


<p>Farm Business Management Reports</p>		<p>EB1957E</p>
	<p>COST OF ESTABLISHING AND PRODUCING SWEET CHERRIES IN CENTRAL WASHINGTON IN 2003</p>	
	<p>Herbert Hinman Jack Watson</p>	
<p>COOPERATIVE EXTENSION <b>WASHINGTON STATE</b>  <b>UNIVERSITY</b> <i>World Class. Face to Face.</i></p>	<p>PROJECT FUNDED BY: USDA/RISK MANAGEMENT AGENCY</p>	

Online at: <http://www.farm-mgmt.wsu.edu/treefruits.htm>

## PREFACE

Enterprise costs and returns vary from one location to the next and over time for any particular farming operation. Variability stems from differences in the following:

- ! Capital, labor, and natural resources
- ! Type and size of machinery complement
- ! Cultural practices
- ! Size of farm enterprise
- ! Crop yields
- ! Input prices
- ! Commodity prices
- ! Management skill

Costs can also be calculated differently depending on the intended use of the cost estimate. The information in this publication serves as a general guide for establishing and producing sweet cherries in central Washington. To avoid drawing unwarranted conclusions for any particular farm or group of farms, the reader must closely examine the assumptions used. If they are not appropriate for the situation under consideration, adjustments in the costs and/or returns should be made.

## Table of Contents

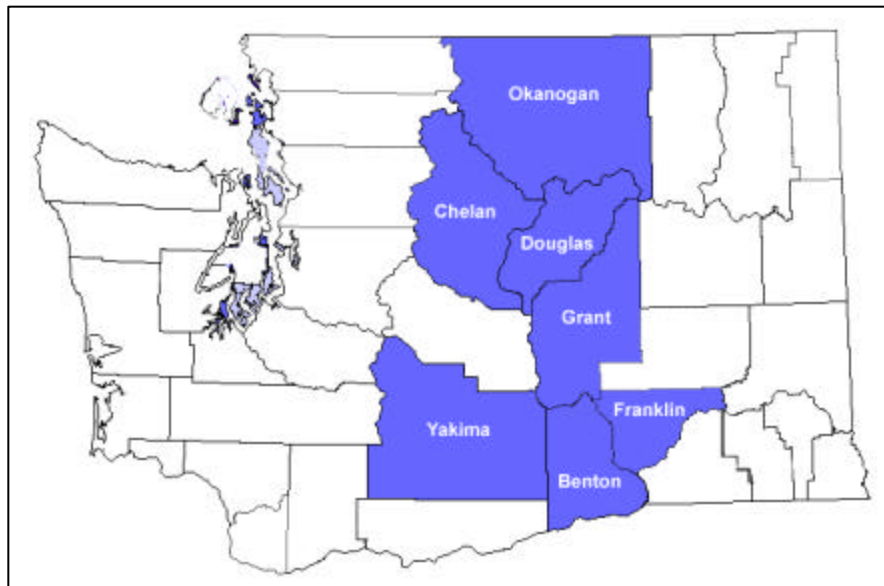
Preface.....	i
Table of Contents .....	ii
Introduction.....	1
Objectives and Limitations of the Study .....	3
Sources of Information .....	4
Budget Assumptions .....	4
Summary of Results for Older Mature Cherry Orchards .....	5
Price and Yield Analysis .....	7
Summary of Results for Cherry Orchards Established on Mazzard	
Rootstock .....	9
Price and Yield Analysis .....	13
Summary of Results for Cherry Orchards Established on Giesla 6	
Rootstock .....	17
Price and Yield Analysis .....	21
Detailed Results .....	23
Concluding Note .....	26
Appendix I .....	27
Appendix II.....	33
Appendix III .....	63
Appendix IV .....	90

# COST OF ESTABLISHING AND PRODUCING SWEET CHERRIES IN CENTRAL WASHINGTON IN 2003

Herbert Hinman and Jack Watson<sup>1</sup>

## Introduction

Sweet cherries are one of Washington State's major agricultural commodities. In 2001, sweet cherries ranked ninth in overall value of agricultural commodities produced in the state with a gross value of slightly over \$144 million. From 1992 to 1997, bearing sweet cherry acreage in the state increased from 14,000 acres to 18,000 acres. By 2001, the bearing sweet cherry acreage had increased to 22,000 acres (Washington Agricultural Statistics, 2002). The sweet cherry orchard acreage within the state is located almost entirely in the arid central region east of the Cascade Mountains. The central Washington counties Yakima, Benton, Franklin, Okanogan, Chelan, Douglas, and Grant account for 95% of the acreage. According to the 1997 Census of Agriculture, 27 percent of the state's acreage was in Yakima County with 16.4, 15.3 and 14.2 percent being located in Chelan, Grant and Benton counties, respectively.



Central Washington  
Primary Cherry Producing Counties

---

<sup>1</sup>Extension Economist; Benton-Franklin County Area Extension Agent, Cooperative Extension, Washington State University.

While production varies from year to year depending on the weather, Washington State ranks first in the nation, producing about 46% of the total U.S. crop (Washington Agricultural Statistics, 2002). Although most Washington sweet cherries go to the fresh market, some tonnage is canned, brined, or utilized in other ways. In 2001, 4.2 percent of Washington's sweet cherry crop was canned, 10.4 percent was brined, and 6.1 percent went to other uses. The dominant cultivar is Bing with smaller amounts of Lambert, Rainier, and Van.

As a result of the increasing acreage of sweet cherries in Washington State, there are basically two economic situations facing producers in the sweet cherry industry when it comes to evaluating the profitability of sweet cherries. The first situation is that of established mature sweet cherry orchards. The second situation is that of establishing new sweet cherry orchards. In this latter situation, many new orchards are (or have been) established using a self-pollinating variety of sweet cherry on either Mazzard or Giesla 6 rootstock. Giesla 6 is a more recently developed rootstock and produces a tree that is approximately 25% smaller than that produced on the Mazzard rootstock. Trees on Giesla 6 rootstock are capable of getting into full production about a year before trees on Mazzard rootstock (5 versus 6 years).

Before reviewing the results of this study there are several factors within the Washington sweet cherry industry of which the reader must be aware. The information used in this study was gathered from experienced sweet cherry growers with sizable plantings in central Washington. These growers represent the better orchard managers in the state. Thus, the yield levels used in this study are those expected by these better managers and are higher than the average for the industry. The five-year average yield for the industry for 1997-2001 was 4.9 tons per acre while the average price received during this same time period was \$1,492 per ton or 74.6¢ per pound (Washington Agricultural Statistics, 2002). The results from this study show that yields and prices at this level would be a break-even situation at best.

Although hidden in the numbers, fruit size has become increasingly important. High yields of small fruit are not very profitable and will become less so over time. Fifteen years ago the industry moved to increase the minimum fruit size that could be shipped to the fresh market. They were successful in doing that. The same issue is again being discussed by the industry, but for a larger minimum size. Big fruit can earn 50¢ or more per pound than small fruit at the FOB level and most of the increase in price goes to the grower.

The other factor to consider is the wide swing in prices through the season. The perishability of cherries means that they need to be shipped soon after harvest. The result, over the years, has been a market with a high starting price and a major drop as volume increases. Late in the season, as volume decreases, the price will start to rise again. Establishing an orchard that will have a harvest timing that is in the middle of the season is running a very high risk of failure due to low prices nearly every year. This market risk may be greater than the weather risk that is quite prevalent within the sweet cherry industry.

### **Objectives and Limitations of the Study**

The assumption is made that 10 acres of sweet cherries have been or are being planted into an existing orchard on 11 acres of land. For every 10 acres of cherries actually planted, it is assumed that approximately one acre is used for roads, windbreaks, buildings, and service areas. The objective of this study is to project what such a planting requires in the way of equipment, materials, supplies, and labor to establish the orchard and maintain it as a mature orchard. A further objective of this study is to estimate what prices and yields must be obtained to make the establishment and production of sweet cherries a profitable venture.

Many factors can alter not only establishment and production costs, but also pack-out and returns. Due to the assumptions and sources of information used, the values reported in this publication represent what knowledgeable and skilled fruit growers might anticipate to be their average cost and production over the life of the orchard **if nothing goes wrong**. It should be realized, however, that crop loss due to cold injury or rain should be periodically anticipated. As a result of this fact, a few of the many scenarios producers face in the real world are also examined in this publication.

We recommend that individual growers use the blanks provided on the right-hand side of various budget tables to estimate their own costs and returns. The primary value in a report of this kind is to identify the practices typical of a modern and well-managed sweet cherry orchard. While this publication does not represent the average grower and is not intended to be a guide to production practices, it does indicate current trends. As such, it should be helpful in estimating the physical and financial requirements of comparable plantings.

## **Sources of Information**

The assumptions used in this study were obtained from a group of experienced sweet cherry growers with sizable plantings in central Washington. Their production practices and requirements for labor, equipment, and supplies are the basis for the assumptions used in this study and represent what this group of fruit growers consider to be the latest developments. Central Washington suppliers provided information on current prices for machinery, equipment, custom operations, fertilizers, chemicals, and power.

## **Budget Assumptions**

Since three different situations are evaluated in this publication, different assumptions exist for each of the three situations. However, the following assumptions apply to all three situations:

1. Each planting is 10 acres planted on 11 acres of land. Total life of each planting is estimated to be 25 years.
2. Irrigation water is available from a public irrigation district. A permanent under-tree sprinkler system with a sprinkler setting of 32 x 20 and a 25-year life was installed at a cost of \$2,150 per acre. Pressurized water is delivered to the orchard at a power and water cost of \$150 per acre.
3. A 125-horsepower propane-driven wind machine was installed at a cost of \$21,000. This wind machine serves the entire 11 acres and has an estimated life of 25 years.
4. A holding pond for frost control purposes was established costing \$600 per acre served with a 25-year life.
5. Machinery and buildings are valued at costs incurred if the items were to be replaced. Items are valued at new or used replacement value depending on how they are typically replaced. While this may overstate current production costs, it provides an indication of the enterprise's ability to generate the earnings needed to replace depreciable assets. Continuing increases in prices mean that depreciation claimed on assets purchased prior to price advances understates the amount of capital required for asset replacement. When

an enterprise is evaluated to determine its long-run viability, it is important to consider its ability to replace depreciable assets on a replaceable cost basis.

6. Land is valued at \$3,500 per acre with land taxes of \$70 per acre. An 8% return to land is desired, in addition to any appreciation in land values.
7. Interest is 8.5%.
8. Labor and management charges are the following including all benefits, i.e., social security, labor and industries, etc.:

Foreman	\$ 20.00/hour
Tractor drivers & crew leaders	10.00/hour
Casual labor	8.00/hour

#### **Summary of Results for Older Mature Cherry Orchards**

The economically viable mature cherry orchards in central Washington, 10 years old and older, typically have pollenizer trees mixed with the main variety. A Bing orchard is generally configured to have approximately 136 trees per acre producing 5.5 tons of cherries and 1 ton of Vans in years where weather problems do not cause a decrease in production. In addition to the general assumptions listed above, assumptions specific to the older mature cherry orchards are the following:

1. The sweet cherries are on Mazzard or Mahaleb rootstock.
2. The trees are planted 20 feet x 16 feet, or 136 trees per acre. The main variety, Bing sweet cherries, consists of 121 trees. The remaining 15 trees in the acre are Van pollenizers. The trees are trained into 3-leader trees.
3. The wind machine was purchased and installed in the spring of establishment year 4.
4. The holding pond for irrigation and frost control purposes was established for use in year 5 of the establishment years.
5. Prices received by the producer are 75¢/pound (\$1,500/ton) for Bings and \$900/ton for Vans. These prices reflect the returns from all cherries (fresh, canned, and briners).



Table 1 presents a per acre summary of the costs involved in producing sweet cherries in a mature orchard 10 years old or older.

Table 1. Cost of Producing Sweet Cherries from an Older Mature Sweet Cherry Orchard (136 trees) in Central Washington[1].

	\$
Variable Cost:	
Fertilizer	148.12
Chemicals	222.89
Mouse Control	12.00
Beehives	70.00
Helicopter Drying	30.00
Helicopter Application	30.00
Casual Labor	276.00
Fulltime/Machine Labor	855.30
Supervisor Labor	190.00
Picking Labor	1,950.00
Custom Hauling	65.00
Irrigation/Electrical Charge	170.00
Machine/Equipment Cost	401.53
Overhead	400.00
Interest	157.25
Total Variable Cost	4,978.09
Fixed Cost:	
Machine/Equipment Cost	784.69
Land Taxes	77.00
Interest on Land	308.00
Amortized Establishment Cost[2]	1,592.61
Total Fixed Cost	2,762.30
Total Cost	7,740.39

[1]Assumes 6.5 tons per acre.

[2]The annual amortized net establishment cost is taken from that calculated in the extension bulletin Cost of Establishing and Producing Sweet Cherries in Central Washington in 1998.

As shown in Table 1, the total variable cost of producing sweet cherries in an older mature cherry orchard, under the given assumptions, is \$4,978.09, with the total cost of production being \$7,740.39. Given a yield of 5.5 tons per acre of Bing cherries valued at \$1,500/ton and 1 ton of Van cherries valued at \$900/ton, per acre receipts minus variable cost are \$4,171.91.

Receipts minus total cost, which represent returns to management and risk, are \$1,409.61.

Receipts:	\$9,150.00
Variable Cost:	<u>4,978.09</u>
Receipts minus Variable Cost:	4,171.91
Fixed Cost:	<u>2,762.30</u>
Returns to Management and Risk:	\$1,409.61

The amortized establishment cost shown in Table 1 is taken from that calculated in the extension bulletin Cost of Establishing and Producing Sweet Cherries in Central Washington in 1998 which estimated the cost of establishing a similar cherry orchard in 1998. Establishment costs and the calculation of the amortized establishment cost figure are more fully discussed in the following sections on new orchards established on Mazzard and Giesla 6 rootstock.

In the case of a mature cherry orchard that is purchased, the purchase price minus the present value of the estimated terminal value of the orchard would need to be amortized over the life of the orchard. For instance, in the above situation, if a 10-year old cherry orchard currently sells for \$13,000 per producing acre and is expected to sell for \$4,000 per producing acre at the end of 15 years, at 8.5% interest, the annual amortized cost of purchase over the 15-year period would equal \$1,423.78. This is the combined annual interest and principal payment on the investment over the 15 years. Thus, whatever amortized cost one should use will have an effect on value given to fixed cost and total cost.

#### Price and Yield Analysis

As stated from the beginning, this study represents what knowledgeable fruit growers might anticipate from plantings of sweet cherries over their productive life **if nothing goes wrong**. It should be realized, however, that crop loss due to cold injury or rain should be periodically anticipated. It is currently estimated that within every five-year period, one or two serious yield reductions will occur due to adverse weather conditions. In addition, the prices received for cherries may be less or more than assumed in this study. Table 2 shows the average cost per ton of yield at different yield levels with and without the amortized establishment cost of \$1,592.61 being included.

Table 2. Average Cost per Ton of Producing Sweet Cherries at Different Yield Levels from an Older Mature Sweet Cherry Orchard (136 trees) in Central Washington.

Yield Level (Tons)	Average Cost Excluding Establishment Cost \$	Average Cost Including Establishment Cost \$
4.0	1,290.44	1,688.59
4.5	1,190.88	1,544.79
5.0	1,111.23	1,429.76
5.5	1,046.07	1,335.63
6.0	991.76	1,257.20
6.5	945.81	1,190.83
7.0	906.43	1,133.94
7.5	872.29	1,084.64
8.0	842.42	1,041.50
8.5	816.07	1,003.44
9.0	792.64	969.60

Table 3 shows what the returns per acre from an older mature sweet cherry orchard would approximate at different price and yield levels.

Table 3. Returns per Acre from an Older Mature Sweet Cherry Orchard (136 trees) in Central Washington at Different Price and Yield Levels.

Price/Ton		\$	\$	\$	\$	\$	\$	\$
Bings:		1,100	1,200	1,300	1,400	1,500	1,600	1,700
Vans:		660	720	780	840	900	960	1,020
	Yield (Tons)							
Bing:	4.50	-1,783.79	-1,284.59	-785.39	-286.19	213.01	712.21	1,211.41
Van:	0.82							
Bing:	5.00	-1,407.09	-852.49	-297.89	256.71	811.31	1,365.91	1,920.51
Van:	0.91							
Bing:	5.50	-1,030.39	-420.39	189.61	799.61	1,409.61	2,019.61	2,629.61
Van:	1.00							
Bing:	6.00	-653.69	11.71	677.11	1,342.51	2,007.91	2,673.31	3,338.71
Van:	1.09							
Bing:	6.50	-276.99	443.81	1,164.61	1,885.41	2,606.21	3,327.01	4,047.81
Van:	1.18							
Bing:	7.00	99.71	875.91	1,652.11	2,428.31	3,204.51	3,980.71	4,756.91
Van:	1.27							

The detailed results of this study of older mature cherry orchards as to the schedule of operations and the amounts and prices of material and services used are presented in Appendix I. A detailed explanation as to the information presented in the Appendices is given in the section "Detailed Results" on page 23.

### **Summary of Results for Cherry Orchards Established on Mazzard Rootstock**

Planted acreage of cherry orchards has increased over the last several years. Many new orchards are (or have been) established using a self-pollinating variety of sweet cherry on either Mazzard or Giesla 6 rootstock. Mazzard is the older of the two rootstocks and orchards planted to this rootstock are expected to come into full production by the seventh leaf. In addition to the general assumptions previously listed, assumptions specific to orchards being established on Mazzard rootstock are the following:

1. The trees are planted on an open field suitable for machine planting.
2. The trees are planted 10 feet x 16 feet, or 272 trees per acre. Since the variety being used is a self-pollinating variety, no pollenizer trees are needed. The trees are trained into 3-leader trees.
3. The wind machine was purchased and installed in the spring of establishment year 4.
4. The holding pond for irrigation and frost control purposes was established for use in year 5 of the establishment years.
5. Yields, assuming planting on good ground and no crop loss during the establishment years due to adverse weather and nothing goes wrong, are the following:

Year 4	3.0 tons/acre
Year 5	5.5 tons/acre
Year 6	7.5 tons/acre
Mature	9.0 tons/acre
6. Price received by the farmers is 75¢/pound (\$1,500/ton). This price reflects the returns from all cherries (fresh, canned and briners).

Gross Returns Per Acre

Year 4	\$ 4,500
Year 5	\$ 8,250
Year 6	\$11,250
Mature	\$13,500

Table 4 presents the estimated annual capital requirements in land, irrigation system, operating expenses, and new equipment purchased as a direct consequence of adding 10 acres of cherries (on 11 acres of land) to an existing orchard operation. Since the 10-acre planting of cherries was added to an existing orchard, most field equipment, buildings, and vehicles required to operate this additional 10 acres are likely to be on hand already. Therefore, the only equipment purchases listed as a direct result of orchard expansion are the irrigation system, holding pond, wind machine, alarm, and thermometers. Where the situation differs from the above assumptions, adjustments in the figures presented in Table 3 may be necessary. It was assumed all items were purchased the year they were first used. Of course, the actual timing of the capital outlays will vary, depending on how the various assets are financed.

Table 4. Summary of Capital Requirements per Year for Establishing 10 Acres of Sweet Cherries on Mazzard Rootstock in Central Washington [1].

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	\$	\$	\$	\$	\$	\$
Requirements:						
Land (11 acres)	38,500					
Irrigation System	15,000					
Equipment[2]				21,000	6,000	
Operating Expenses[3]	37,176	19,281	22,862	38,141	46,346	53,881
<b>Total Requirements</b>	<b>90,676</b>	<b>19,281</b>	<b>22,862</b>	<b>59,141</b>	<b>52,346</b>	<b>53,881</b>
Receipts[4]				45,000	82,500	112,500
<b>Yearly Requirements</b>	<b>90,676</b>	<b>19,281</b>	<b>22,862</b>	<b>14,141</b>	<b>-30,154</b>	<b>-58,619</b>

[1] Does not include interest on investment.

[2] One wind machine in year 4 and a holding pond in year 5. Any other field equipment that may be purchased as a result of these additional 10 acres of cherries being added to the existing orchard are not listed.

[3] Includes variable costs, land taxes, and prorated taxes and insurance on machinery, buildings and irrigation equipment.

[4] See assumptions 5 and 6 on the previous page.

Where Table 4 presents a summary of the total cash requirements over the 6-year establishment period, Table 5 presents a per acre

summary of the costs involved during the 6-year establishment period.

Table 5. Per Acre Cost of Establishing a Sweet Cherry Orchard on Mazzard Rootstock.

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	\$	\$	\$	\$	\$	\$
Variable Cost:						
Soil Preparation	114.00					
Trees	1,632.00	36.00	24.00	18.00		
Planting Trees	81.60					
Companion Seed	26.25					
Paint	4.80		12.80			
Fertilizer	66.25	57.50	37.50	108.04	108.04	108.04
Chemicals	223.75	84.08	131.06	321.13	321.13	321.13
Mouse Control	12.00	12.00	12.00	12.00	12.00	12.00
Clips and String		40.00	40.00	40.00		
Beehives				35.00	70.00	70.00
Helicopter Drying				30.00	30.00	30.00
Helicopter Applic.				30.00	30.00	30.00
Casual Labor	88.24	400.00	708.00	328.00	244.00	244.00
Fulltime/Mach Labor	301.60	313.00	315.50	602.00	710.70	807.90
Supervisor Labor	110.00	110.00	110.00	190.00	190.00	190.00
Picking Labor				900.00	1,650.00	2,250.00
Custom Hauling				30.00	55.00	75.00
Irrig/Elect Charge	150.00	150.00	150.00	170.00	170.00	170.00
Mach/Equip Costs	231.02	153.39	159.39	323.40	347.13	363.72
Overhead	400.00	400.00	400.00	400.00	400.00	400.00
Interest	181.60	70.88	83.92	127.51	141.95	157.54
Total Variable Cost	3,623.11	1,826.85	2,184.17	3,665.08	4,479.95	5,229.33
Fixed Cost:						
Mach/Equip Cost	333.93	306.33	314.51	671.78	730.50	769.90
Land Taxes	77.00	77.00	77.00	77.00	77.00	77.00
Interest on Land	308.00	308.00	308.00	308.00	308.00	308.00
Estab Cost Interest		369.07	614.48	911.82	1,008.20	868.25
Total Fixed Cost	718.93	1,060.40	1,313.99	1,968.60	2,123.70	2,023.15
Total Cost	4,342.04	2,887.25	3,498.16	5,633.68	6,603.65	7,252.48
Value of Production				4,500.00	8,250.00	11,250.00
Net Cost	4,342.04	2887.25	3,498.16	1,133.68	-1,646.35	-3,997.52
Accumulated Cost	4,342.04	7,229.29	10,727.45	11,861.13	10,214.78	6,217.26

The establishment costs are categorized as to variable, fixed, and total costs. While variable cost essentially reflects cash input costs incurred and used the year of purchase (trees being the exception), fixed costs reflect the cost of inputs that are purchased, or already owned, that have a life of more than one year. Therefore, some of the up-front cash costs such as land,

the irrigation system, and the wind machine are allocated over the life of the cherry orchard and do not show as a 1-year cost obligation as shown in Table 4.

After year 6, the assumption is made that the orchard is fully established. At this point it is assumed that the orchard has 19 more years of productive life with an average annual yield of 9 tons per acre. Over these remaining years, the orchard must pay back the \$6,217 cost per acre incurred in establishing this orchard. Thus, assuming an 8.5% interest rate and a 19-year payback period, the mature orchard has an amortized establishment cost of \$670.85 per acre per year that must be recovered.

Table 6 presents a summary of the per acre costs involved in producing sweet cherries in a mature cherry orchard.

Table 6. Cost of Producing Sweet Cherries in a Mature Cherry Orchard on Mazzard Rootstock[1].

	\$
Variable Cost:	
Fertilizer	108.04
Chemicals	321.13
Mouse Control	12.00
Beehives	70.00
Helicopter Drying	30.00
Helicopter Application	30.00
Casual Labor	276.00
Fulltime/Machine Labor	983.20
Supervisor Labor	190.00
Picking Labor	2,700.00
Custom Hauling	90.00
Irrigation/Electrical Charge	170.00
Machine/Equipment Cost	425.65
Overhead	400.00
Interest	<u>179.57</u>
Total Variable Cost	5,985.59
Fixed Cost:	
Machine/Equipment Cost	838.40
Land Taxes	77.00
Interest on Land	308.00
Amortized Establishment Cost	<u>670.85</u>
Total Fixed Cost	1,894.25
Total Cost	<u>7,879.84</u>

[1]Assumes 9 tons per acre.

As shown in Table 6, the total variable cost of producing sweet cherries in a mature cherry orchard, under the given assumptions, is \$5,985.59, with the total cost of production being \$7,879.84. Given a yield of 9 tons per acre and a price of \$1,500 per ton for the cherries produced, per acre receipts minus variable cost are \$7,514.41.

Receipts minus total cost, which represent returns to management and risk, are \$5,620.16.

Receipts:	\$13,500.00
Variable Cost:	<u>5,985.59</u>
Receipts minus	
Variable Cost:	7,514.41
Fixed Cost:	<u>1,894.25</u>
Returns to Management	
and Risk:	\$ 5,620.16

#### Price and Yield Analysis

Due to the assumptions and sources of information used, the values reported in this publication represent what knowledgeable and skilled fruit growers might anticipate to be their average cost and production over the life of the orchard **if nothing goes wrong**. However, crop loss due to cold injury or rain should be anticipated. Over a 5-year period, it is most generally anticipated that a serious crop loss will occur one or two years due to adverse weather conditions. In addition, prices received by the producer may be less (or more) than those assumed in the above analysis.

Table 7 shows the average cost per ton of yield at different yield levels with and without the amortized establishment cost of \$670.85 being included. In addition to Table 7, in order to get a feel for the risk involved in producing sweet cherries, a couple scenarios are presented.



Table 7. Average Cost per Ton of Producing Sweet Cherries at Different Yield Levels from a Mature Sweet Cherry Orchard (272 trees) on Mazzard Rootstock in Central Washington.

Yield Level (Tons)	Average Cost Excluding Establishment	Average Cost Including Establishment
	Cost \$	Cost \$
5.0	1,126.09	1,260.26
5.5	1,059.60	1,181.57
6.0	1,004.19	1,116.00
6.5	957.30	1,060.51
7.0	917.11	1,012.95
7.5	882.28	71.73
8.0	851.81	935.66
8.5	824.91	903.84
9.0	801.01	875.55
9.5	779.62	850.24
10.0	760.38	827.46

In the first scenario, it is assumed that during the establishment years the anticipated yields and prices were received. The net establishment costs are \$6,217 as shown in Table 5. Table 8 shows what the return per acre is estimated to be for the mature orchard under varying price and yield levels.

In the second scenario, it is assumed the producer received \$1,500/ton for his/her cherries during the establishment years, however, during year 5 of the establishment period a complete freeze-out occurred. This being the case, by eliminating the value of production of \$8,250 for year 5 (Table 5) and eliminating the cost of harvesting for year 5 of \$2,169.25 (Table 37, Appendix II) and adding additional interest to establishment costs of \$516.87 for year 6, an approximate increase of \$6,598 in the net establishment costs is estimated. Using this estimated increase in net establishment cost, the 6-year net establishment cost increases from \$6,217 to \$12,815. This adjustment causes the annual amortized establishment cost to increase from \$670.85 to \$1,382.76, thus increasing fixed and total costs of the mature cherry orchard by \$711.91. Table 9 shows the returns per acre for the mature orchard that had a complete freeze-out in year 5 of the establishment years.

Table 8. Returns per Acre from a Mature Sweet Cherry Orchard (272 trees) on Mazzard Rootstock in Central Washington at Different Price and Yield Levels (No Freeze-Outs during Establishment Years).

Price/Ton	\$	\$	\$	\$	\$	\$	\$	\$
	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
Yield (Tons)								
2.00	-2,917.22	-2,717.22	-2,517.22	-2317.22	-2,117.22	-1,917.22	-1717.22	-1517.24
2.50	-2,564.55	-2,314.55	-2,064.55	-1814.55	-1,564.55	-1,314.55	-1,064.55	-814.57
3.00	-2,211.88	-1,911.88	-1,611.88	-1,311.88	-1,011.88	-711.88	-411.88	-111.88
3.50	-1,859.21	-1,509.21	-1,159.21	-809.21	-459.21	-109.21	240.79	590.79
4.00	-1,506.54	-1,106.54	-706.54	-306.54	93.46	493.46	893.46	1,293.46
4.50	-1,153.87	-703.87	-253.87	196.13	646.13	1,096.13	1,546.13	1,996.13
5.00	-801.20	-301.20	198.80	698.80	1,198.80	1,698.80	2,198.80	2,698.80
5.50	-448.53	101.47	651.47	1,201.47	1,751.47	2,301.47	2,851.47	3,401.47
6.00	-95.86	504.14	1,104.14	1,704.14	2,304.14	2,904.14	3,504.14	4,104.14
6.50	256.81	906.81	1,556.81	2,206.81	2,856.81	3,506.81	4,156.81	4,806.81
7.00	609.48	1,309.48	2,009.48	2,709.48	3,409.48	4,109.48	4,809.48	5,509.48
7.50	962.15	1,712.15	2,462.15	3,212.15	3,962.15	4,712.15	5,462.15	6,212.15
8.00	1,314.82	2,114.82	2,914.82	3,714.82	4,514.82	5,314.82	6,114.82	6,914.82
8.50	1,667.49	2,517.49	3,367.49	4,217.49	5,067.49	5,917.49	6,767.49	7,617.49
9.00	2,020.16	2,920.16	3,820.16	4,720.16	5,620.16	6,520.16	7,420.16	8,320.16
9.50	2,372.83	3,322.83	4,272.83	5,222.83	6,172.83	7,122.83	8,072.83	9,022.83
10.00	2,725.50	3,725.50	4,725.50	5,725.50	6,725.50	7,725.50	8,725.50	9,725.50

Table 9. Returns Per Acre From a Mature Sweet Cherry Orchard (272 trees) on Mazzard Rootstock in Central Washington at Different Price and Yield Levels (Freeze-Out in Year 5 of Establishment Years).

Price/Ton	\$	\$	\$	\$	\$	\$	\$	\$
	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
Yield (Tons)								
2.00	-3,629.13	-3,429.13	-3,229.13	-3,029.13	-2,829.13	-2,629.13	-2,429.13	-2,229.13
2.50	-3,276.46	-3,026.46	-2,776.46	-2,526.46	-2,276.46	-2,026.46	-1,776.46	-1,526.46
3.00	-2,923.79	-2,623.79	-2,323.79	-2,023.79	-1,723.79	-1,423.79	-1,123.79	-823.79
3.50	-2,571.12	-2,221.12	-1,871.12	-1,521.12	-1,171.12	-821.12	-471.12	-121.12
4.00	-2,218.45	-1,818.45	-1,418.45	-1,018.45	-618.45	-218.45	181.55	581.55
4.50	-1,865.78	-1,415.78	-965.78	-515.78	-65.78	384.22	834.22	1,284.22
5.00	-1,513.11	-1,013.11	-513.11	-13.11	486.89	986.89	1,486.89	1,986.89
5.50	-1,160.44	-610.44	-60.44	489.56	1,039.56	1,589.56	2,139.56	2,689.56
6.00	-807.77	-207.77	392.23	992.23	1,592.23	2,192.23	2,792.23	3,392.23
6.50	-455.10	194.90	844.90	1,494.90	2,144.90	2,794.90	3,444.90	4,094.90
7.00	-102.43	597.57	1,297.57	1,997.57	2,697.57	3,397.57	4,097.57	4,797.57
7.50	250.24	1,000.24	1,750.24	2,500.24	3,250.24	4,000.24	4,750.24	5,500.24
8.00	602.91	1,402.91	2,202.91	3,002.91	3,802.91	4,602.91	5,402.91	6,202.91
8.50	955.57	1,805.57	2,655.57	3,505.57	4,355.57	5,205.57	6,055.57	6,905.57
9.00	1,308.25	2,208.25	3,108.25	4,008.25	4,908.25	5,808.25	6,708.25	7,608.25
9.50	1,660.92	2,610.92	3,560.92	4,510.92	5,460.92	6,410.92	7,360.92	8,310.92
10.00	2,013.59	3,013.59	4,013.59	5,013.59	6,013.59	7,013.59	8,013.59	9,013.59

The detailed results of this study for cherry orchards established on Mazzard rootstock as to each year's schedule of operations and amounts and prices of material and services used are presented in Appendix II. A detailed explanation as to the information presented in the Appendices is given in the section "Detailed Results" on page 23.

**Summary of Results for Cherry Orchards Established  
on Giesla 6 Rootstock**

Giesla 6 is a relatively new rootstock that is being used to produce a tree that is approximately 25% smaller than that produced on the Mazzard rootstock. This tree is also capable of getting into full production about a year before that grown on Mazzard rootstock (5 versus 6 years). Assumptions specific to orchards established on Giesla 6 rootstock are the following:

1. The trees are planted on an open field suitable for machine planting.
2. The trees are planted 10 feet x 16 feet, or 272 trees per acre. Since the variety being used is a self-pollinating variety, no pollinizer trees are needed. The trees are trained into 3-leader trees.
3. The wind machine was purchased and installed in the spring of establishment year 3.
4. The holding pond for irrigation and frost control purposes was established for use in year 4 of the establishment years.
5. Yields, assuming planting on good ground and no crop loss during the establishment years due to adverse weather and nothing goes wrong are the following:
 

Year 3	3.0 tons/acre
Year 4	5.5 tons/acre
Year 5	7.5 tons/acre
Mature	10.0 tons/acre
6. Price received by the farmers is 75¢/pound (\$1,500/ton). This price reflects the returns from all cherries (fresh, canned and briners).

Gross Returns Per Acre

Year 3	\$ 4,500
Year 4	\$ 8,250
Year 5	\$11,250
Mature	\$15,000

Table 10 presents the estimated annual capital requirements in land, irrigation system, operating expenses, and new equipment purchased as a direct consequence of adding 10 acres of cherries

(on 11 acres of land) to an existing orchard operation. Since the 10-acre planting of cherries was added to an existing orchard, most field equipment, buildings, and vehicles required to operate this additional 10 acres are likely to be on hand already. Therefore, the only equipment purchases listed as a direct result of orchard expansion are the irrigation system, holding pond, wind machine, alarm, and thermometers. Where the situation differs from the above assumptions, adjustments in the figures presented in Table 8 may be necessary. It was assumed all items were purchased the year they are first used. Of course, the actual timing of the capital outlays will vary, depending on how the various assets are financed.

Table 10. Summary of Capital Requirements per Year for Establishing 10 Acres of Sweet Cherries on Giesla 6 Rootstock in Central Washington [1].

	Year 1	Year 2	Year 3	Year 4	Year 5
	\$	\$	\$	\$	\$
Requirements:					
Land (11 acres)	38,500				
Irrigation System	15,000				
Equipment[2]			21,000	6,000	
Operating Expenses[3]	37,279	19,272	38,141	46,347	53,881
Total Requirements	90,779	19,272	59,141	52,347	53,881
Receipts[4]			45,000	82,500	112,500
Yearly Requirements	90,779	19,272	14,141	-30,153	-58,619

[1] Does not include interest on investment.

[2] One wind machine in year 3 and a holding pond in year 4. Any other field equipment that may be purchased as a result of this additional 10 acres of cherries being added to the existing orchard is not listed.

[3] Includes variable costs, land taxes, and prorated taxes and insurance on machinery, buildings and irrigation equipment.

[4] See assumptions 5 and 6 on the previous page.

Where Table 10 presents a summary of the cash requirements over the first 5 years of establishment, Table 11 presents a per acre summary of the costs involved during the 5-year period needed to fully establish the orchard. The establishment costs are categorized as to variable, fixed, and total costs. While variable cost essentially reflects cash input costs incurred and used the year of purchase (trees being the exception), fixed costs reflect the cost of inputs that are purchased, or already owned, that have a life of more than one year. Therefore, some of the up-front cash costs such as land, the irrigation system, and the wind machine are allocated over the life of the cherry orchard and do not show as a 1-year cost obligation as shown in Table 10.

Table 11. Per Acre Cost of Establishing a Sweet Cherry Orchard on Giesla 6 Rootstock.

	Year 1	Year 2	Year 3	Year 4	Year 5
	\$	\$	\$	\$	\$
Variable Cost:					
Soil Preparation	114.00				
Trees	1,632.00	36.00	18.00		
Planting Trees	81.60				
Companion Seed	26.25				
Paint	4.80				
Fertilizer	66.25	57.50	108.04	108.04	108.04
Chemicals	223.75	84.08	321.13	321.13	321.13
Mouse Control	12.00	12.00	12.00	12.00	12.00
Clips and String		40.00	40.00		
Beehives			35.00	70.00	70.00
Helicopter Drying			30.00	30.00	30.00
Helicopter Applic.			30.00	30.00	30.00
Casual Labor	88.24	400.00	328.00	244.00	244.00
Fulltime/Mach Labor	301.60	313.00	602.00	710.70	807.90
Supervisor Labor	110.00	110.00	190.00	190.00	190.00
Picking Labor			900.00	1,650.00	2,250.00
Custom Hauling			30.00	55.00	75.00
Irrig/Elect Charge	150.00	150.00	170.00	170.00	170.00
Mach/Equip Costs	231.02	153.39	323.40	347.13	363.72
Overhead	400.00	400.00	400.00	400.00	400.00
Interest	181.60	70.88	127.51	141.95	157.54
Total Variable Cost	3,623.11	1,826.85	3,665.08	4,479.95	5,229.33
Fixed Cost:					
Mach/Equip Cost	333.93	306.33	671.78	730.51	769.90
Land Taxes	77.00	77.00	77.00	77.00	77.00
Interest on Land	308.00	308.00	308.00	308.00	308.00
Estab Cost Interest		369.07	614.48	685.58	518.22
Total Fixed Cost	718.93	1,060.40	1,671.26	1,801.09	1,673.12
Total Cost	4,342.04	2,887.25	5,336.34	6,281.04	6,902.45
Value of Production			4,500.00	8,250.00	11,250.00
Net Cost	4,342.04	2,887.25	836.34	-1,968.96	-4,347.55
Accumulated Cost	4,342.04	7,229.29	8,065.63	6,096.67	1,749.12

After year 5, the assumption is made that the orchard is fully established. At this point it is assumed that the orchard has 20 more years of productive life with an average annual yield of 10 tons per acre. Over these remaining years, the orchard must pay back the \$1,749 net cost per acre incurred in establishing this orchard. Thus, assuming an 8.5% interest rate and a 20-year payback period, the mature orchard has an amortized establishment cost of \$184.83 per acre per year that must be recovered.

Table 12 presents a summary of the per acre costs involved in producing sweet cherries in a mature cherry orchard.

Table 12. Cost of Producing Sweet Cherries in a Mature Cherry Orchard on Giesla 6 Rootstock[1].

	\$
Variable Cost:	
Fertilizer	108.04
Chemicals	321.13
Mouse Control	12.00
Beehives	70.00
Helicopter Drying	30.00
Helicopter Application	30.00
Casual Labor	510.00
Fulltime/Machine Labor	998.90
Supervisor Labor	190.00
Picking Labor	3,000.00
Custom Hauling	100.00
Irrigation/Electrical Charge	170.00
Machine/Equipment Cost	417.97
Overhead	400.00
Interest	<u>192.59</u>
Total Variable Cost	6,550.63
Fixed Cost:	
Machine/Equipment Cost	846.35
Land Taxes	77.00
Interest on Land	308.00
Amortized Establishmt Cost	<u>184.83</u>
Total Fixed Cost	1,416.18
Total Cost	<u>7,966.81</u>

[1]Assumes 10 tons per acre.

As shown in Table 12, the total variable cost of producing sweet cherries in a mature cherry orchard, under the given assumptions, is \$6,550.63, with the total cost of production being \$7,966.81. Given a yield of 10 tons per acre and a price of \$1,500 per ton for the cherries produced, per acre receipts minus variable cost are \$8,449.37.

Receipts minus total cost, which represent returns to management and risk, are \$7,033.19.

Receipts:	\$15,000.00
Variable Cost:	<u>6,550.63</u>
Receipts minus	
Variable Cost:	8,449.37
Fixed Cost:	<u>1,416.18</u>
Returns to Management	
and Risk:	\$ 7,033.19

## Price and Yield Analysis

Due to the assumptions and sources of information used, the values reported in this publication represent what knowledgeable and skilled fruit growers might anticipate to be their average cost and production over the life of the orchard **if nothing goes wrong**. However, crop loss due to cold injury or rain should be periodically anticipated. Over a five-year period, it is generally anticipated by producers that a serious crop loss will occur one or two years due to adverse weather conditions. In addition, prices received by producers may be less (or more) than those assumed in the above analysis.

Table 13 shows the average cost per ton of yield at different yield levels with and without the amortized establishment cost of \$184.38 being included.

Table 13. Average Cost per Ton of Producing Sweet Cherries at Different Yield Levels from a Mature Sweet Cherry Orchard (272 trees) on Giesla 6 Rootstock in Central Washington.

Yield Level (Tons)	Average Cost Excluding Establishment Cost \$	Average Cost Including Establishment Cost \$
5.0	1,162.10	1,198.97
5.5	1,092.31	1,125.83
6.0	1,034.15	1,064.88
6.5	984.93	1,013.30
7.0	942.75	969.09
7.5	906.19	930.78
8.0	874.21	897.25
8.5	845.98	867.67
9.0	820.89	841.38
9.5	798.45	817.85
10.0	778.24	796.68
10.5	759.96	777.52
11.0	743.35	760.11

In addition to Table 13, in order to get a feel for the risk involved in producing sweet cherries a couple scenarios are presented.

In the first scenario, it is assumed that during the establishment years the anticipated yields and prices were received. The net establishment costs are \$1,749 as shown in Table 11 above. Table 14 shows what the return per acre is



estimated to be for the mature orchard under varying price and yield levels.

Table 14. Returns Per Acre From a Mature Sweet Cherry Orchard (272 trees) on Giesla 6 Rootstock in Central Washington at Different Price and Yield Levels (No Freeze-Out during Establishment Years).

Price/Ton	\$	\$	\$	\$	\$	\$	\$	\$
	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
Yield (Tons)								
2.00	-2,611.70	-2,411.70	-2,211.70	-2011.70	-1811.70	-1,611.70	-1,411.70	-1,211.70
2.50	-2,258.89	-2,008.89	-1,758.89	-1,508.89	-1,258.89	-1,008.89	-758.89	-508.89
3.00	-1,906.09	-1,606.09	-1,306.09	-1,006.09	-706.09	-406.09	-106.09	193.91
3.50	-1,553.28	-1,203.28	-853.28	-503.28	-153.28	196.72	546.72	896.72
4.00	-1,200.48	-800.48	-400.48	-0.48	399.52	799.52	1,199.52	1,599.52
4.50	-847.67	-397.67	52.33	502.33	952.33	1,402.33	1,852.33	2,302.33
5.00	-494.87	5.13	505.14	1,005.14	1,505.14	2,005.14	2,505.14	3,005.14
5.50	-142.06	407.94	957.94	1,507.94	2,057.94	2,607.94	3,157.94	3,707.94
6.00	210.75	810.75	1,410.75	2,010.75	2,610.75	3,210.75	3,810.75	4,410.75
6.50	563.55	1,213.55	1,863.55	2,513.55	3,163.55	3,813.55	4,463.55	5,113.55
7.00	916.36	1,616.36	2,316.36	3,016.36	3,716.36	4,416.36	5,116.36	5,816.36
7.50	1,269.16	2,019.16	2,769.16	3,519.16	4,269.16	5,019.16	5,769.16	6,519.16
8.00	1,621.97	2,421.97	3,221.97	4,021.97	4,821.97	5,621.97	6,421.97	7,221.97
8.50	1,974.77	2,824.77	3,674.77	4,524.77	5,374.77	6,224.77	7,074.77	7,924.77
9.00	2,327.58	3,227.58	4,127.58	5,027.58	5,927.58	6,827.58	7,727.58	8,627.58
9.50	2,680.38	3,630.38	4,580.38	5,530.38	6,480.38	7,430.38	8,380.38	9,330.38
10.00	3,033.19	4,033.19	5,033.19	6,033.19	7,033.19	8,033.19	9,033.19	10,033.19

In the second scenario, it is assumed the producer received \$1,500/ton for his/her cherries during the establishment years, however, during year 4 of the establishment period a complete freeze-out occurred. This being the case, by eliminating the value of production of \$8,250 for year 4 (Table 11) and eliminating the cost of harvesting for year 5 of \$2,169.25 (Table 55, Appendix III) and adding additional interest to establishment costs of \$516.86 for year 5, an approximate increase of \$6,598 in the net establishment costs is derived. Using this estimated increase in net establishment cost, the 6-year net establishment cost increases from \$1,749 to \$8,347. This adjustment causes the annual amortized establishment cost to increase from \$184.38 to \$882.04, thus increasing fixed and total costs of the mature cherry orchard by \$697.21. Table 15 shows the returns per acre for the mature orchard that had a complete freeze-out in year 4 of the establishment years.

The detailed results of this study for cherry orchards established on Giesla 6 rootstock as to the schedule of operations each year and the amounts and prices of material and services used are presented in Appendix III. A detailed explanation as to the information presented in the Appendices is given in the following section.

### **Detailed Results**

The detailed estimated costs for the 10-year-old (or older) orchard, and that for each year of establishment, plus the mature orchard, for those orchards established on Mazzard and Giesla 6 rootstock, are shown in Appendices I through III, respectively. In each of the three appendices, there are three tables that detail the results of each year analyzed for the given situation. For instance, in Appendix I, the detailed cost results for sweet cherries produced in cherry orchards 10 years old or older, only one year of analysis is covered. Whereas, in Appendix II, the detailed cost results for sweet cherries established and produced on Mazzard rootstock, seven years are covered in the analysis.

In each situation, for each year analyzed, the "Schedule of Operations and Estimated Cost per Acre..." table outlines the schedule of field operations and per acre cost by calendar month, the type of machinery and labor used, and the hours used per acre. The costs of field operations are divided into two categories—fixed and variable. Fixed costs include annual cost of machinery, building, irrigation equipment, and land ownership. Variable costs include such costs as those associated with operating machinery, hiring labor, and purchasing services and materials. Total cost is the sum of fixed costs and variable costs.

Table 15. Returns Per Acre From a Mature Sweet Cherry Orchard (272 trees) on Giesla 6 Rootstock in Central Washington at Different Price and Yield Levels (Freeze-Out in Year 4 of Establishment Years).

Price/Ton	\$	\$	\$	\$	\$	\$	\$	\$
	1,100	1,200	1,300	1,400	1,500	1,600	1,700	1,800
Yield (Tons)								
2.00	-3,308.91	-3,108.91	-2,908.91	-2,708.91	-2,508.91	-2,308.91	-2,108.91	-1,908.91
2.50	-2,956.10	-2,706.10	-2,456.10	-2,206.10	-1,956.10	-1,706.10	-1,456.10	-1,206.10
3.00	-2,603.30	-2,303.30	-2,003.30	-1,703.30	-1,403.30	-1,103.30	-803.30	-503.30
3.50	-2,250.49	-1,900.49	-1,550.49	-1,200.49	-850.49	-500.49	-150.49	199.51
4.00	-1,897.69	-1,497.69	-1,097.69	-697.69	-297.69	102.31	502.31	902.31
4.50	-1,544.88	-1,094.88	-644.88	-194.88	255.12	705.12	1,155.12	1,605.12
5.00	-1,192.08	-692.08	-192.08	307.93	807.93	1,307.93	1,807.93	2,307.93
5.50	-839.27	-289.27	260.73	810.73	1,360.73	1,910.73	2,460.73	3,010.73
6.00	-486.46	113.54	713.54	1,313.54	1,913.54	2,513.54	3,113.54	3,713.54
6.50	-133.66	516.34	1,166.34	1,816.34	2,466.34	3,116.34	3,766.34	4,416.34
7.00	219.15	919.15	1,619.15	2,319.15	3,019.15	3,719.15	4,419.15	5,119.15
7.50	571.95	1,321.95	2,071.95	2,821.95	3,571.95	4,321.95	5,071.95	5,821.95
8.00	924.76	1,724.76	2,524.76	3,324.76	4,124.76	4,924.76	5,724.76	6,524.76
8.50	1,277.56	2,127.56	2,977.56	3,827.56	4,677.56	5,527.56	6,377.56	7,227.56
9.00	1,630.37	2,530.37	3,430.37	4,330.37	5,230.37	6,130.37	7,030.37	7,930.37
9.50	1,983.17	2,933.17	3,883.17	4,833.17	5,783.17	6,733.17	7,683.17	8,633.17
10.00	2,335.98	3,335.98	4,335.98	5,335.98	6,335.98	7,335.98	8,335.98	9,335.98

Machinery, building, and irrigation system fixed costs include depreciation, interest on the average investment, property taxes, and insurance. These costs are incurred whether or not a crop is grown. Per hour fixed costs for machinery were determined by dividing the total annual fixed cost per machine by the annual hours of machinery use for the representative farm. Machinery fixed costs for a specific field operation were determined by

multiplying the machine hours per acre times the machinery fixed per hour cost figure (see Appendix IV). Fixed costs per acre for the machine shed and shop, shop tools, wind machine, and irrigation system were determined by dividing the total annual fixed cost by the number of acres served by the particular asset.

Land fixed cost includes taxes and an 8% return on the purchase price of the land. This cost represents the minimum return the owner-operator desires on his/her original investment in land, apart from appreciation of land value. As used in this publication, the land cost is termed an opportunity cost to indicate that it is not an out-of-pocket expense, but rather a return that is foregone by the producer as a result of investing in this enterprise.

For the analysis of establishing orchards using Mazzard and Giesla 6 rootstock, beginning with year 2, a fixed cost of 8.5% of the previous year's accumulated establishment cost is charged against the investment. This cost represents the interest being paid on the investment in the cherry orchard, or returns foregone by investing in the cherry orchard rather than in an alternative investment that would give immediate returns.

Variable costs vary with the number of acres farmed or with the enterprise. These costs include fuel, oil, repairs, fertilizer, chemicals, custom work, overhead (utilities, legal and accounting fees, etc.), and interest (8.5%) on operating capital. Hand labor and machinery operating labor were also included as variable costs.

In the "Schedule of Operations and Estimated Cost per Acre..." table, figures representing the cost of services and/or materials utilized by operation are shown in their respective columns. The second table of the series, "Materials and/or Services Applied Per Acre by Operation" table, presents by year, month, and operation, the services and/or materials that went into the calculation of these figures for each respective "Schedule of Operations and Estimated Cost per Acre..." table.

The third table of the series, "Itemized Cost Per Acre..." table, presents an itemized list of the costs in each respective "Schedule of Operations and Estimated Cost per Acre..." table. Most items are self-explanatory or have been explained previously. However, "Tractor Interest" and "Machinery Interest<sup>2</sup>" warrant additional explanation. These values represent opportunity costs (returns that are foregone by investment in a given machinery, building, and irrigation

---

<sup>2</sup> Machinery interest includes interest on the machine shed and shop, wind machine, and the irrigation system.

complement rather than in alternative investments) or interest paid to finance the given machinery, building, and irrigation complement, or both. The 8.5% interest charge made against the average value of these items over their respective lives represents total interest costs. These interest costs are fixed costs and their per hour and per acre allocations were calculated in the manner previously described for building, irrigation, and machinery fixed cost.

Appendix IV contains the machinery complement data along with the price data used for each of the three situations investigated in this study.

### **Concluding Note**

Due to the procedures and assumptions used in this study, the results should be used with care. The growers and authors recognize that the situations outlined are not characteristic of all orchard or farm operations. For example, economies are gained by adding acreage onto an existing farm operation. Conversely, added costs can be anticipated when the planting represents a separate business enterprise.

It is essential this publication be used merely as a guide in determining establishment and mature orchard maintenance costs and that considerable judgment be exercised in generalizing cost estimates to situations differing from those outlined above. Moreover, this publication is not specifically intended as a guide to planting and production practices. Rather, it represents the current technology used in the area.

## **APPENDIX I**

**Detailed Cost and Production  
Practice Information for  
Sweet Cherries Produced in Cherry Orchards  
Ten Years Old or Older**

TABLE 16. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MAINTAINING AN OLDER MATURE (136 TREES PER ACRE) SWEET CHERRY ORCHARD IN CENTRAL WASHINGTON.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	COST	FUEL, LUBE, & REPAIRS	LABOR		SERVICE MATER.
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	2002	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ 3.23	\$ 44.68	\$ 49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	2002	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	2003	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
PRUNE	LONG HANDLE CHAINSAW	FEB	2003	5.00	5.00	19.41	20.18	50.00	.00	.00	3.98	74.15	93.56
BRUSH REMOVAL	CHAINSAW USED TO CUT UP BRUSH	FEB	2003	5.00	5.00	8.32	20.18	50.00	.00	.00	3.98	74.15	82.47
BRUSH REMOVAL	70HP-WT, TRAILER	FEB	2003	2.00	4.00	11.30	9.18	32.00	.00	.00	2.33	43.51	54.81
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	2003	.50	.55	5.87	3.21	5.50	.00	.00	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	2003	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	2003	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	2003	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
RENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	2003	.00	.00	.00	.00	.00	.00	.00	2.98	72.98	72.98
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	2003	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	2003	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	2003	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	2003	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	2003	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	2003	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	2003	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	2003	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	2003	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	2003	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	2003	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	2003	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	2003	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	2003	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	2003	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (6.5 TONS PER ACRE)	JUL	2003	.00	.00	34.60	9.75	.00	1950.00	.00	41.64	2001.39	2035.99
HARVEST	70HP-WT, BIN TRAILER	JUL	2003	5.53	13.26	27.87	25.76	132.60	.00	.00	3.37	161.73	189.59
HARVEST	SUPERVISION & CHECKING	JUL	2003	.00	11.70	.00	.00	117.00	.00	.00	2.49	119.49	119.49
HARVEST	FORKLIFT	JUL	2003	5.53	6.63	65.66	18.43	66.30	.00	.00	1.80	86.53	152.19
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	2003	.00	.00	.00	.00	.00	65.00	.00	1.38	66.38	66.38
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	2003	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	2003	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	2003	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	2003	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	2003	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	2003	.40	.48	2.19	3.64	4.80	.00	14.68	.71	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	2003	.00	2.00	.00	.00	16.00	.00	.72	.00	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	2003	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51

TABLE 16. CONTINUED.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST						TOTAL
							HOURS	HOURS	FIXED	FUEL,	LABOR	SERVICE	
						COST	REPAIRS	LABOR	MATER.	INTER.	COST	COST	COST
MISC USE	MANAGEMENT PICKUP	ANN	2003	5.00	5.50	\$ 47.28	\$ 26.95	\$ 110.00	\$ .00	\$ .00	\$ 5.82	\$ 142.77	\$ 190.05
MISC USE	CREW PICKUP	ANN	2003	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	2003	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	2003	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59
MISC USE	SHOP TOOLS	ANN	2003	.00	.00	15.15	.00	.00	.00	.00	.00	.00	15.15
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	2003	.00	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00
TAXES	LAND	ANN	2003	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00
LAND COST	INTEREST ON LAND	ANN	2003	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00
AMORTIZED COST	AMORTIZED NET ESTABLMT COST*	ANN	2003	.00	.00	1592.61	.00	.00	.00	.00	.00	.00	1592.61
TOTAL PER ACRE				50.08	125.53	2762.30	401.54	1321.13	2727.00	371.01	157.25	4978.09	7740.39

\*THE ANNUAL AMORTIZED NET ESTABLISHMENT COST IS TAKEN FROM THAT CALCULATED IN THE EXTENSION BULLETIN COST OF ESTABLISHING AND PRODUCING SWEET CHERRIES IN CENTRAL WASHINGTON IN 1998. THIS PUBLICATION CALCULATED THE COST OF ESTABLISHING AN ORCHARD OF THIS TYPE.



**TABLE 17. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION  
- OLDER MATURE ORCHARD.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubar @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08 Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.

TABLE 17. CONTINUED.

Month	Operation	Material and/or Service
July	Harvest	Pick 6.5 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 6.5 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 18. ITEMIZED COST PER ACRE FOR MAINTAINING AN OLDER  
MATURE (136 TREES PER ACRE) SWEET CHERRY ORCHARD  
IN CENTRAL WASHINGTON.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	8.00	23.04	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
PICK PIECE RATE	LB.	.15	13000.00	1950.00	_____
CUSTOM HAULING	TON	10.00	6.50	65.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	34.50	276.00	_____
LABOR (TRAC/MACH)	HOUR	10.00	85.53	855.30	_____
SUPERVISOR LABOR	HOUR	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	238.09	1.00	238.09	_____
MACHINE FUEL/LUBE	ACRE	163.44	1.00	163.44	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
INTEREST ON OP. CAP.	ACRE	157.25	1.00	157.25	_____
-----					
TOTAL VARIABLE COST				4978.09	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	368.06	1.00	368.06	_____
MACHINE INTEREST*	ACRE	335.43	1.00	335.43	_____
MACHINE INSURANCE*	ACRE	23.67	1.00	23.67	_____
MACHINE TAXES*	ACRE	57.53	1.00	57.53	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
AMORT ESTAB COST**	ACRE	1592.61	1.00	1592.61	_____
-----					
TOTAL FIXED COST				2762.30	_____
TOTAL COST				7740.39	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

\*\*THE ANNUAL AMORTIZED NET ESTABLISHMENT COST IS TAKEN FROM THAT  
CALCULATED IN THE EXTENSION BULLETIN COST OF ESTABLISHING AND  
PRODUCING SWEET CHERRIES IN CENTRAL WASHINGTON IN 1998.

## **APPENDIX II**

**Detailed Cost and Production**

**Practice Information for**

**Establishing and Producing Self-Pollinating**

**Sweet Cherries on Mazzard Rootstock**

TABLE 19. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD USING MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 1.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.		INTER.
						\$	\$	\$	\$	\$	\$	\$	
SOIL SAMPLE	CUSTOM HIRE	FALL	0	.00	.00	.00	.00	.00	12.00	.00	.94	12.94	12.94
RIP GROUND	CUSTOM HIRE	FALL	0	.00	.00	.00	.00	.00	100.00	.00	7.79	107.79	107.79
FUMIGATE	PORTABLE HANDLINES (LABOR, ETC.)	FALL	0	.00	.00	.00	.00	.00	70.00	175.00	19.09	264.09	264.09
BROADCAST FERT.	70HP-WT, RENTED SPREADER	FALL	0	.50	.60	1.78	2.04	6.00	4.00	56.25	5.32	73.61	75.39
DISK	70HP-WT, 9' DISK	FALL	0	.55	.55	12.78	4.24	5.50	.00	.00	.76	10.50	23.28
DISK	70HP-WT, 9' DISK	FEB	1	.50	.55	12.78	4.24	5.50	.00	.00	.55	10.30	23.08
LAYOUT & STAKE	70HP-WT, MARKER	FEB	1	.25	.50	.89	1.02	4.60	.00	2.00	.43	8.05	8.94
PLANT TREES	CUSTOM HIRE	FEB	1	.00	.00	.00	.00	.00	81.60	1632.00	97.10	1810.70	1810.70
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	1	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	APR	1	.40	.48	2.19	3.64	4.80	.00	23.34	1.35	33.12	35.31
PAINT/SUCKER REM	(INCL. TRAINING) HAND LABOR	MAY	1	.00	5.00	.00	.00	40.00	.00	4.80	1.59	46.39	46.39
APPLY NITROGEN	70HP-WT, BACKFORK, HAND LABOR	MAY	1	.33	1.25	1.22	1.39	10.84	.00	10.00	.79	23.02	24.24
DISK	70HP-WT, 9' DISK	JUN	1	.50	.55	12.78	4.24	5.50	.00	.00	.28	10.02	22.80
APPLY HERBICIDE	70HP-WT, 100 GAL. SPRAYER	JUN	1	.40	.48	2.19	3.64	4.80	.00	12.63	.60	21.66	23.85
WEED AROUND TREE	HAND LABOR	JUL	1	.00	3.00	.00	.00	24.00	.00	.00	.51	24.51	24.51
DISK	70HP-WT, 9' DISK	AUG	1	.50	.55	12.78	4.24	5.50	.00	.00	.14	9.88	22.66
ROTOTILL	70HP-WT, 6' ROTOTILLER	AUG	1	1.00	1.10	15.55	5.09	11.00	.00	.00	.23	16.32	31.87
PLANT COVER CROP	70HP-WT, RENTED GRASS SEEDER	SEP	1	.50	.60	1.78	2.04	6.00	10.00	26.25	.31	44.61	46.39
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	1	.40	.48	2.19	3.64	4.80	.00	12.06	.00	20.49	22.68
GOPHER CONTROL	HAND LABOR	ANN	1	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	1	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	1	5.00	5.50	47.28	26.95	110.00	110.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	1	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	1	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	1	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59
MISC USE	SHOP TOOLS	ANN	1	.00	.00	15.15	.00	.00	.00	.00	.00	.00	15.15
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	1	.00	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00
TAXES	LAND	ANN	1	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00
LAND COST	INTEREST ON LAND	ANN	1	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00
TOTAL PER ACRE				23.28	46.69	718.93	147.02	499.84	839.60	1955.05	181.60	3623.11	4342.04

**TABLE 20. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
MAZZARD ROOTSTOCK - YEAR 1.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Soil Sample	Custom Hire @ \$12/Acre
Fall	Rip Ground	Custom Hire @ \$100/Acre
Fall	Fumigate	50 Gal. Vapam @ \$3.50/Gal. Portable Handlines & Labor @ \$70/Acre
Fall	Broadcast Fertilizer	Rented Spreader @ \$4/Acre 120 Lbs. Nitrogen @ \$.40/Lb. 15 Lbs. Borate 46 @ \$.55/Lb.
Feb.	Layout & Stake	20 Stakes @ \$.10/Stake
Feb.	Plant Trees (includes heading the tree)	Custom Hire @ \$.30/Tree 272 Trees @ \$6.00/Tree
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
Apr.	Apply Herbicide	.4 Gal. Prowl @ \$26.77/Gal. 2 Pts. Gramoxone @ \$5.64/Pt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Paint Trees & Sucker Removal	.6 Gal. Paint @ \$8/Gal.
May	Apply Nitrogen	25 Lbs. Nitrogen @ \$.40/Lb.
June	Apply Herbicide	2 Pts. Gramoxone @ \$5.64/Pt. .5 Pt. LI-700 @ \$2.70/Pt.
Sept.	Plant Cover Crop	Rented Grass Seeder @ \$10/Acre 15 Lbs. Companion Grass Seed @ \$1.75/Lb.
Oct.	Apply Herbicide	.4 Gal. Prowl @ \$26.77/Gal. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 21. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD USING MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 1.

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
SOIL SAMPLE	ACRE	12.00	1.00	12.00	_____
CUSTOM RIPPING	ACRE	100.00	1.00	100.00	_____
STAKES	STAK	.10	20.00	2.00	_____
PLANT TREES	TREE	.30	272.00	81.60	_____
TREES	TREE	6.00	272.00	1632.00	_____
VAPAM	GAL.	3.50	50.00	175.00	_____
PROWL 3.3	GAL.	26.77	.80	21.42	_____
GRAMOXONE	PINT	5.64	4.00	22.56	_____
LI-700	PINT	2.70	1.50	4.05	_____
BORATE-46 14.3%	LB.	.55	15.00	8.25	_____
PAINT	GAL.	8.00	.60	4.80	_____
NITROGEN-ACTUAL	LB.	.40	145.00	58.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
COMPANION SEED	LB.	1.75	15.00	26.25	_____
RENTED GRASS SEEDER	ACRE	10.00	1.00	10.00	_____
PORTABLE HANDLINES	ACRE	70.00	1.00	70.00	_____
RENTED FERT SPREADER	ACRE	4.00	1.00	4.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	11.03	88.24	_____
LABOR (TRAC/MACH)	HOUR	10.00	30.16	301.60	_____
SUPERVISOR LABOR	HOUR	20.00	5.50	110.00	_____
MACHINERY REPAIRS	ACRE	71.39	1.00	71.39	_____
MACHINE FUEL/LUBE	ACRE	75.63	1.00	75.63	_____
INTEREST ON OP. CAP.	ACRE	181.60	1.00	181.60	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				3623.11	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	160.10	1.00	160.10	_____
MACHINE INTEREST*	ACRE	146.08	1.00	146.08	_____
MACHINE INSURANCE*	ACRE	10.31	1.00	10.31	_____
MACHINE TAXES*	ACRE	17.44	1.00	17.44	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
				-----	
TOTAL FIXED COST				718.93	_____
				-----	
TOTAL COST				4342.04	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 22. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 2.

OPERATION	TOOLING	MTH	YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST				TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	MACH LABOR SERVICE	MATER. INTER.			
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	1	.50	.55	\$ 4.18	\$ 2.79	\$ 5.50	\$ 30.00	\$ 2.98	\$ 41.28	\$ 45.46
REPLANT 6 TREES	70HP-WT, BACKFORK	FEB	2	1.35	1.50	4.99	5.70	15.00	36.00	3.21	59.91	64.90
BRANCH PROMOTION	HAND LABOR	FEB	2	.00	23.00	.00	.00	184.00	.00	10.43	194.43	194.43
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	2	.50	.55	4.18	2.79	5.50	20.00	1.40	29.70	33.88
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	2	.00	10.00	128.25	33.75	100.00	150.00	.00	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	2	.67	.74	5.39	4.19	7.40	.00	.41	12.00	17.39
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	2	.33	.40	4.58	3.45	4.00	7.50	.53	15.47	20.05
SEL & REM SHOOTS	HAND LABOR AND PRUNING TOOLS	MAY	2	.00	5.00	.69	.00	40.00	.00	1.42	41.42	42.10
APPLY HERBICIDE	70HP-WT, 100 GAL. SPRAYER	JUN	2	.40	.48	2.19	3.64	4.80	18.65	.77	27.85	30.04
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	JUN	2	.33	.40	4.58	3.45	4.00	24.64	.91	32.99	37.57
MOW ORCHARD	70HP-WT, 9' MOWER	JUL	2	.67	.74	5.39	4.19	7.40	.00	.25	11.84	17.22
TREE TRAINING	HAND LABOR, CLIPS & STRING	JUL	2	.00	20.00	.00	.00	160.00	40.00	4.25	204.25	204.25
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	2	.67	.74	5.39	4.19	7.40	.00	.16	11.75	17.14
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	AUG	2	.40	.48	2.19	3.64	4.80	14.68	.33	23.44	25.63
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	OCT	2	.67	.74	5.39	4.19	7.40	.00	.00	11.59	16.98
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	2	.40	.48	2.19	3.64	4.80	25.39	.00	33.82	36.01
GOPHER CONTROL	HAND LABOR	ANN	2	.00	2.00	.00	.00	16.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	2	.00	.00	.00	.00	.00	12.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	2	5.00	5.50	47.28	26.95	110.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	2	7.50	8.00	20.68	39.18	80.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	2	5.00	5.50	10.73	7.05	55.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	2	.00	.00	32.94	.63	.00	.00	.03	.65	33.59
MISC USE	SHOP TOOLS	ANN	2	.00	.00	15.15	.00	.00	.00	.00	.00	15.15
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	2	.00	.00	.00	.00	.00	400.00	17.00	417.00	417.00
TAXES	LAND	ANN	2	.00	.00	77.00	.00	.00	.00	.00	.00	77.00
LAND COST	INTEREST ON LAND	ANN	2	.00	.00	308.00	.00	.00	.00	.00	.00	308.00
INTEREST COST	INTEREST ON 1ST YR ESTAB COST	ANN	2	.00	.00	369.07	.00	.00	.00	.00	.00	369.07
TOTAL PER ACRE				24.40	86.80	1060.40	153.39	823.00	562.00	217.58	70.88	1826.85
												2887.25



**TABLE 23. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
MAZZARD ROOTSTOCK - YEAR 2.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Feb.	Replant 6 Trees	6 Trees @ \$6.00/Tree
Mar.	Fertilize	50 Lbs. Nitrogen @ \$.40/Lb.
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Mildew Spray	10 Lbs. Wettable Sulfur @ \$.75/Lb.
June	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.5 Qt. Weedar @ \$7.94/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
June	Mildew Spray	8.0 Ozs. Procure @ \$3.08/Oz.
July	Tree Training	Clips & String @ \$40/Acre
Aug.	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
Oct.	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.4 Gal. Prowl @ \$26.77/Gal. 0.5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 24. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY  
(272 TREES) CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN  
CENTRAL WASHINGTON - YEAR 2.

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
TREES	TREE	6.00	6.00	36.00	_____
NITROGEN-ACTUAL	LB.	.40	125.00	50.00	_____
WETTTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	8.00	24.64	_____
WEEDAR	QT.	7.94	.50	3.97	_____
LI-700	PINT	2.70	1.50	4.05	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
PROWL 3.3	GAL.	26.77	.40	10.71	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
CLIPS & STRING	ACRE	40.00	1.00	40.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	50.00	400.00	_____
LABOR (TRAC/MACH)	HOUR	10.00	31.30	313.00	_____
SUPERVISOR LABOR	HOUR	20.00	5.50	110.00	_____
MACHINERY REPAIRS	ACRE	74.87	1.00	74.87	_____
MACHINE FUEL/LUBE	ACRE	78.51	1.00	78.51	_____
INTEREST ON OP. CAP.	ACRE	70.88	1.00	70.88	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				1826.85	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	148.45	1.00	148.45	_____
MACHINE INTEREST*	ACRE	133.65	1.00	133.65	_____
MACHINE INSURANCE*	ACRE	9.43	1.00	9.43	_____
MACHINE TAXES*	ACRE	14.80	1.00	14.80	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	4342.04	369.07	_____
				-----	
TOTAL FIXED COST				1060.40	_____
TOTAL COST				2887.25	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 25. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 3.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST						TOTAL
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	2	.50	.55	\$ 4.18	\$ 2.79	\$ 5.50	\$ .00	\$ 30.00	\$ 2.98	\$ 41.28	\$ 45.46
REPLANT 4 TREES	70HP-WT, BACKFORK	FEB	3	1.00	1.10	3.70	4.22	11.00	.00	24.00	2.22	41.44	45.14
BRANCH PROMOTION	HAND LABOR	FEB	3	.00	46.00	.00	.00	368.00	.00	.00	20.85	388.85	388.85
IRRIGATE (40 IN) UNDER TREE	SPRINKLER SYSTEM	SEA	3	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	3	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
PAINT/REM SHOOTS	HAND LABOR, PAINT & PRUNE TOOL	MAY	3	.00	5.50	.69	.00	44.00	.00	12.80	2.01	58.81	59.50
MILDEW/FRT FLY	70HP-WT, BLAST SPRAYER	MAY	3	.33	.40	4.53	3.41	4.00	.00	20.62	.99	29.02	33.56
APPLY HERBICIDE	70HP-WT, 100 GAL. SPRAYER	JUN	3	.40	.48	2.19	3.64	4.80	.00	18.65	.77	27.85	30.04
FRT FLY SPRAY	70HP-WT, BLAST SPRAYER	JUN	3	.33	.40	4.53	3.41	4.00	.00	45.66	1.50	54.58	59.11
FRT FLY SPRAY	70HP-WT, BLAST SPRAYER	JUN	3	.33	.40	4.53	3.41	4.00	.00	1.32	.25	8.98	13.51
MILDEW SPRAY 2X	70HP-WT, BLAST SPRAYER	JUL	3	.67	.80	9.20	6.93	8.00	.00	11.52	.56	27.01	36.21
MOW ORCHARD	70HP-WT, 9' MOWER	JUL	3	.67	.74	5.39	4.19	7.40	.00	.00	.25	11.84	17.22
TREE TRAINING	HAND LABOR, CLIPS & STRING	JUL	3	.00	35.00	.00	.00	280.00	.00	40.00	6.80	326.80	326.80
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	3	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	AUG	3	.40	.48	2.19	3.64	4.80	.00	14.68	.33	23.44	25.63
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	OCT	3	.67	.74	5.39	4.19	7.40	.00	.00	.00	11.59	16.98
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	3	.40	.48	2.19	3.64	4.80	.00	25.39	.00	33.82	36.01
GOPHER CONTROL	HAND LABOR	ANN	3	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	3	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	3	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	3	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	3	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	3	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59
MISC USE	SHOP TOOLS	ANN	3	.00	.00	15.15	.00	.00	.00	.00	.00	.00	15.15
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	3	.00	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00
TAXES	LAND	ANN	3	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00
LAND COST	INTEREST ON LAND	ANN	3	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00
INTEREST COST	INTEREST ON 2ND YR ESTAB COST	ANN	3	.00	.00	614.49	.00	.00	.00	.00	.00	.00	614.49
TOTAL PER ACRE				24.54	125.55	1313.99	159.39	1133.50	562.00	245.36	83.92	2184.17	3498.16

**TABLE 26. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, MAZZARD ROOTSTOCK - YEAR 3.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Feb.	Replant 4 Trees	4 Trees @ \$6.00/Tree
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Paint Trees & Sucker Removal	1.6 Gals. Paint @ \$8.00/Gal.
May	Fruit Fly/Mildew Spray	2 Lbs. Guthion 50% WP @ \$6.56/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
June	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.5 Qt. Weedar @ \$7.94/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
June	Fruit Fly Spray	3.0 Pts. Malathion 57 @ \$2.90/Pt. 12 Ozs. Procure @ \$3.08/Oz.
June	Fruit Fly Spray	6.0 Ozs. Sevin 4F @ \$.22/Oz.
July	Mildew Spray (2X)	2.0 Gal. Superior Oil ea. Spray @ \$2.88/Gal.
July	Tree Training	Clips & String @ \$40/Acre
Aug.	Apply Herbicide	1.0 Qt. Roundup-Ultra \$13.33/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
Oct.	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.4 Gal. Prowl @ \$26.77/Gal. 0.5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 27. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 3.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
TREES	TREE	6.00	4.00	24.00	_____
NITROGEN-ACTUAL	LB.	.40	75.00	30.00	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PAINT	GAL.	8.00	1.60	12.80	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
WEEDAR	QT.	7.94	.50	3.97	_____
LI-700	PINT	2.70	1.50	4.05	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
PROCURE	OZ.	3.08	12.00	36.96	_____
SUPERIOR OIL	GAL.	2.88	4.00	11.52	_____
PROWL 3.3	GAL.	26.77	.40	10.71	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
CLIPS & STRING	ACRE	40.00	1.00	40.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	88.50	708.00	_____
LABOR (TRAC/MACH)	HOURL	10.00	31.55	315.50	_____
SUPERVISOR LABOR	HOURL	20.00	5.50	110.00	_____
MACHINERY REPAIRS	ACRE	80.50	1.00	80.50	_____
MACHINE FUEL/LUBE	ACRE	78.89	1.00	78.89	_____
INTEREST ON OP. CAP.	ACRE	83.92	1.00	83.92	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				2184.17	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	153.02	1.00	153.02	_____
MACHINE INTEREST*	ACRE	136.46	1.00	136.46	_____
MACHINE INSURANCE*	ACRE	9.64	1.00	9.64	_____
MACHINE TAXES*	ACRE	15.40	1.00	15.40	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	7229.29	614.48	_____
				-----	
TOTAL FIXED COST				1313.99	_____
				-----	
TOTAL COST				3498.16	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 28. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 4.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST						TOTAL	
							HOURS	HOURS	COST	FUEL, LUBE, & REPAIRS	LABOR	SERVICE		MATER.
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	3	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ .00	\$ 3.23	\$ 44.68	\$ 49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	3	.50	.55	4.18	2.79	5.50	.00	30.00	.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	4	.00	20.00	2.74	.00	170.00	.00	.00	.00	9.63	179.63	182.37
REPLANT 3 TREES	70HP-WT, BACKFORK	FEB	4	.80	.88	2.96	3.38	8.80	.00	18.00	.00	1.71	31.89	34.85
TRAIN TREES	HAND LABOR, CLIPS & STRING	MAR	4	.00	30.00	.00	.00	252.00	.00	40.00	.00	14.48	306.48	306.48
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	4	.33	.40	4.53	3.41	4.00	.00	36.71	.00	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	4	.50	.55	4.18	2.79	5.50	.00	24.00	.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	4	.33	.40	4.53	3.41	4.00	.00	58.16	.00	2.79	68.36	72.89
RENT BEE HIVES	ONE BEE HIVE PER ACRE	APR	4	.00	.00	.00	.00	.00	35.00	.00	1.49	36.49	36.49	
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	4	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61	24.61
FROST CONTROL	WIND MACHINE	APR	4	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	4	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	4	.00	10.00	128.25	33.75	100.00	.00	.00	12.06	295.81	424.06	424.06
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06	64.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	4	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39	17.39
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	4	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	4	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68	37.68
DRY CHERRIES	HELICOPTER	JUN	4	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	4	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	4	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	4	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	4	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85	29.85
HARVEST	PICKING (3 TONS PER ACRE)	JUL	4	.00	.00	15.97	4.50	61.20	.00	900.00	.00	19.22	923.72	939.69
HARVEST	70HP-WT, BIN TRAILER	JUL	4	2.55	6.12	12.85	11.88	61.20	.00	.00	.00	1.55	74.63	87.48
HARVEST	SUPERVISION & CHECKING	JUL	4	.00	5.40	.00	.00	54.00	.00	.00	.00	1.15	55.15	55.15
HARVEST	FORKLIFT	JUL	4	2.55	3.06	30.28	8.50	30.60	.00	.00	.83	39.93	70.21	70.21
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	4	.00	.00	.00	.00	.00	30.00	.00	.64	30.64	30.64	30.64
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	4	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	4	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	4	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	4	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	4	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	4	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30	25.30
GOPHER CONTROL	HAND LABOR	ANN	4	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	4	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	4	5.00	5.50	47.28	26.95	110.00	.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	4	7.50	8.00	20.68	39.18	80.00	.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	4	5.00	5.50	10.73	7.05	55.00	.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	4	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59	33.59

TABLE 28. CONTINUED.

OPERATION	TOOLING	MTH YEAR	MACH		LABOR HOURS	TOTAL FIXED COST	VARIABLE COST				TOTAL VARIABLE COST	TOTAL COST	
			HOURS	HOURS			FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.			
MISC USE	SHOP TOOLS	ANN	4	.00	.00	\$ 15.15	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ 15.15	
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	4	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00	
TAXES	LAND	ANN	4	.00	.00	77.00	.00	.00	.00	.00	.00	77.00	
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	4	.00	.00	911.83	.00	.00	.00	.00	.00	911.83	
LAND COST	INTEREST ON LAND	ANN	4	.00	.00	308.00	.00	.00	.00	.00	.00	308.00	
TOTAL PER ACRE				32.25	110.70	1968.60	323.40	1120.00	1607.00	487.17	127.51	3665.08	5633.68

**TABLE 29. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, MAZZARD ROOTSTOCK - YEAR 4.**

Month	Operation	Material and/or Service
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Feb.	Replant 3 Trees	3 Trees @ \$6.00/Tree
Mar.	Tree Training	Clips & String @ \$40/acre
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehive	1 Beehive @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre



**TABLE 29. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 3.0 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 3.0 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 30. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 4.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
TREES	TREE	6.00	3.00	18.00	_____
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
CLIPS & STRING	ACRE	40.00	1.00	40.00	_____
RENT BEE HIVES	HIVE	35.00	1.00	35.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
PICK PIECE RATE	LB.	.15	6000.00	900.00	_____
CUSTOM HAULING	TON	10.00	3.00	30.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
MACHINERY REPAIRS	ACRE	182.86	1.00	182.86	_____
MACHINE FUEL/LUBE	ACRE	140.54	1.00	140.54	_____
CASUAL LABOR	HOUR	8.00	41.00	328.00	_____
LABOR (TRAC/MACH)	HOUR	10.00	60.20	602.00	_____
SUPERVISOR LABOR	HOUR	20.00	9.50	190.00	_____
INTEREST ON OP. CAP.	ACRE	127.51	1.00	127.51	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
TOTAL VARIABLE COST				3665.08	_____
-----					
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	296.97	1.00	296.97	_____
MACHINE INTEREST*	ACRE	302.81	1.00	302.81	_____
MACHINE INSURANCE*	ACRE	21.38	1.00	21.38	_____
MACHINE TAXES*	ACRE	50.62	1.00	50.62	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	10727.45	911.82	_____
TOTAL FIXED COST				1968.60	_____
TOTAL COST				5633.68	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 31. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 5.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.		INTER.
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	4	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ 3.23	\$ 44.68	\$ 49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	4	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	5	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	5	.50	.55	5.87	3.21	5.50	.00	.49	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	5	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	5	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	5	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	5	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
RENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	5	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	5	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	5	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	5	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	5	.00	10.00	128.25	33.75	100.00	.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	5	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	5	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	5	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	5	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	5	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	5	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	5	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	5	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (5.5 TONS PER ACRE)	JUL	5	.00	.00	29.28	8.25	.00	1650.00	.00	35.24	1693.49	1722.76
HARVEST	70HP-WT, BIN TRAILER	JUL	5	4.68	11.22	23.58	21.80	112.20	.00	.00	2.85	136.85	160.43
HARVEST	SUPERVISION & CHECKING	JUL	5	.00	9.90	.00	.00	99.00	.00	.00	2.10	101.10	101.10
HARVEST	FORKLIFT	JUL	5	4.68	5.61	55.57	15.60	56.10	.00	.00	1.52	73.22	128.79
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	5	.00	.00	.00	.00	.00	55.00	.00	1.17	56.17	56.17
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	5	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	5	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	5	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	5	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	5	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	5	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	5	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	5	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	5	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	5	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	5	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	5	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59

TABLE 31. CONTINUED.

OPERATION	TOOLING	MTH YEAR	MACH		LABOR HOURS	TOTAL FIXED COST	FUEL, LUBE, & REPAIRS			LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST	
			HOURS	ANN			\$	\$	\$				\$	
MISC USE	SHOP TOOLS	ANN	5	.00	.00	15.15	.00	.00	.00	.00	.00	.00	.00	15.15
OVERHEAD	UTILITIES, LEGAL, ACCTG, ETC.	ANN	5	.00	.00	.00	.00	400.00	.00	.00	.00	17.00	417.00	417.00
TAXES	LAND	ANN	5	.00	.00	77.00	.00	.00	.00	.00	.00	.00	.00	77.00
LAND COST	INTEREST ON LAND	ANN	5	.00	.00	308.00	.00	.00	.00	.00	.00	.00	.00	308.00
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	5	.00	.00	1008.20	.00	.00	.00	.00	.00	.00	.00	1008.20
TOTAL PER ACRE			36.71	111.07	2123.70	347.13	1144.70	2417.00	429.17	141.95	4479.95	6603.65		

**TABLE 32. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, MAZZARD ROOTSTOCK - YEAR 5.**

Month	Operation	Material and/or Service
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

**TABLE 32. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 5.5 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 5.5 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 33. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 5.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
PICK PIECE RATE	LB.	.15	11000.00	1650.00	_____
CUSTOM HAULING	TON	10.00	5.50	55.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	30.50	244.00	_____
LABOR(TRAC/MACH)	HOURL	10.00	71.07	710.70	_____
SUPERVISOR LABOR	HOURL	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	200.56	1.00	200.56	_____
MACHINE FUEL/LUBE	ACRE	146.57	1.00	146.57	_____
INTEREST ON OP. CAP.	ACRE	141.95	1.00	141.95	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				4479.95	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	329.59	1.00	329.59	_____
MACHINE INTEREST*	ACRE	323.17	1.00	323.17	_____
MACHINE INSURANCE*	ACRE	22.81	1.00	22.81	_____
MACHINE TAXES*	ACRE	54.94	1.00	54.94	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	11861.13	1008.20	_____
				-----	
TOTAL FIXED COST				2123.70	_____
TOTAL COST				6603.65	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 34. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 6.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST				TOTAL		
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR		SERVICE MATER.	INTER.
						\$	\$	\$	\$	\$	\$	\$	
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	5	.33	.40	4.53	3.41	4.00	.00	34.04	3.23	44.68	49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	5	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	6	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	6	.50	.55	5.87	3.21	5.50	.00	.00	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	6	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	6	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	6	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	6	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
PENTAL BEE HIVES	TWO BEE HIVE PER ACRE	APR	6	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
RENTAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	6	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	6	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	6	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	6	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	6	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	6	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	6	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	6	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	6	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	6	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	6	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	6	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (7.5 TONS PER ACRE)	JUL	6	.00	.00	39.92	11.25	.00	2250.00	.00	48.05	2309.30	2349.22
HARVEST	70HP-WT, BIN TRAILER	JUL	6	6.38	15.30	32.15	29.72	153.00	.00	.00	3.88	186.61	218.76
HARVEST	SUPERVISION & CHECKING	JUL	6	.00	13.50	.00	.00	135.00	.00	.00	2.87	137.87	137.87
HARVEST	FORKLIFT	JUL	6	6.38	7.65	75.75	21.27	76.50	.00	.00	2.08	99.84	175.60
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	6	.00	.00	.00	.00	.00	75.00	.00	1.59	76.59	76.59
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	6	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	6	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	6	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	6	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	6	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	6	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	6	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	6	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	6	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	6	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	6	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	6	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59



TABLE 34. CONTINUED.

OPERATION	TOOLING	MTH YEAR	HOURS	MACH	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST			
MISC USE	SHOP TOOLS	ANN	6	.00	.00	\$ 15.15	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ 15.15	\$ 15.15
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	6	.00	.00	.00	.00	400.00	.00	17.00	.00	417.00	417.00	417.00
TAXES	LAND	ANN	6	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00	77.00
LAND COST	INTEREST ON LAND	ANN	6	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00	308.00
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	6	.00	.00	868.25	.00	.00	.00	.00	.00	.00	868.25	868.25
TOTAL PER ACRE			40.11	120.79	2023.15	363.72	1241.90	3037.00	429.17	157.54	5229.33	7252.48		

**TABLE 35. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
MAZZARD ROOTSTOCK - YEAR 6.**

Month	Operation	Material and/or Service
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

**TABLE 35. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 7.5 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 7.5 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 36. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 6.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
PICK PIECE RATE	LB.	.15	15000.00	2250.00	_____
CUSTOM HAULING	TON	10.00	7.50	75.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	30.50	244.00	_____
LABOR(TRAC/MACH)	HOURL	10.00	80.79	807.90	_____
SUPERVISOR LABOR	HOURL	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	212.76	1.00	212.76	_____
MACHINE FUEL/LUBE	ACRE	150.97	1.00	150.97	_____
INTEREST ON OP. CAP.	ACRE	157.54	1.00	157.54	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				5229.33	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	350.93	1.00	350.93	_____
MACHINE INTEREST*	ACRE	337.25	1.00	337.25	_____
MACHINE INSURANCE*	ACRE	23.81	1.00	23.81	_____
MACHINE TAXES*	ACRE	57.92	1.00	57.92	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	10214.78	868.25	_____
				-----	
TOTAL FIXED COST				2023.15	_____
TOTAL COST				7252.48	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 37. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MAINTAINING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - MATURE PRODUCTION YEARS.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST						TOTAL
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	6	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ 3.23	\$ 44.68	\$ 49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	6	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	7	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
PRUNE	LONG HANDLE CHAINSAW	FEB	7	5.00	5.00	19.41	20.18	50.00	.00	.00	3.98	74.15	93.56
BRUSH REMOVAL	CHAINSAW USED TO CUT UP BRUSH	FEB	7	5.00	5.00	8.32	20.18	50.00	.00	.00	3.98	74.15	82.47
BRUSH REMOVAL	70HP-WT, TRAILER	FEB	7	2.00	.00	11.30	9.18	.00	32.00	.00	2.33	43.51	54.81
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	7	.50	.55	5.87	3.21	5.50	.00	.00	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	7	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	7	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	7	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	7	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
RENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	7	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	7	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	7	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	7	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	7	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	7	.67	.74	4.53	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	7	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	7	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	7	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	7	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	7	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	7	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	7	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	7	.67	.74	5.39	4.19	7.40	.00	3.52	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	7	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	7	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (9.0 TONS PER ACRE)	JUL	7	.00	.00	47.91	13.50	.00	2700.00	.00	57.66	2771.16	2819.07
HARVEST	70HP-WT, BIN TRAILER	JUL	7	7.65	18.60	38.55	35.64	186.00	.00	.00	4.71	226.35	264.90
HARVEST	SUPERVISION & CHECKING	JUL	7	.00	16.20	.00	.00	162.00	.00	.00	3.44	165.44	165.44
HARVEST	FORKLIFT	JUL	7	7.65	9.18	90.83	25.50	91.80	.00	.00	2.49	119.79	210.62
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	7	.00	.00	.00	.00	.00	90.00	.00	1.91	91.91	91.91
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	7	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	7	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	7	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	7	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	7	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	7	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	7	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	7	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	7	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05

TABLE 37. CONTINUED.

OPERATION	TOOLING	MTH YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST
						FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST			
MISC USE	CREW PICKUP	ANN	7	7.50	8.00	\$ 20.68	\$ 39.18	\$ 80.00	\$ .00	\$ 5.06	\$ 124.24	\$ 144.91	
MISC USE	4-WHEEL ATV	ANN	7	5.00	5.50	10.73	7.05	55.00	.00	2.64	64.69	75.42	
MISC USE	MACHINE SHED AND SHOP	ANN	7	.00	.00	32.94	.63	.00	.00	.03	.65	33.59	
MISC USE	SHOP TOOLS	ANN	7	.00	.00	15.15	.00	.00	.00	.00	.00	15.15	
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	7	.00	.00	.00	.00	.00	400.00	17.00	417.00	417.00	
TAXES	LAND	ANN	7	.00	.00	77.00	.00	.00	.00	.00	.00	77.00	
LAND COST	INTEREST ON LAND	ANN	7	.00	.00	308.00	.00	.00	.00	.00	.00	308.00	
AMORTIZED COST	AMORTIZED NET ESTABLISHMT	COST ANN	7	.00	.00	670.85	.00	.00	.00	.00	.00	670.85	
TOTAL PER ACRE				54.65	138.32	1894.25	425.65	1417.20	3534.00	429.17	179.57	5985.59	7879.84

**TABLE 38. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, MAZZARD ROOTSTOCK - MATURE PRODUCTION YEARS.**

Month	Operation	Material and/or Service
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wetttable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

**TABLE 38. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 9.0 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 9.0 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre



TABLE 39. ITEMIZED COST PER ACRE FOR MAINTAINING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON MAZZARD ROOTSTOCK IN CENTRAL WASHINGTON - MATURE PRODUCTION YEARS.

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
WEEDAR	QT.	7.94	.50	3.97	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
PICK PIECE RATE	LB.	.15	18000.00	2700.00	_____
CUSTOM HAULING	TON	10.00	9.00	90.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	34.50	276.00	_____
LABOR (TRAC/MACH)	HOURL	10.00	98.32	983.20	_____
SUPERVISOR LABOR	HOURL	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	255.87	1.00	255.87	_____
MACHINE FUEL/LUBE	ACRE	169.78	1.00	169.78	_____
INTEREST ON OP. CAP.	ACRE	179.57	1.00	179.57	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				5985.59	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	397.07	1.00	397.07	_____
MACHINE INTEREST*	ACRE	354.68	1.00	354.68	_____
MACHINE INSURANCE*	ACRE	25.04	1.00	25.04	_____
MACHINE TAXES*	ACRE	61.61	1.00	61.61	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
AMORTIZED ESTAB COST	ACRE	670.85	1.00	670.85	_____
				-----	
TOTAL FIXED COST				1894.25	_____
TOTAL COST				7879.84	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

## **APPENDIX III**

**Detailed Cost and Production**

**Practice Information for**

**Establishing and Producing Self-Pollinating**

**Sweet Cherries on Giesla 6 Rootstock**

TABLE 40. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD USING GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 1.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	HOURS	TOTAL FIXED COST	FUEL, LUBE, & REPAIRS	LABOR	SERVICE	MATER.	INTER.	VARIABLE COST		TOTAL COST
													\$	\$	
SOIL SAMPLE	CUSTOM HIRE	FALL	0	.00	.00	.00	.00	.00	.00	12.00	.00	.00	12.94	12.94	12.94
RIP GROUND	CUSTOM HIRE	FALL	0	.00	.00	.00	.00	.00	.00	100.00	.00	.00	7.79	107.79	107.79
FUMIGATE	PORTABLE HANDLINES (LABOR, ETC.	FALL	0	.00	.00	.00	.00	.00	.00	70.00	175.00	19.09	264.09	264.09	264.09
BROADCAST FERT.	70HP-WT, RENTED SPREADER	FALL	0	.50	.60	1.78	2.04	2.04	6.00	4.00	56.25	5.32	73.61	75.39	75.39
DISK	70HP-WT, 9'DISK	FALL	0	.50	.55	12.78	4.24	4.24	5.50	.00	.00	.76	10.50	23.28	23.28
DISK	70HP-WT, 9'DISK	FEB	1	.50	.55	12.78	4.24	4.24	5.50	.00	.00	.55	10.30	23.08	23.08
LAYOUT & STAKE	70HP-WT, MARKER	FEB	1	.25	.50	.89	1.02	1.02	4.60	.00	2.00	.43	8.05	8.94	8.94
PLANT TREES	CUSTOM HIRE	FEB	1	.00	.00	.00	.00	.00	.00	81.60	1632.00	97.10	1810.70	1810.70	1810.70
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	1	.00	10.00	128.25	33.75	100.00	150.00	.00	.00	12.06	295.81	424.06	424.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	APR	1	.40	.48	2.19	3.64	4.80	.00	23.34	1.35	33.12	35.31	35.31	35.31
PAINT/SUCKER REM	(INCL. TRAINING) HAND LABOR	MAY	1	.00	5.00	.00	.00	40.00	.00	4.80	1.59	46.39	46.39	46.39	46.39
APPLY NITROGEN	70HP-WT, BACKFORK, HAND LABOR	MAY	1	.33	1.25	1.22	1.39	10.84	.00	10.00	.79	23.02	24.24	24.24	24.24
DISK	70HP-WT, 9' DISK	JUN	1	.50	.55	12.78	4.24	4.24	5.50	.00	.00	.28	10.02	22.80	22.80
APPLY HERBICIDE	70HP-WT, 100 GAL. SPRAYER	JUN	1	.40	.48	2.19	3.64	4.80	.00	12.63	.60	21.66	23.85	23.85	23.85
WEED AROUND TREE	HAND LABOR	JUL	1	.00	3.00	.00	.00	24.00	.00	.00	.00	.51	24.51	24.51	24.51
DISK	70HP-WT, 9' DISK	AUG	1	.50	.55	12.78	4.24	4.24	5.50	.00	.00	.14	9.88	22.66	22.66
ROTOTILL	70HP-WT, 6' ROTOTILLER	AUG	1	1.00	1.10	15.55	5.09	11.00	.00	.00	.23	16.32	31.87	31.87	31.87
PLANT COVER CROP	70HP-WT, RENTED GRASS SEEDER	SEP	1	.50	.60	1.78	2.04	6.00	10.00	26.25	.31	44.61	46.39	46.39	46.39
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	1	.40	.48	2.19	3.64	4.80	.00	12.06	.00	20.49	22.68	22.68	22.68
GOPHER CONTROL	HAND LABOR	ANN	1	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	1	.00	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	1	5.00	5.50	47.28	26.95	110.00	110.00	.00	.00	5.82	142.77	190.05	190.05
MISC USE	CREW PICKUP	ANN	1	7.50	8.00	20.68	39.18	80.00	.00	.00	.00	5.06	124.24	144.91	144.91
MISC USE	4-WHEEL ATV	ANN	1	5.00	5.50	10.73	7.05	55.00	.00	.00	.64	64.69	75.42	75.42	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	1	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59	33.59	33.59
MISC USE	SHOP TOOLS	ANN	1	.00	.00	15.15	.00	.00	.00	.00	.00	.00	.00	15.15	15.15
OVERHEAD	UTILITIES, LEGAL, ACTNG, ETC.	ANN	1	.00	.00	.00	.00	.00	400.00	.00	.00	17.00	417.00	417.00	417.00
TAXES	LAND	ANN	1	.00	.00	77.00	.00	.00	.00	.00	.00	.00	.00	77.00	77.00
LAND COST	INTEREST ON LAND	ANN	1	.00	.00	308.00	.00	.00	.00	.00	.00	.00	.00	308.00	308.00
TOTAL PER ACRE				23.28	46.69	718.93	147.02	499.84	839.60	1955.05	181.60	3623.11	4342.04	4342.04	4342.04

**TABLE 41. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
GIESLA 6 ROOTSTOCK - YEAR 1.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Soil Sample	Custom Hire @ \$12/Acre
Fall	Rip Ground	Custom Hire @ \$100/Acre
Fall	Fumigate	50 Gal. Vapam @ \$3.50/Gal. Portable Handlines & Labor @ \$70/Acre
Fall	Broadcast Fertilizer	Rented Spreader @ \$4/Acre 120 Lbs. Nitrogen @ \$.40/Lb. 15 Lbs. Borate 46 @ \$.55/Lb.
Feb.	Layout & Stake	20 Stakes @ \$.10/Stake
Feb.	Plant Trees (includes heading the tree)	Custom Hire @ \$.30/Tree 272 Trees @ \$6.00/Tree
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
Apr.	Apply Herbicide	.4 Gal. Prowl @ \$26.77/Gal. 2 Pts. Gramoxone @ \$5.64/Pt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Paint Trees & Sucker Removal	.6 Gal. Paint @ \$8/Gal.
May	Apply Nitrogen	25 Lbs. Nitrogen @ \$.40/Lb.
June	Apply Herbicide	2 Pts. Gramoxone @ \$5.64/Pt. .5 Pt. LI-700 @ \$2.70/Pt.
Sept.	Plant Cover Crop	Rented Grass Seeder @ \$10/Acre 15 Lbs. Companion Grass Seed @ \$1.75/Lb.
Oct.	Apply Herbicide	.4 Gal. Prowl @ \$26.77/Gal. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 42. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD USING GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 1.

	UNIT	PRICE OR COST/UNIT	QUANTITY	VALUE OR COST	YOUR FARM
-----					
VARIABLE COSTS		\$		\$	
SOIL SAMPLE	ACRE	12.00	1.00	12.00	_____
CUSTOM RIPPING	ACRE	100.00	1.00	100.00	_____
STAKES	STAK	.10	20.00	2.00	_____
PLANT TREES	TREE	.30	272.00	81.60	_____
TREES	TREE	6.00	272.00	1632.00	_____
VAPAM	GAL.	3.50	50.00	175.00	_____
PROWL 3.3	GAL.	26.77	.80	21.42	_____
GRAMOXONE	PINT	5.64	4.00	22.56	_____
LI-700	PINT	2.70	1.50	4.05	_____
BORATE-46 14.3%	LB.	.55	15.00	8.25	_____
PAINT	GAL.	8.00	.60	4.80	_____
NITROGEN-ACTUAL	LB.	.40	145.00	58.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
COMPANION SEED	LB.	1.75	15.00	26.25	_____
RENTED GRASS SEEDER	ACRE	10.00	1.00	10.00	_____
PORTABLE HANDLINES	ACRE	70.00	1.00	70.00	_____
RENTED FERT SPREADER	ACRE	4.00	1.00	4.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	11.03	88.24	_____
LABOR (TRAC/MACH)	HOUR	10.00	30.16	301.60	_____
SUPERVISOR LABOR	HOUR	20.00	5.50	110.00	_____
MACHINERY REPAIRS	ACRE	71.39	1.00	71.39	_____
MACHINE FUEL/LUBE	ACRE	75.63	1.00	75.63	_____
INTEREST ON OP. CAP.	ACRE	181.60	1.00	181.60	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				3623.11	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	160.10	1.00	160.10	_____
MACHINE INTEREST*	ACRE	146.08	1.00	146.08	_____
MACHINE INSURANCE*	ACRE	10.31	1.00	10.31	_____
MACHINE TAXES*	ACRE	17.44	1.00	17.44	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
				-----	
TOTAL FIXED COST				718.93	_____
TOTAL COST				4342.04	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 43. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 2.

OPERATION	TOOLING	MTH	YEAR	MACH		LABOR HOURS	TOTAL FIXED COST	FUEL, LUBE, & REPAIRS			MACH REPAIRS	MACH LABOR		SERVICE MATER.	INTER.	TOTAL VARIABLE COST	
				HOURS	HOURS			\$	\$	\$		\$	\$			\$	
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	1	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46				
REPLANT 6 TREES	70HP-WT, BACKFORK	FEB	2	1.35	1.50	4.99	5.70	15.00	.00	36.00	3.21	59.91	64.90				
BRANCH PROMOTION	HAND LABOR	FEB	2	.00	23.00	.00	.00	184.00	.00	.00	10.43	194.43	194.43				
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	2	.50	.55	4.18	2.79	5.50	.00	20.00	1.40	29.70	33.88				
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	2	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06				
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	2	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39				
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	2	.33	.40	4.58	3.45	4.00	.00	7.50	.53	15.47	20.05				
SEL & REM SHOOTS	HAND LABOR AND PRUNING TOOLS	MAY	2	.00	5.00	.69	.00	40.00	.00	.00	1.42	41.42	42.10				
APPLY HERBICIDE	70HP-WT, 100 GAL. SPRAYER	JUN	2	.40	.48	2.19	3.64	4.80	.00	18.65	.77	27.85	30.04				
MILDER SPRAY	70HP-WT, BLAST SPRAYER	JUN	2	.33	.40	4.58	3.45	4.00	.00	24.64	.91	32.99	37.57				
MOW ORCHARD	70HP-WT, 9' MOWER	JUL	2	.67	.74	5.39	4.19	7.40	.00	.00	.25	11.84	17.22				
TREE TRAINING	HAND LABOR, CLIPS & STRING	JUL	2	.00	20.00	.00	.00	160.00	.00	40.00	4.25	204.25	204.25				
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	2	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14				
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	AUG	2	.40	.48	2.19	3.64	4.80	.00	14.68	.33	23.44	25.63				
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	OCT	2	.67	.74	5.39	4.19	7.40	.00	.00	.00	11.59	16.98				
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	2	.40	.48	2.19	3.64	4.80	.00	25.39	.00	33.82	36.01				
GOPHER CONTROL	HAND LABOR	ANN	2	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43				
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	2	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51				
MISC USE	MANAGEMENT PICKUP	ANN	2	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05				
MISC USE	CREW PICKUP	ANN	2	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91				
MISC USE	4-WHEEL ATV	ANN	2	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42				
MISC USE	MACHINE SHED AND SHOP	ANN	2	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59				
MISC USE	SHOP TOOLS	ANN	2	.00	.00	15.15	.00	.00	.00	.00	.00	.00	15.15				
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	2	.00	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00				
TAXES	LAND	ANN	2	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00				
LAND COST	INTEREST ON LAND	ANN	2	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00				
INTEREST COST	INTEREST ON 1ST YR ESTAB COST	ANN	2	.00	.00	369.07	.00	.00	.00	.00	.00	.00	369.07				
TOTAL PER ACRE				24.40	86.80	1060.40	153.39	823.00	562.00	217.58	70.88	1826.85	2887.25				

**TABLE 44. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
GIESLA 6 ROOTSTOCK - YEAR 2.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Feb.	Replant 6 Trees	6 Trees @ \$6.00/Tree
Mar.	Fertilize	50 Lbs. Nitrogen @ \$.40/Lb.
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Mildew Spray	10 Lbs. Wettable Sulfur @ \$.75/Lb.
June	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.5 Qt. Weedar @ \$7.94/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
June	Mildew Spray	8.0 Ozs. Procure @ \$3.08/Oz.
July	Tree Training	Clips & String @ \$40/Acre
Aug.	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.5 Pt. LI-700 @ \$2.70/Pt.
Oct.	Apply Herbicide	1.0 Qt. Roundup-Ultra @ \$13.33/Qt. 0.4 Gal. Prowl @ \$26.77/Gal. 0.5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 45. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 2.

		PRICE OR		VALUE OR	YOUR
	UNIT	COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
TREES	TREE	6.00	6.00	36.00	_____
NITROGEN-ACTUAL	LB.	.40	125.00	50.00	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	8.00	24.64	_____
WEEDAR	QT.	7.94	.50	3.97	_____
LI-700	PINT	2.70	1.50	4.05	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
PROWL 3.3	GAL.	26.77	.40	10.71	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
CLIPS & STRING	ACRE	40.00	1.00	40.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	50.00	400.00	_____
LABOR (TRAC/MACH)	HOUR	10.00	31.30	313.00	_____
SUPERVISOR LABOR	HOUR	20.00	5.50	110.00	_____
MACHINERY REPAIRS	ACRE	74.87	1.00	74.87	_____
MACHINE FUEL/LUBE	ACRE	78.51	1.00	78.51	_____
INTEREST ON OP. CAP.	ACRE	70.88	1.00	70.88	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				1826.85	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	148.45	1.00	148.45	_____
MACHINE INTEREST*	ACRE	133.65	1.00	133.65	_____
MACHINE INSURANCE&	ACRE	9.43	1.00	9.43	_____
MACHINE TAXES*	ACRE	14.80	1.00	14.80	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	4384.00	369.07	_____
				-----	
TOTAL FIXED COST				1060.40	_____
				-----	
TOTAL COST				2887.25	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.



TABLE 46. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 3.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.		INTER.
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	2	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ 3.23	\$ 44.68	49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	2	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	3	.00	20.00	2.74	.00	170.00	.00	.00	9.63	179.63	182.37
REPLANT 3 TREES	70HP-WT, BACKFORK	FEB	3	.80	.88	2.96	3.38	8.80	.00	18.00	1.71	31.89	34.85
TRAIN TREES	HAND LABOR, CLIPS & STRING	MAR	3	.00	30.00	.00	.00	252.00	.00	40.00	14.48	306.48	306.48
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	3	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	3	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	3	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
RENT BEE HIVES	ONE BEE HIVE PER ACRE	APR	3	.00	.00	.00	.00	35.00	.00	.00	1.49	36.49	36.49
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	3	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	3	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	3	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	3	.00	10.00	128.25	33.75	100.00	.00	150.00	.00	295.81	424.06
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	3	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	3	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	3	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	3	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	3	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	3	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	3	.00	.00	.00	.00	30.00	.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	3	.00	.00	.00	.00	15.00	.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	3	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	3	.00	.00	.00	.00	15.00	.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	3	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (3 TONS PER ACRE)	JUL	3	.00	.00	15.97	4.50	.00	900.00	.00	19.22	923.72	939.69
HARVEST	70HP-WT, BIN TRAILER	JUL	3	2.55	6.12	12.85	11.88	61.20	.00	.00	1.55	74.63	87.48
HARVEST	SUPERVISION & CHECKING	JUL	3	.00	5.40	.00	.00	54.00	.00	.00	1.15	55.15	55.15
HARVEST	FORKLIFT	JUL	3	2.55	3.06	30.28	8.50	30.60	.00	.00	.83	39.93	70.21
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	3	.00	.00	.00	.00	.00	30.00	.00	.64	30.64	30.64
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	3	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	3	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	3	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	3	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	3	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	3	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	3	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	3	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	3	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	3	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	3	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	3	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59

TABLE 46. CONTINUED.

OPERATION	TOOLING	MTH YEAR	HOURS	MACH	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST			
MISC USE	SHOP TOOLS	ANN	3	.00	.00	\$ 15.15	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ 15.15	
OVERHEAD	UTILITIES, LEGAL, ACTING, ETC.	ANN	3	.00	.00	.00	.00	400.00	.00	17.00	.00	417.00	417.00	
TAXES	LAND	ANN	3	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00	
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	3	.00	.00	614.48	.00	.00	.00	.00	.00	.00	614.48	
LAND COST	INTEREST ON LAND	ANN	3	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00	
TOTAL PER ACRE			32.25	110.70	1671.26	323.40	1120.00	1607.00	487.17	127.51	3665.08	5336.34		

**TABLE 47. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, GIESLA 6 ROOTSTOCK - YEAR 3.**

Month	Operation	Material and/or Service
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Feb.	Replant 3 Trees	3 Trees @ \$6.00/Tree
Mar.	Tree Training	Clips & String @ \$40/acre
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehive	1 Beehive @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

**TABLE 47. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 3.0 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 3.0 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 48. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 3.

		PRICE OR	VALUE OR	YOUR
	UNIT	COST/UNIT	COST	FARM
-----				
VARIABLE COSTS		\$	\$	
TREES	TREE	6.00	3.00	18.00
NITROGEN-ACTUAL	LB.	.40	135.00	54.00
COPPER SULFATE	LB.	2.53	12.00	30.36
NU-FILM	PINT	3.68	1.00	3.68
ZINC CHELATE	GAL.	8.15	1.00	8.15
LORSBAN	PINT	4.26	4.00	17.04
SUPERIOR OIL	GAL.	2.88	10.00	28.80
SUCCESS	OZ.	5.24	10.00	52.40
SOLUBOR 25.5%	LB.	.87	5.00	4.35
WETTABLE SULFUR	LB.	.75	10.00	7.50
PROCURE	OZ.	3.08	24.00	73.92
PROGIBB 4%	OZ.	1.29	14.00	18.06
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99
LI-700	PINT	2.70	1.50	4.05
GUTHION (50%WP)	LB.	6.56	2.00	13.12
CYTHION-ULV	PINT	3.52	2.00	7.04
MALATHION 57	PINT	2.90	3.00	8.70
ORBIT	OZ.	4.03	4.00	16.12
WEEDAR	QT.	7.94	.50	3.97
SEVIN 4F	OZ.	.22	6.00	1.32
LIME & SULFUR	GAL.	5.98	6.00	35.88
GASTOXIN	TAB.	.07	10.00	.72
MOUSE CONTROL	ACRE	12.00	1.00	12.00
CLIPS & STRING	ACRE	40.00	1.00	40.00
RENT BEE HIVES	HIVE	35.00	1.00	35.00
HELICOPTER DRYING	ACRE	30.00	1.00	30.00
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00
PICK PIECE RATE	LB.	.15	6000.00	900.00
CUSTOM HAULING	TON	10.00	3.00	30.00
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00
MACHINERY REPAIRS	ACRE	182.86	1.00	182.86
MACHINE FUEL/LUBE	ACRE	140.54	1.00	140.54
CASUAL LABOR	HOUR	8.00	41.00	328.00
LABOR (TRAC/MACH)	HOUR	10.00	60.20	602.00
SUPERVISOR LABOR	HOUR	20.00	9.50	190.00
INTEREST ON OP. CAP.	ACRE	127.51	1.00	127.51
OVERHEAD	ACRE	400.00	1.00	400.00
			-----	
TOTAL VARIABLE COST				3665.08
-----				
FIXED COSTS		\$	\$	
MACHINE DEPRECIATION*	ACRE	296.97	1.00	296.97
MACHINE INTEREST*	ACRE	302.81	1.00	302.81
MACHINE INSURANCE*	ACRE	21.38	1.00	21.38
MACHINE TAXES*	ACRE	50.62	1.00	50.62
INTEREST ON LAND	ACRE	308.00	1.00	308.00
LAND TAXES	ACRE	77.00	1.00	77.00
ESTAB COST INTEREST	ACRE	.085	7299.29	614.48
			-----	
TOTAL FIXED COST				1671.26
-----				
TOTAL COST				5336.34
-----				

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 49. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GLESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 4.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	COST	FUEL, LUBE, & REPAIRS	LABOR		SERVICE MATER.
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	3	.33	.40	\$ 4.53	\$ 3.41	\$ 4.00	\$ .00	\$ 34.04	\$ 3.23	\$ 44.68	\$ 49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	3	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	4	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	4	.50	.55	5.87	3.21	5.50	.00	.49	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	4	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	4	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	4	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	4	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
RENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	4	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	4	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	4	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	4	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	4	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	4	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	4	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	4	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	4	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	4	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	4	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	4	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	4	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	4	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (5.5 TONS PER ACRE)	JUL	4	.00	.00	29.28	8.25	.00	1650.00	.00	35.24	1693.49	1722.76
HARVEST	70HP-WT, BIN TRAILER	JUL	4	4.68	11.22	23.58	21.80	112.20	.00	.00	2.85	136.85	160.43
HARVEST	SUPERVISION & CHECKING	JUL	4	.00	9.90	.00	.00	99.00	.00	.00	2.10	101.10	101.10
HARVEST	FORKLIFT	JUL	4	4.68	5.61	55.57	15.60	56.10	.00	.00	1.52	73.22	128.79
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	4	.00	.00	.00	.00	.00	55.00	.00	1.17	56.17	56.17
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	4	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	4	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	4	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	4	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	4	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	4	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	4	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	4	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	4	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	4	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	4	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	4	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59

TABLE 49. CONTINUED.

OPERATION	TOOLING	MTH YEAR	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST
						FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST			
MISC USE	SHOP TOOLS	ANN	4	.00	\$ 15.15	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ 15.15	
OVERHEAD	UTILITIES, LEGAL, ACCTG, ETC.	ANN	4	.00	.00	.00	400.00	.00	17.00	.00	417.00	417.00	
TAXES	LAND	ANN	4	.00	77.00	.00	.00	.00	.00	.00	.00	77.00	
LAND COST	INTEREST ON LAND	ANN	4	.00	308.00	.00	.00	.00	.00	.00	.00	308.00	
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	4	.00	685.58	.00	.00	.00	.00	.00	.00	685.58	
TOTAL PER ACRE			36.71	111.07	1801.09	347.13	1144.70	2417.00	429.17	141.95	4479.95	6281.04	

**TABLE 50. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, GIESLA 6 ROOTSTOCK - YEAR 4.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wetttable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre



**TABLE 50. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 5.5 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 5.5 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 51. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 4.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
PICK PIECE RATE	LB.	.15	11000.00	1650.00	_____
CUSTOM HAULING	TON	10.00	5.50	55.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	30.50	244.00	_____
LABOR (TRAC/MACH)	HOURL	10.00	71.07	710.70	_____
SUPERVISOR LABOR	HOURL	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	200.56	1.00	200.56	_____
MACHINE FUEL/LUBE	ACRE	146.57	1.00	146.57	_____
INTEREST ON OP. CAP.	ACRE	141.95	1.00	141.95	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				4479.95	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	329.59	1.00	329.59	_____
MACHINE INTEREST*	ACRE	323.17	1.00	323.17	_____
MACHINE INSURANCE*	ACRE	22.81	1.00	22.81	_____
MACHINE TAXES*	ACRE	54.94	1.00	54.94	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	8065.63	685.58	_____
				-----	
TOTAL FIXED COST				1801.09	_____
TOTAL COST				6281.04	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 52. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 5.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	HOURS	COST	FUEL, LUBE, & REPAIRS	LABOR		SERVICE
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	4	.33	.40	4.53	3.41	4.00	.00	34.04	3.23	44.68	49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	4	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	5	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	5	.50	.55	5.87	3.21	5.50	.00	.00	.49	9.20	15.07
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	5	.50	.55	4.02	3.13	5.50	.00	.00	.49	9.12	13.14
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	5	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	5	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	5	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
PENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	5	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
RENTAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	5	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	5	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	5	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	5	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	5	.67	.74	5.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	5	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	5	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	5	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	5	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	5	.00	.00	.00	.00	.00	15.00	3.52	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	5	.67	.74	5.39	4.19	7.40	.00	.00	.33	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	5	.00	.00	.00	.00	.00	15.00	3.52	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	5	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (7.5 TONS PER ACRE)	JUL	5	.00	.00	39.92	11.25	.00	2250.00	.00	48.05	2309.30	2349.22
HARVEST	70HP-WT, BIN TRAILER	JUL	5	6.38	15.30	32.15	29.72	153.00	.00	.00	3.88	186.61	218.76
HARVEST	SUPERVISION & CHECKING	JUL	5	.00	13.50	.00	.00	135.00	.00	.00	2.87	137.87	137.87
HARVEST	FORKLIFT	JUL	5	6.38	7.65	75.75	21.27	76.50	.00	.00	2.08	99.84	175.60
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	5	.00	.00	.00	.00	.00	75.00	.00	1.59	76.59	76.59
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	5	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	5	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	5	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	5	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	5	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	5	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	5	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	5	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51
MISC USE	MANAGEMENT PICKUP	ANN	5	5.00	5.50	47.28	26.95	110.00	.00	.00	5.82	142.77	190.05
MISC USE	CREW PICKUP	ANN	5	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91
MISC USE	4-WHEEL ATV	ANN	5	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42
MISC USE	MACHINE SHED AND SHOP	ANN	5	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59

TABLE 52. CONTINUED.

OPERATION	TOOLING	MTH YEAR	HOURS	MACH HOURS	LABOR HOURS	TOTAL FIXED COST	VARIABLE COST						TOTAL VARIABLE COST	TOTAL COST
							FUEL, LUBE, & REPAIRS	LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST			
MISC USE	SHOP TOOLS	ANN	5	.00	.00	\$ 15.15	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ .00	\$ 15.15	\$ 15.15
OVERHEAD	UTILITIES, LEGAL, ACTING, ETC.	ANN	5	.00	.00	.00	.00	400.00	.00	17.00	.00	417.00	417.00	417.00
TAXES	LAND	ANN	5	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00	77.00
LAND COST	INTEREST ON LAND	ANN	5	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00	308.00
INTEREST COST	INTEREST ON ESTABLISHMENT	COST ANN	5	.00	.00	518.22	.00	.00	.00	.00	.00	.00	518.22	518.22
TOTAL PER ACRE			40.11	120.79	1673.12	363.72	1241.90	3037.00	429.17	157.54	5229.33	6902.45	6902.45	

**TABLE 53. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION,  
GIESLA 6 ROOTSTOCK - YEAR 5.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

**TABLE 53. CONTINUED.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 7.5 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 7.5 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 54. ITEMIZED COST PER ACRE FOR ESTABLISHING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - YEAR 5.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
CYTHION-ULV	PINT	3.52	2.00	7.04	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
WEEDAR	QT.	7.94	.50	3.97	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
PICK PIECE RATE	LB.	.15	15000.00	2250.00	_____
CUSTOM HAULING	TON	10.00	7.50	75.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOURL	8.00	30.50	244.00	_____
LABOR (TRAC/MACH)	HOURL	10.00	80.79	807.90	_____
SUPERVISOR LABOR	HOURL	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	212.76	1.00	212.76	_____
MACHINE FUEL/LUBE	ACRE	150.97	1.00	150.97	_____
INTEREST ON OP. CAP.	ACRE	157.54	1.00	157.54	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
TOTAL VARIABLE COST				5229.33	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	350.93	1.00	350.93	_____
MACHINE INTEREST*	ACRE	337.25	1.00	337.25	_____
MACHINE INSURANCE*	ACRE	23.81	1.00	23.81	_____
MACHINE TAXES*	ACRE	57.92	1.00	57.92	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
ESTAB COST INTEREST	ACRE	.085	6096.67	518.22	_____
TOTAL FIXED COST				1673.12	_____
TOTAL COST				6902.45	_____

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

TABLE 55. SCHEDULE OF OPERATIONS AND ESTIMATED COSTS PER ACRE FOR MAINTAINING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - MATURE PRODUCTION YEARS.

OPERATION	TOOLING	MTH	YEAR	MACH	LABOR	TOTAL	VARIABLE COST					TOTAL	
							HOURS	FIXED	FUEL, LUBE, & REPAIRS	LABOR	SERVICE		MATER.
				HOURS	HOURS	COST	\$	\$	\$	\$	\$	\$	\$
FALL SPRAY	70HP-WT, BLAST SPRAYER	FALL	5	.33	.40	4.53	3.41	4.00	.00	34.04	3.23	44.68	49.21
FERTILIZE	70HP-WT, FERTILIZER SPREADER	FALL	5	.50	.55	4.18	2.79	5.50	.00	30.00	2.98	41.28	45.46
PRUNE	HAND LABOR, PRUNING TOOLS	FEB	6	.00	38.00	5.21	.00	323.00	.00	.00	18.30	341.30	346.51
PRUNE	LONG HANDLE CHAINSAW	FEB	6	5.00	5.00	19.41	20.18	50.00	.00	.00	3.98	74.15	93.56
BRUSH REMOVAL	CHAINSAW USED TO CUT UP BRUSH	FEB	6	2.50	2.50	4.16	10.09	25.00	.00	.00	1.99	37.08	41.23
BRUSH REMOVAL	70HP-WT, TRAILER	FEB	6	1.00	2.00	5.65	4.59	16.00	.00	.00	1.17	21.75	27.40
BRUSH REMOVAL	70HP-WT, BRUSH WINDROWER	FEB	6	.25	.28	2.94	1.61	2.75	.00	.00	.25	4.60	7.54
BRUSH REMOVAL	70HP-WT, 9' ROTARY MOWER	FEB	6	.25	.28	2.01	1.56	2.75	.00	.00	.24	4.56	6.57
DORMANT SPRAY	70HP-WT, BLAST SPRAYER	MAR	6	.33	.40	4.53	3.41	4.00	.00	36.71	2.19	46.31	50.84
FERTILIZE	70HP-WT, FERTILIZER SPREADER	MAR	6	.50	.55	4.18	2.79	5.50	.00	24.00	1.60	33.89	38.07
THRIPS SPRAY	70HP-WT, BLAST SPRAYER	APR	6	.33	.40	4.53	3.41	4.00	.00	58.16	2.79	68.36	72.89
RENT BEE HIVES	TWO BEE HIVE PER ACRE	APR	6	.00	.00	.00	.00	.00	70.00	.00	2.98	72.98	72.98
PETAL FALL SPRAY	70HP-WT, BLAST SPRAYER	APR	6	.33	.40	4.53	3.41	4.00	.00	11.85	.82	20.08	24.61
FROST CONTROL	WIND MACHINE	APR	6	.00	4.00	204.25	83.30	80.00	.00	.00	6.94	170.24	374.49
FROST CONTROL	SPRINKLERS & HOLDING POND	APR	6	.00	.00	56.70	30.00	.00	20.00	.00	2.13	52.12	108.83
IRRIGATE (40 IN)	UNDER TREE SPRINKLER SYSTEM	SEA	6	.00	10.00	128.25	33.75	100.00	150.00	.00	12.06	295.81	424.06
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	MAY	6	.67	.74	4.39	4.19	7.40	.00	.00	.41	12.00	17.39
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	50.08	2.04	59.53	64.06
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	MAY	6	.40	.48	2.19	3.64	4.80	.00	14.68	.82	23.93	26.12
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	36.96	1.57	45.94	50.48
HAND THINNING	HAND LABOR AND LADDERS	MAY	6	.00	31.25	3.02	1.88	250.00	.00	.00	8.92	260.80	263.81
GA SPRAY	70HP-WT, BLAST SPRAYER	MAY	6	.33	.40	4.53	3.41	4.00	.00	18.06	.90	26.37	30.91
FRT FLY/MILDEW	70HP-WT, BLAST SPRAYER	JUN	6	.33	.40	4.53	3.41	4.00	.00	24.82	.91	33.14	37.68
DRY CHERRIES	HELICOPTER	JUN	6	.00	.00	.00	.00	.00	30.00	.00	.85	30.85	30.85
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUN	6	.00	.00	.00	.00	.00	15.00	.00	.52	19.04	19.04
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	JUN	6	.67	.74	5.39	4.19	7.40	.00	3.52	.39	11.92	17.31
FRT FLY SPRAY	APPLIED BY HELICOPTER	JUL	6	.00	.00	.00	.00	.00	15.00	.00	.39	18.91	18.91
APPLY HERBICIDE	70HP-WT, 100-GAL SPRAYER	JUL	6	.40	.48	2.19	3.64	4.80	.00	18.65	.58	27.66	29.85
HARVEST	PICKING (10.0 TONS PER ACRE)	JUL	6	.00	.00	53.32	15.00	.00	3000.00	.00	64.07	3079.07	3132.30
HARVEST	70HP-WT, BIN TRAILER	JUL	6	8.50	20.40	42.83	39.60	204.00	.00	.00	5.18	248.78	291.61
HARVEST	SUPERVISION & CHECKING	JUL	6	.00	18.00	.00	.00	180.00	.00	.00	3.83	183.83	183.83
HARVEST	FORKLIFT	JUL	6	8.50	10.20	100.92	28.33	102.00	.00	.00	2.77	133.10	234.03
HARVEST	CUSTOM HAUL FRUIT TO WAREHOUSE	JUL	6	.00	.00	.00	.00	.00	100.00	.00	2.12	102.12	102.12
MILDEW SPY (2X)	70HP-WT, BLAST SPRAYER	JUL	6	.67	.74	9.20	6.93	7.40	.00	11.52	.55	26.40	35.60
CLEANUP SPRAY	70HP-WT, 100-GAL SPRAYER	JUL	6	.33	.40	4.53	3.41	4.00	.00	1.32	.19	8.92	13.45
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	AUG	6	.67	.74	5.39	4.19	7.40	.00	.00	.16	11.75	17.14
MOW ORCHARD	70HP-WT, 9' ROTARY MOWER	SEP	6	.67	.74	5.39	4.19	7.40	.00	.00	.08	11.67	17.06
MILDEW SPRAY	70HP-WT, BLAST SPRAYER	OCT	6	.33	.40	4.53	3.41	4.00	.00	35.88	.00	43.29	47.82
APPLY HERBICIDE	70HP-WT, 100 GAL SPRAYER	OCT	6	.40	.48	2.19	3.64	4.80	.00	14.68	.00	23.12	25.30
GOPHER CONTROL	HAND LABOR	ANN	6	.00	2.00	.00	.00	16.00	.00	.72	.71	17.43	17.43
MOUSE CONTROL	APPLICATION & MATERIAL COST	ANN	6	.00	.00	.00	.00	.00	12.00	.00	.51	12.51	12.51



TABLE 55. CONTINUED.

OPERATION	TOOLING	MTH YEAR	MACH		LABOR HOURS	TOTAL FIXED COST	FUEL, LUBE, & REPAIRS			LABOR	SERVICE MATER.	INTER.	TOTAL VARIABLE COST	
			HOURS	HOURS			\$	\$	\$				\$	\$
MISC USE	MANAGEMENT PICKUP	ANN	6	5.00	5.50	\$ 47.28	\$ 26.95	\$ 110.00	\$ .00	\$ .00	\$ 5.82	\$ 142.77	\$ 190.05	
MISC USE	CREW PICKUP	ANN	6	7.50	8.00	20.68	39.18	80.00	.00	.00	5.06	124.24	144.91	
MISC USE	4-WHEEL ATV	ANN	6	5.00	5.50	10.73	7.05	55.00	.00	.00	2.64	64.69	75.42	
MISC USE	MACHINE SHED AND SHOP	ANN	6	.00	.00	32.94	.63	.00	.00	.00	.03	.65	33.59	
MISC USE	SHOP TOOLS	ANN	6	.00	.00	15.15	.00	.00	.00	.00	.00	.00	15.15	
OVERHEAD	UTILITIES, LEGAL, ACCTNG, ETC.	ANN	6	.00	.00	.00	.00	.00	400.00	.00	17.00	417.00	417.00	
TAXES	LAND	ANN	6	.00	.00	77.00	.00	.00	.00	.00	.00	.00	77.00	
LAND COST	INTEREST ON LAND	ANN	6	.00	.00	308.00	.00	.00	.00	.00	.00	.00	308.00	
AMORTIZED COST	AMORTIZED NET ESTABLISHMT	COST ANN	6	.00	.00	184.38	.00	.00	.00	.00	.00	.00	184.38	
TOTAL PER ACRE				52.35	165.64	1416.18	417.97	1667.90	3843.00	429.17	192.59	6550.63	7966.81	

**TABLE 56. MATERIALS AND/OR SERVICES APPLIED PER ACRE BY OPERATION, GIESLA 6 ROOTSTOCK - MATURE PRODUCTION YEARS.**

<b>Month</b>	<b>Operation</b>	<b>Material and/or Service</b>
Fall	Spray	12 Lbs. Copper Sulfate @ \$2.53/Lb. 1 Pint Nu-Film @ \$3.68/Pt.
Fall	Fertilize	75 Lbs. Nitrogen @ \$.40/Lb.
Mar.	Dormant Spray	4 Gal. Superior Oil @ \$2.88/Gal. 4 Pt. Lorsban @ \$4.25/Pt. 1 Gal. Zinc Chelate @ \$8.15/Gal.
Mar.	Fertilize	60 Lbs. Nitrogen @ \$.40/Lb.
Apr.	Thrips Spray	10 Ozs. Success @ \$5.24/Oz. 2 Gal. Superior Oil @ \$2.88/Gal.
Apr.	Rent Beehives	2 Beehives @ \$35.00/Hive
Apr.	Petal Fall Spray	5 Lbs. Solubor @ \$.87/Lb. 10 Lbs. Wettable Sulfur @ \$.75/Lb.
Apr.	Frost Control	Irrigation/Electrical Charge @ \$20/Acre
Sea.	Irrigate	Irrigation/Electrical Charge @ \$150/Acre
May	Frt Fly/Mildew Spray	2 Lbs. Guthion @ \$6.56/Lb. 12 Ozs. Procure @ \$3.08/Oz.
May	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
May	Mildew Spray	12 Ozs. Procure @ \$3.08/Oz.
May	GA Spray	14 Ozs. ProGibb 4% @ \$1.29/Oz.
June	Frt Fly/Mildew Spray	4 Ozs. Orbit @ \$4.03/Oz. 3 Pts. Malathion @ \$2.90/Pt.
June	Dry Cherries	Helicopter @ \$30/Acre
June	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre

TABLE 56. CONTINUED.

Month	Operation	Material and/or Service
July	Fruit Fly Spray	1 Pt. Cythion-ULV @ \$3.52/Pt. Helicopter applied @ \$15.00/Acre
July	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt. .5 Qt. Weedar @ \$7.94/Qt.
July	Harvest	Pick 10.0 Tons of Fruit @ \$.15/Lb.
July	Harvest	Haul 10.0 Tons of Fruit @ \$10/Ton
July	Mildew Spray (2X)	2 Gal. Superior Oil ea. Application @ \$2.88/Gal.
July	Cleanup Spray	6 Oz. Sevin 4F @ \$.22/Oz.
Oct.	Mildew Spray	6 Gal. of Lime & Sulfur @ 5.98/Gal.
Oct.	Apply Herbicide	1 Qt. Roundup-Ultra @ \$13.33/Qt. .5 Pt. LI-700 @ \$2.70/Pt.
Ann.	Gopher Control	10 Tablets of Gastoxin @ \$.072/Tablet
Ann.	Mouse Control	Application & Material Cost @ \$12/Acre
Ann.	Overhead	\$400/Acre

TABLE 57. ITEMIZED COST PER ACRE FOR MAINTAINING A HIGH-DENSITY (272 TREES) SWEET CHERRY ORCHARD ON GIESLA 6 ROOTSTOCK IN CENTRAL WASHINGTON - MATURE PRODUCTION YEARS.

		PRICE OR		VALUE OR	YOUR
		UNIT COST/UNIT	QUANTITY	COST	FARM
-----					
VARIABLE COSTS		\$		\$	
NITROGEN-ACTUAL	LB.	.40	135.00	54.00	_____
COPPER SULFATE	LB.	2.53	12.00	30.36	_____
NU-FILM	PINT	3.68	1.00	3.68	_____
SUPERIOR OIL	GAL.	2.88	10.00	28.80	_____
ZINC CHELATE	GAL.	8.15	1.00	8.15	_____
LORSBAN	PINT	4.26	4.00	17.04	_____
SOLUBOR 25.5%	LB.	.87	5.00	4.35	_____
WETTABLE SULFUR	LB.	.75	10.00	7.50	_____
SUCCESS	OZ.	5.24	10.00	52.40	_____
PROGIBB 4%	OZ.	1.29	14.00	18.06	_____
ROUNDUP-ULTRA	QT.	13.33	3.00	39.99	_____
LI-700	PINT	2.70	1.50	4.05	_____
PROCURE	OZ.	3.08	24.00	73.92	_____
GUTHION (50%WP)	LB.	6.56	2.00	13.12	_____
MALATHION 57	PINT	2.90	3.00	8.70	_____
ORBIT	OZ.	4.03	4.00	16.12	_____
CYTHON-ULV	PINT	3.52	2.00	7.04	_____
SEVIN 4F	OZ.	.22	6.00	1.32	_____
WEEDAR	QT.	7.94	.50	3.97	_____
LIME & SULFUR	GAL.	5.98	6.00	35.88	_____
MOUSE CONTROL	ACRE	12.00	1.00	12.00	_____
GASTOXIN	TAB.	.07	10.00	.72	_____
RENT BEE HIVES	HIVE	35.00	2.00	70.00	_____
HELICOPTER APPLICA.	ACRE	15.00	2.00	30.00	_____
HELICOPTER DRYING	ACRE	30.00	1.00	30.00	_____
PICK PIECE RATE	LB.	.15	20000.00	3000.00	_____
CUSTOM HAULING	TON	10.00	10.00	100.00	_____
IRRIG/ELECT CHARGE	ACRE	20.00	1.00	20.00	_____
IRRIG/ELECT CHARGE	ACRE	150.00	1.00	150.00	_____
CASUAL LABOR	HOUR	8.00	63.75	510.00	_____
LABOR (TRAC/MACH)	HOUR	10.00	99.89	998.90	_____
SUPERVISOR LABOR	HOUR	20.00	9.50	190.00	_____
MACHINERY REPAIRS	ACRE	252.46	1.00	252.46	_____
MACHINE FUEL/LUBE	ACRE	165.51	1.00	165.51	_____
INTEREST ON OP. CAP.	ACRE	192.59	1.00	192.59	_____
OVERHEAD	ACRE	400.00	1.00	400.00	_____
				-----	
TOTAL VARIABLE COST				6550.63	_____
FIXED COSTS		\$		\$	
MACHINE DEPRECIATION*	ACRE	400.76	1.00	400.76	_____
MACHINE INTEREST*	ACRE	358.01	1.00	358.01	_____
MACHINE INSURANCE*	ACRE	25.27	1.00	25.27	_____
MACHINE TAXES*	ACRE	62.31	1.00	62.31	_____
LAND TAXES	ACRE	77.00	1.00	77.00	_____
INTEREST ON LAND	ACRE	308.00	1.00	308.00	_____
AMORTIZED ESTAB COST	ACRE	184.83	1.00	184.38	_____
				-----	
TOTAL FIXED COST				1416.18	_____
				-----	
TOTAL COST				7966.81	_____
-----					

\*INCLUDES MACHINE SHED AND SHOP, SHOP TOOLS, AND IRRIGATION SYSTEM.

**APPENDIX IV**

**Machinery Complement**

**and**

**Input Price Data**

TABLE 58. MACHINERY AND BUILDING DATA.

Machine Name	Purchase Price (\$)	Years of Use	Salvage Value (\$)	Annual Repair Cost (\$)	Annual Hours of Use	Gallons of Fuel Use Per Hour
70HP-Wheel Tract.	24,000	15	5,000	1,200	800	1.5 Diesel
4WD-ATV	6,000	10	1,500	150	400	.5 Gas
Pickup, Mgt.	25,000	8	10,000	500	400	2.0 Gas
Pickup, Crew	10,000	8	2,000	650	600	2.0 Gas
9' Disk	9,200	15	1,200	220	50	
6' Rototiller	5,000	15	500	50	50	
100 Gal. Sprayer	2,000	10	500	750	150	
Backfork	200	20	0	20	150	
400 Gal. Blast Sprayer	14,000	10	2,800	1,250	200	
Fertilizer Spreader	2,000	15	200	75	50	
Forklift	15,000	15	3,000	500	150	1.5 Propane
Trailer	2,000	20	0	50	100	
Bin Trailer	3,500	10	500	200	350	
Brush Windrower	2,750	10	500	110	50	
9' Rotary Mower	4,500	10	500	325	150	
Lg Hd Chainsaw	700	2	0	300	100	.5 Gas
Reg. Chainsaw	300	2	0	300	100	.5 Gas
Pruning Tools	45	4	0	0	100	
Ladder	125	10	0	12	200	
Picking Equipmt including Lugs	30	3	0	0	100	
Machine Shed & Shop	30,000	30	0	50	80 acres	
Shop Tools	10,000	15	0	0	80 acres	
Wind Machine	21,000	25	4,000	350	40 hours 10 acres	10.0 Propane
Irrigation System	1,500	25	0	30	1 acre	
Holding Pond	600	25	0	30	1 acre	

TABLE 59. HOURLY AND PER ACRE MACHINERY COSTS.

MACHINERY	PURCHASE PRICE	YEARS TO TRADE	ANNUAL HOURS	DEPRECIATION EST	INTER-ANNUAL EST	INSURANCE	TAXES	COST PER HOUR				TOTAL VARIABLE COST	TOTAL COST
								HOUSING	REPAIR	FUEL AND LUBE	FIXED COST		
70HP-WHEEL TRAC.	24,000.00	15	800	1.58	1.54	.11	.33	.00	3.56	1.50	2.59	4.09	7.65
PICKUP, MANAGEMENT	25,000.00	8	400	4.69	3.72	.26	.79	.00	9.46	1.25	4.14	5.39	14.85
4-WHEEL ATV	6,000.00	10	400	1.13	.80	.06	.17	.00	2.15	.38	1.04	1.41	3.56
9' DISK	9,200.00	15	50	10.67	8.84	.62	1.87	.00	22.00	4.40	.00	4.40	26.40
6' ROTOTILLER	5,000.00	15	50	6.00	4.68	.33	.99	.00	12.00	1.00	.00	1.00	13.00
100 GAL SPRAYER	2,000.00	10	150	1.00	.71	.05	.15	.00	1.91	5.00	.00	5.00	6.91
BACKFORK	200.00	20	150	.07	.06	.00	.01	.00	.14	.13	.00	.13	.27
PTO BLT SPRAYER	14,000.00	10	200	5.60	3.57	.25	.76	.00	10.18	6.25	.00	6.25	16.43
FERT. SPREADER	2,000.00	15	50	2.40	1.87	.13	.40	.00	4.80	1.50	.00	1.50	6.30
FORKLIFT	15,000.00	15	150	5.33	5.10	.36	1.08	.00	11.87	3.33	.00	3.33	15.21
TRAILER	2,000.00	20	100	1.00	.85	.06	.18	.00	2.09	.50	.00	.50	2.59
LADDER	125.00	10	200	.06	.03	.00	.01	.00	.10	.06	.00	.06	.16
REGULAR CHAINSAW	300.00	2	100	1.50	.13	.01	.03	.00	1.66	3.00	1.04	4.04	5.70
BRUSH WINDROWER	2,750.00	10	50	4.50	2.76	.20	.59	.00	8.04	2.20	.00	2.20	10.24
PRUNING TOOLS	45.00	4	100	.11	.02	.00	.00	.00	.14	.00	.00	.00	.14
PICKING EQUIPMT	30.00	3	100	.10	.01	.00	.00	.00	.12	.00	.00	.00	.12
PICKUP, CREW	10,000.00	8	600	1.67	.85	.06	.18	.00	2.76	1.08	4.14	5.22	7.98
HAND SAW	15.00	4	25	.15	.00	.00	.00	.00	.15	.00	.00	.00	.15
9' ROTARY MOWER	4,500.00	10	150	2.67	1.42	.10	.30	.00	4.48	2.17	.00	2.17	6.65
TANK W/PTO PUMP	600.00	15	70	.52	.40	.03	.08	.00	1.03	.57	.00	.57	1.60
BIN TRAILER	3,500.00	10	350	.86	.49	.03	.10	.00	1.48	.57	.00	.57	2.05
LG HNDL CHAINSAW	700.00	2	100	3.50	.30	.02	.06	.00	3.88	3.00	1.04	4.04	7.92
ACRES COVERED													
MACH SHED & SHOP	30,000.00	30	80	12.50	15.94	1.13	3.38	.00	32.94	.63	.00	.63	33.56
SHOP TOOLS	10,000.00	15	80	8.33	5.31	.38	1.13	.00	15.15	.00	.00	.00	15.15
WIND MACHINE	21,000.00	25	10	68.00	106.25	7.50	22.50	.00	204.25	35.00	48.30	83.30	287.55
ALARM & THEMOM.	205.00	10	10	2.05	.87	.00	.00	.00	2.92	.00	.00	.00	2.92
30 LB. LUGS	3.00	5	10	.06	.00	.00	.00	.00	.06	.00	.00	.00	.06
HOLDING POND	600.00	25	1	24.00	25.50	1.80	5.40	.00	56.70	30.00	.00	30.00	86.70
IRRIGATION SYSTEM	1,500.00	25	1	60.00	63.75	4.50	.00	.00	128.25	30.00	3.75	33.75	162.00

**TABLE 60. INPUT PRICES.**

Service Items:			
Soil Sample	\$12/acre	Rip Ground	\$100/acre
Plant Trees	\$3/tree	Beehive Rental	\$35/hive
Irrigation & Electricity Charge	\$150/acre	Irrigation & Electricity Charge (for frost control)	\$20/acre
Helicopter Application	\$15/acre	Helicopter Drying	\$30/acre
Picking	15¢/lb	Hauling	\$10/ton
Material Items:			
Vapam	\$3.50/gal.	Nitrogen (Dry)	40¢/lb.
Borate 46	55¢/lb.	Trees	\$6.00/tree
Prowl	\$26.77/gal	Gramoxone	\$5.64/pint
LI-700	\$2.70/pint	Paint	\$8.00/gal.
Companion Grass Seed	\$1.75/lb.	Gastoxin	7.2¢/tablet
Wettable Sulfur	75¢/lb.	Roundup-Ultra	\$13.33/qt.
Weedar	\$7.94/qt.	Procure	\$3.08/oz.
Guthion 50% WP	\$6.56/lb.	Malathion 57	\$2.90/pint
Sevin 4F	22¢/oz.	Superior Oil	\$2.88/gal.
Copper Sulfate	\$2.53/lb.	Nu-Film	\$3.68/pint
Lorsban	\$4.26/pint	Zinc Chelate	\$8.15/gal.
Solubar	87¢/lb.	Guthion	\$6.56/lb.
Cythion-ULV	\$3.52/pint	Lime & Sulfur Spray	\$5.98/gal
Success	\$5.24/oz.	Orbit	\$4.03/oz.
ProGibb 4%	\$1.29/oz.		



Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is violation of law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

Alternate formats of our educational materials are available upon request for persons with disabilities. Please contact the Information Department, College of Agriculture and Home Economics.

Washington State University Cooperative Extension publications contain material written and produced for public distribution. You may reprint written material, provided you do not use it to endorse a commercial product. Please reference by title and credit Washington State University Cooperative Extension.

Issued by Washington State University Cooperative Extension and the U.S. Department of Agriculture in furtherance of the Acts of May 8 and June 30, 1914. Cooperative Extension programs and policies are consistent with federal and state laws and regulations on nondiscrimination regarding race, sex, religion, age, color, creed, national or ethnic origin; physical, mental or sensory disability; marital status, sexual orientation, and status as a Vietnam-era or disabled veteran. Evidence of noncompliance may be reported through your local Cooperative Extension office.