr \$ 17.50 | 38.25 | (39.38) |
| Pick at Picking Shed | 37.5 | 53.25 | (57.00) | 33.24 | | 86.49 | (90.24) |
| Chop Spent Vines and Remove | 1.0 | 1.50 | (1.59) | 2.90 | | 4.40 | (4.49) |
| Mechanic | 3.0 | 7.50 | (7.50) | | | 7.50 | (7.50) |
| Dryer Supervisor | 2.4 | 6.00 | (6.00) | | | 6.00 | (6.00) |
| Dry & Convey to Cooler Bldg. | 10.0 | 14.20 | (15.20) | 15.24 | | 29.44 | (30.44) |
| Bale | 7.0 | 9.94 | (10.64) | .50 | 44 yds. hop cloth@39¢, white oil 18.36 .6 lb. sewing twine @ \$2.00 Truckage .50 | 28.80 | (29.50) |
| Haul to Shipping Point | 1.0 | 1.50 | (1.59) | | | 2.00 | (2.09) |
| Miscellaneous | | | | | | | |
| Supervisory Labor | 1.0 | 1.80 | (1.80) | | | 1.80 | (1.80) |
| Workmans Comp & Social Security | | | | | WC @ 4.5%, SS @ 3% cash wages 10.18 | 10.18 | c/ |
| TOTAL HARVEST COSTS | 90.4 | \$135.74 | | \$ 54.38 | | \$ 46.54 | \$236.66 |
| | 90.4 | | \$(144.00) | \$ 54.38 | | \$(36.36) | \$(234.74) |
| Total Cash & Labor Cost For Cultural and Harvest | 258.3 | \$362.37 | | \$ 93.47 | | \$730.77 | \$ (726.70) |
| | 258.3 | | \$(385.48) | 93.47 | | | |

c/ WORKMANS COMPENSATION & SOCIAL SECURITY have been included in labor charges for individual operations and are withdrawn from "Miscellaneous".

SAMPLE COSTS TO PRODUCE HOPS (HIGH TRELLIS)

June 1961

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SACRAMENTO COUNTY 1960-61

90 Acre Economic Unit
Yield - 1540#/A Dried Hops (12 yr. Ave.)

INVESTMENT, DEPRECIATION AND INTEREST

| <u>Total Initial New Cost</u> | <u>Investment</u> | <u>New Cost Per Acre</u> | <u>Life</u> | <u>Annual Cost Per Acre</u> | | 6% (3% of new cost per acre except land @ 6%.) |
|-----------------------------------|------------------------|------------------------------|-------------|-----------------------------|------------------|---|
| | | | | <u>Depreciation</u> | <u>Interest</u> | |
| \$ 67,500 | 90 A Crop @ \$750 | \$ 750 | | \$ | \$ 45.00 | |
| 5,000 | 10 A Utility @ \$500 | 500 | | | 30.00 | |
| 22,500 | Implements | 250 | 10 yrs | 25.00 | 7.50 | |
| 30,000 | Picking Machine | 333 | 20 | 16.67 | 9.99 | |
| 35,000 | Dryer, 3 kilns | 389 | 30 | 12.97 | 11.67 | |
| 18,000 | Cooler Bldg. | 200 | 30 | 6.67 | 6.00 | |
| 7,000 | Baling Press, Compl. | 78 | 30 | 2.60 | 2.34 | |
| 13,500 | Irrigation System | 150 | 20 | 7.50 | 4.50 | |
| 63,000 | Trellis | 700 | 20 | 35.00 | 21.00 | |
| 1,600 | Vine Chopper, Compl. | 18 | 10 | 1.80 | .54 | |
| 4,000 | Bunk House (20-25 man) | 45 | 30 | 1.50 | 1.35 | |
| 5,000 | Cook House | 56 | 30 | 1.87 | 1.68 | |
| 10,000 | Superintendants House | 111 | 30 | 3.70 | 3.33 | |
| 10,000 | Misc. Houses | 111 | 30 | 3.70 | 3.33 | |
| 7,000 | Shop Bldgs. & Tools | 78 | 25 | 3.12 | 2.34 | |
| <u>\$299,000</u> | | <u>\$3,769</u> | | <u>\$122.10*</u> | <u>\$150.57*</u> | |

| |
|--|
| Total Annual Interest and Depreciation |
| \$272.67 |

*Only these items form the total.

CULTURAL SUMMARY OF SAMPLE COSTS TO PRODUCE HOPS (HIGH TRELLIS)

JUNE 1961

90 Acre Economic Unit
Yield -- 1540 lbs./Acre Dried Hops

SACRAMENTO COUNTY 1960-61

| Operation | Hours Per Acre | Cash and Labor Cost Per Acre | | | | Total | | Growers Actual Cost |
|---------------------------------------|----------------|------------------------------|--------------------|-----------|--|--------------------|--------------------|---------------------|
| | | Labor | Fuel and Repairs | Materials | | (Excludes WC & SS) | (Includes WC & SS) | |
| Cultural | | (Excludes WC & SS) | (Includes WC & SS) | | | (Excludes WC & SS) | (Includes WC & SS) | |
| 1. Soil Preparation | | | | | | | | |
| a. Subsoil 1X, Plow 2X, Disc 12X | 13.2* | \$ 19.53* | \$(20.75)* | \$12.64* | | \$ 32.17* | \$(33.39)* | |
| 2. Fertilizers | | | | | | | | |
| a. Manure, Cover Crop, Chemical Fert. | 2.5* | 3.75* | (3.98)* | 4.80* | Manure, Seed, Chemical Fert. \$ 45.88* | 54.43* | (54.66)* | |
| 3. Irrigation | | | | | | | | |
| a. Ridge Up | 3.3 | 4.95 | (5.23) | 3.91 | | 8.86 | (9.14) | |
| b. Irrigate 5X | 35.0 | 46.20 | (49.35) | 9.76 | 3.5 Acre Feet Water 10.50 | 66.46 | (69.61) | |
| *SUB-TOTAL | 38.3* | 51.15* | (54.58)* | 13.67* | 10.50* | 75.32* | (78.75)* | |
| 4. Plant & Twine Manipulations | | | | | | | | |
| a. Grub, Prune, Replant | 22.0 | 29.04 | (31.02) | | Replant Stock 2.50 | 31.54 | (33.52) | |
| b. Cut Back, Train 3X, Strip, Sucker | 44.5 | 58.74 | (62.75) | | | 58.74 | (62.75) | |
| c. Prepare Twine, String, Tie Vines | 22.0 | 29.22 | (31.20) | .99 | Coir Twine 32.30 | 62.51 | (64.49) | |
| *SUB-TOTAL | 88.5* | 117.00* | (124.97)* | .99* | 34.80* | 152.79* | (160.76)* | |
| 5. Disease & Pest Control | | | | | | | | |
| a. Downy Mildew 3X | .7 | .92 | (.99) | | Dust and Airplane 18.00 | 18.92 | (18.99) | |
| b. Spider Mites 1X | .2 | .30 | (.32) | .24 | Dust or spray 6.46 | 7.00 | (7.02) | |
| *SUB-TOTAL | .9* | 1.22* | (1.31)* | .24* | 24.46* | 25.92* | (26.01)* | |
| 6. Trellis Repair & Bracing | 11.2* | 14.78* | (15.79)* | 2.00* | Lumber & Wire 10.00* | 26.78* | (27.79)* | |
| 7. Overhead | 13.3* | 19.20* | (20.10)* | 4.75* | Miscellaneous 102.75* | 126.70* | (110.60)* | |
| Total Cash & Labor Cost For Cultural | 167.9 | \$226.63 | | \$ 39.09 | \$228.39 | \$494.11 | | |
| | 167.9 | | \$(241.48) | 39.09 | \$(211.39) | | \$(491.96) | |

*ONLY these figures are added to form the total.

HARVEST SUMMARY OF SAMPLE COSTS TO PRODUCE HOPS (HIGH TRELLIS)

June 1961

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90 Acre Economic Unit
Yield - 1540#/A Dried Hops (12 yr. Ave.)

SACRAMENTO COUNTY 1960-61

| OPERATION | Hours Per Acre | Cash and Labor Cost Per Acre | | | | Total | | |
|--|----------------|------------------------------|--------------------|-----------|---------------------|--------------------|--------------------|---------------------|
| | | Labor | Fuel and Repairs | Materials | | (Excludes WC & SS) | (Includes WC & SS) | Growers Actual Cost |
| HARVEST | | (Excludes WC & SS) | (Includes WC & SS) | | | (Excludes WC & SS) | (Includes WC & SS) | Growers Actual Cost |
| 1. Picking | | | | | | | | |
| a. Cut, Load, Haul | 27.5 | \$ 40.05 | \$(42.68) | \$ 2.50 | Hired Trucks | \$ 17.50 | \$ 60.05 | \$(62.68) |
| b. Pick, Chop & Remove Vines | 41.5 | 62.25 | (66.09) | 36.14 | | | 98.39 | (102.33) |
| *SUB-TOTAL | 69.0* | 102.30* | (108.77)* | 38.64* | | 17.50* | 158.44* | (164.91)* |
| 2. Drying | 12.4* | 20.20* | (21.20)* | 15.24* | | | 35.44* | (36.44)* |
| 3. Baling | 7.0* | 9.94* | (10.64)* | .50* | Burlap, Twine, Etc. | 18.36* | 28.80* | (29.50)* |
| 4. Hauling | 1.0* | 1.50* | (1.59)* | | Hired Truck | .50* | 2.00* | (2.09)* |
| 5. Overhead | 1.0* | 1.80* | (1.80)* | | Miscellaneous | 10.18* | 11.98* | (1.80)* |
| TOTAL CASH & LABOR COST FOR HARVEST | 90.4 | \$135.74 | \$54.38 | \$46.54 | | | \$236.66 | \$(234.74) |
| | 90.4 | | \$(144.00) | \$54.38 | | | | |

SUMMARY OF INVESTMENTS, DEPRECIATION AND INTEREST

| Total Initial New Cost | Investment | New Cost Per Acre | Annual Cost Depreciation | Annual Cost Interest | Total/Acre |
|------------------------|--------------------------|-------------------|--------------------------|----------------------|------------|
| \$299,000 | Equipment and Facilities | \$3,769 | \$122.10* | \$150.57* | \$272.67 |

* Only these figures are added to form the total.

SUMMARY OF TOTAL SAMPLE COSTS TO PRODUCE HOPS (HIGH TRELLIS)

June 1961

SACRAMENTO COUNTY 1960-61

90 Acre Economic Unit
Yield - 1540#/A Dried Hops (12 yr. Ave.)

| OPERATION | Hours Per Acre | Cash and Labor Cost Per Acre | | | | | Int. & Depr. Per Acre | Total Per Acre | Grower Total/Acre | Total Per lb. | Grower Total Per lb. |
|--------------|----------------|------------------------------|--------------------|------------------|--------------------|--------------------|-----------------------|-------------------|-------------------|----------------|----------------------|
| | | Labor | | Fuel and Repairs | Materials | | | | | | |
| | | (Excludes WC & SS) | (Includes WC & SS) | | (Includes WC & SS) | (Excludes WC & SS) | | | | | |
| CULTURAL | 167.9 | \$226.63* | \$(241.48) | \$ 39.09* | \$228.39* | \$(211.39) | | \$ 494.11* | | \$0.321 | |
| HARVEST | 90.4 | 135.74* | \$(144.00) | \$ 54.38* | \$ 46.54* | \$(36.36) | | 236.66* | | 0.154 | |
| OTHER | | | | | | | \$272.67 | 272.67* | | 0.177 | |
| TOTAL | 258.3 | \$362.37* | \$(385.48) | \$ 93.47* | \$274.93* | \$(247.75) | \$272.67 | \$1003.44* | | \$0.652 | |

COSTS PER POUND TO GROW HOPS (1540#/A YIELD)

| OPERATION | Man Hours | Labor (Excludes WC & SS) | Fuel and Repairs | Materials (Includes WC & SS) | Depreciation & Interest | Total Per Acre | TOTAL |
|--------------|--------------|--------------------------|------------------|------------------------------|-------------------------|----------------|----------|
| CULTURAL | 0.109 | \$0.147 | \$ 0.025 | \$ 0.148 | — | \$ 0.320 | \$ 0.474 |
| HARVEST | 0.059 | \$0.088 | 0.035 | 0.030 | — | 0.154 | |
| OTHER | — | — | — | — | \$ 0.177 | 0.177 | |
| TOTAL | 0.168 | \$0.235 | \$0.060 | \$0.178 | \$ 0.177 | 0.652 | |

Per Pound

●Minor discrepancies in this table can be attributed to rounding off of figures.

90 Acre Economic Unit

TABLE OF NET INCOME PER ACRE FOR HOPS -- SACRAMENTO COUNTY -

June, 1961

Yield of Dried Price Per lb.
Hops, lbs/Acre To Grower →

| | | 10¢ | 20¢ | 30¢ | 40¢ | 45¢ | 50¢ | 55¢ | 60¢ | 65¢ | 70¢ | 75¢ | 80¢ | 85¢ | 90¢ |
|------|--------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|
| 1100 | Gross Income | 110 | 220 | 330 | 440 | 495 | 550 | 605 | 660 | 715 | 770 | 825 | 880 | 935 | 990 |
| | Cost | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 | 940 |
| | Net Income | -830 | -720 | -610 | -500 | -445 | -390 | -335 | -280 | -225 | -170 | -115 | -60 | -5 | 50 |
| 1200 | Gross Income | 120 | 240 | 360 | 480 | 540 | 600 | 660 | 720 | 780 | 840 | 900 | 960 | 1020 | 1080 |
| | Cost | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 | 955 |
| | Net Income | -835 | -715 | -595 | -475 | -415 | -355 | -295 | -235 | -175 | -115 | -55 | 5 | 65 | 125 |
| 1300 | Gross Income | 130 | 260 | 390 | 520 | 585 | 650 | 715 | 780 | 845 | 910 | 975 | 1040 | 1105 | 1170 |
| | Cost | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 | 970 |
| | Net Income | -840 | -710 | -580 | -450 | -385 | -320 | -255 | -190 | -125 | -60 | 5 | 70 | 135 | 200 |
| 1400 | Gross Income | 140 | 280 | 420 | 560 | 630 | 700 | 770 | 840 | 910 | 980 | 1050 | 1120 | 1190 | 1260 |
| | Cost | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 | 985 |
| | Net Income | -845 | -705 | -565 | -425 | -355 | -285 | -215 | -145 | -75 | -5 | 65 | 135 | 205 | 275 |
| 1500 | Gross Income | 150 | 300 | 450 | 600 | 675 | 750 | 825 | 900 | 975 | 1050 | 1125 | 1200 | 1275 | 1350 |
| | Cost | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| | Net Income | -850 | -700 | -550 | -400 | -325 | -250 | -175 | -100 | -25 | 50 | 125 | 200 | 275 | 350 |
| 1600 | Gross Income | 160 | 320 | 480 | 640 | 720 | 800 | 880 | 960 | 1040 | 1120 | 1200 | 1280 | 1360 | 1440 |
| | Cost | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 | 1015 |
| | Net Income | -855 | -695 | -535 | -375 | -295 | -215 | -135 | -55 | 25 | 105 | 185 | 265 | 345 | 425 |
| 1700 | Gross Income | 170 | 340 | 510 | 680 | 765 | 850 | 935 | 1020 | 1105 | 1190 | 1275 | 1360 | 1445 | 1530 |
| | Cost | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 | 1030 |
| | Net Income | -860 | -690 | -520 | -350 | -265 | -180 | -95 | -10 | 75 | 160 | 245 | 330 | 415 | 500 |
| 1800 | Gross Income | 180 | 360 | 540 | 720 | 810 | 900 | 990 | 1080 | 1170 | 1260 | 1350 | 1440 | 1530 | 1620 |
| | Cost | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 | 1045 |
| | Net Income | -865 | -685 | -505 | -325 | -235 | -145 | -55 | 35 | 125 | 215 | 305 | 395 | 485 | 575 |
| 1900 | Gross Income | 190 | 380 | 570 | 760 | 855 | 950 | 1045 | 1140 | 1235 | 1330 | 1425 | 1520 | 1615 | 1710 |
| | Cost | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 | 1060 |
| | Net Income | -870 | -680 | -490 | -300 | -205 | -110 | -15 | 80 | 175 | 270 | 365 | 460 | 555 | 650 |
| 2000 | Gross Income | 200 | 400 | 600 | 800 | 900 | 1000 | 1100 | 1200 | 1300 | 1400 | 1500 | 1600 | 1700 | 1800 |
| | Cost | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 | 1075 |
| | Net Income | -875 | -675 | -475 | -275 | -175 | -75 | 25 | 125 | 225 | 325 | 425 | 525 | 625 | 725 |
| 2100 | Gross Income | 210 | 420 | 630 | 840 | 945 | 1050 | 1155 | 1260 | 1365 | 1470 | 1575 | 1680 | 1785 | 1890 |
| | Cost | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 | 1090 |
| | Net Income | -880 | -670 | -460 | -250 | -145 | -40 | 65 | 170 | 275 | 380 | 485 | 590 | 695 | 800 |
| 2200 | Gross Income | 220 | 440 | 660 | 880 | 990 | 1100 | 1210 | 1320 | 1430 | 1540 | 1650 | 1760 | 1870 | 1980 |
| | Cost | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 | 1105 |
| | Net Income | -885 | -665 | -445 | -225 | -115 | -5 | 105 | 215 | 325 | 435 | 545 | 655 | 765 | 875 |

DETAILS AND EXPLANATION OF NET INCOME TABLE

GROSS INCOME is computed by multiplying the yield per acre of dried hops times the total price per pound (including premiums) received by the grower. (1500#/A x 60¢ per pound = \$900/A gross income).

COSTS include Total Cultural Cost (\$494.11/A) Plus Total Depreciation & Interest Cost (\$272.67/A) PLUS Total Harvest Costs adjusted for yield. Harvest Costs are assumed to increase or decrease by \$15 with each corresponding 100 lb. change in yield. At 1540#/A, harvest cost is \$236.66/A or \$0.154 per pound. At 1500#/A, harvest costs are \$6.16/A less, or \$230.50/A. When this is added to Total Cultural (\$494.11) plus Depreciation & Interest (\$272.67) costs, the grand total is \$997.28/A. For practical reasons the Total Cost figure of \$1000/A will be used in this table for the 1500#/A level.

EXAMPLE: Calculations are based on 1540#/A yield. Entries in the table are centered about the 1500#/A yield level (adjusted from 1540#/A) and show costs and returns both above and below the 1500#/A level.

| | | |
|---|--|------------------------|
| 1. At 1500#/A yield and 60¢ per pound price: | Gross Income (1500#/A x \$.60) | \$ 900/A |
| | Cost | <u>\$1000/A</u> |
| | NET INCOME | - \$ 100/A (Net Loss) |
| | | |
| 2. At 1800#/A yield and 60¢ per pound price: | Gross Income (1800#/A x \$.60) | \$1080/A |
| | Cost (\$1000 Plus \$45) \$1000/A at 1500#/A yield Plus 3 X \$15 for increased yield at 1800#/A | \$1045/A |
| | NET INCOME | + \$ 35/A (Net Profit) |

NOTE: It is recognized that in some cases operating efficiencies in the Harvest Operation are realized with increased yield per acre which will reduce the Harvest Costs below those indicated in this study. These variables are quite difficult to analyze or estimate and therefore have NOT been considered in the above calculations.