

1. ORC EVIDENCE REQUIREMENTS FOR THE CHERRY INDUSTRY

The Cherry Industry ORC Evidence Framework only applies to growers from the Cherry Industry.

Owner Reimbursement Costs (ORCs) for the Cherry Industry are calculated using the formula for Perennial Trees (*Schedule 6, Part 4.4.13 of the Emergency Plant Pest Response Deed, 2005*). This formula is:

$$\text{ORC} = (\text{A} - \text{B}) + \text{C} + \text{D} + \text{E} + \text{F} + \text{G} + \text{H} + \text{I}.$$

A definition for each component of this formula is provided in the following table.

Principle – average for the year of destruction (price) will be estimated from the current year's price. The longer term average (over 5 years) will be made from the current year's estimate plus the previous 4 years (1+4).

Regional differences will need to be taken into account throughout the Evidence Framework.

	Definition of Elements from the EPPRD	Evidence Requirements (<i>in hierarchical order</i>)	Additional Information
A	Loss of profit from the current Crop destroyed = a * y * p		

Definition of Elements from the EPPRD	Evidence Requirements <i>(in hierarchical order)</i>	Additional Information
a = area of tree Crop destroyed	<p>Certification/assessment of the area of crop destroyed by an Authorised person using one of the following methods:</p> <ol style="list-style-type: none"> 1. Accurate property maps will be the first tool used to calculate area. 2. Satellite imagery will be used if property maps are not available. This will depend on the specific jurisdictions capacity to access such information. 3. Aerial photographs will be used if satellite imagery is not available. This will depend on the specific jurisdictions' capacity to access such information. 4. On ground surveys will be conducted using GPS data if the previous options are not available at the time of incursion and crop destruction. 	<ul style="list-style-type: none"> - 450 growers are on national database of growers and companies only - Area statistics are roughly known by Cherry Growers of Australia Inc. but States collect data like: <ul style="list-style-type: none"> • Areas • Age of trees • Varieties <p>See: http://www.cherrygrowers.org.au/assets/cherry_growers_australia_brochure.pdf</p> <ul style="list-style-type: none"> - For tree counts use Geographic Information System (GIS) mapping at a sufficient resolution. - An on the ground survey, including a tree count and variety confirmation will be required to verify the area and type of crop to be destroyed at the time of the incursion. This will be carried out by an Authorised person. If the incursion is in an urbanised area, backyard surveys will also be conducted by Authorised persons. - The jurisdictional legislative instrument (by whatever name) will identify the quarantine zone, and the Lead Agency must hold appropriate records of the area of crop Affected.

Definition of Elements from the EPPRD	Evidence Requirements <i>(in hierarchical order)</i>	Additional Information
<p>y = expected yield based on Owners' past records, taking into account any biennial bearing patterns. In particular, Owners claiming above average yields (and prices) must produce auditable records of above average returns in previous years to justify additional amounts in Owner Reimbursement Costs.</p> <p>If the Owner has no records, the regional average for that Crop is to be used.</p>	<p>Certification/assessment of the yield by an Authorised person using one of the following methods:</p> <ol style="list-style-type: none"> 1. Actual yield determined by harvesting the crop. 2. If actual yield cannot be determined by harvesting the crop, expected yield for the current season will be calculated for the individual grower from their auditable historical yield data records averaged over 3 to 5 years. 3. Where auditable grower records are unavailable packer/processor records for the appropriate varieties will be used. If records for the appropriate varieties are not available, averages of packer/processor records will be used. 4. Where packer/processor records are not available, a 5 year local area/regional average will apply for the varieties used by the grower. 5. Where regional data/records are not available, State/Territory 3-5 year averages will apply for the varieties used by the grower. 	<ul style="list-style-type: none"> - Labour is paid by the kilogram, or otherwise award hourly rate. Yield records are good overall. - Australian Cherry Production Guide August 2011. http://www.cherrygrowers.org.au/assets/australian_cherry_production_guide.pdf - An example of a program that is used by packers/processors is the PackManager Program (GV Custom Software). This program provides a full record of fruit supply and price and market.

	Definition of Elements from the EPPRD	Evidence Requirements (<i>in hierarchical order</i>)	Additional Information
	<p>p = market price at farm gate at harvest time</p>	<ol style="list-style-type: none"> 1. If there is a contract in place, the contract price for crops applicable under the contract will be used. This will be adjusted, according to contract terms, using the quality and grading values of the previous season if required. These records are typically kept by the grower. 2. If there is no contract, the price paid for the current crop will be sourced from packer records for the current season. 3. Where packer records are not available for the current season, the market price will be calculated for the individual grower from their auditable historical records, averaged over 3-5 years. 4. Where packer records are not available, regional averages will be sourced from State Industry Organisations. 	<ul style="list-style-type: none"> - There are a range of processes available to growers for selling products. Growers may choose to: <ul style="list-style-type: none"> • pick and pack their own produce; • pick and then send their produce to a packing house; • have direct contact with retailers; or • sell through a merchant/agent. - A percentage of the Industry has contracts in place with retailers, but this varies in regions. - Prices at markets are also produced daily for different sizes and varieties. (90% of cherry fruit is sold and eaten fresh. Any value adding is done by buyers and or lower grade fruit used for juicing, and dried products or pulp - The prices for roadside sales would be the same as if they were sold wholesale. - The wholesale agents in key markets (such as the Melbourne, Sydney or Brisbane Markets) are the best place for price records, by request. - All prices used should be measured at farm gate.

	Definition of Elements from the EPPRD	Evidence Requirements (<i>in hierarchical order</i>)	Additional Information
B	= Harvesting costs based on 'best practice' as estimated by State/Territory departments of agriculture, plus any other costs (such as watering or pruning costs) normally associated with Crop production between the time of tree destruction and harvest.	<p>Best practice harvest costs will be determined by State/Territory Agriculture Departments in consultation with Relevant Parties, best practice groups and agronomists using applicable local contract prices. This data should be available through State organisations.</p> <p>Harvesting and any other costs normally associated with crop production are to be determined in accordance with <i>Appendix 1: Schedule of costs for B and C: Normal production and harvesting costs, based on 'best practice' incurred by the Owner.</i></p>	Best Practice Groups are typically State/Territory based.
C	= Direct costs associated with the Response Plan incurred by the Owner but not normally incurred as a production expense.	<p>This will depend on what the Response Plan requires and will need to be calculated on an Incident by Incident basis with costs estimated using standard local or regional contract prices and industry data as appropriate.</p> <p>Normal costs to be determined in accordance with <i>Appendix 1: Schedule of costs for B and C: Normal production and harvesting costs, based on 'best practice' incurred by the Owner.</i></p> <p>A schedule of costs additional to these, required by the Response Plan, will be developed by the Lead Agency at the time of the Incident.</p>	<ul style="list-style-type: none"> - Required actions/treatments by Owners need to be specifically defined in the Response Plan. - The legislative order needs to specify the actions/treatments required that are to be undertaken by the Owner.

	Definition of Elements from the EPPRD	Evidence Requirements <i>(in hierarchical order)</i>	Additional Information
D	<p>= Replacement value of any capital items destroyed as part of the Response Plan.</p>	<p>Replacement value of any capital items destroyed will depend on what the Response Plan requires and will need to be calculated on an Incident by Incident basis.</p> <p>Prices will be sourced from suppliers like:</p> <ul style="list-style-type: none"> • Landmark; • Elders; • Roberts; or • Other specialist suppliers at the time of the Incident. <p>Costs are to be determined in accordance with a schedule of market values for items expected to be destroyed, replacing like with like, and agreed by Relevant Parties at the time of developing a Response Plan.</p>	<ul style="list-style-type: none"> - The legislative order needs to identify the items requiring destruction. - Known capital items requiring destruction need to be specified in a Response Plan. - However, some items cannot be replaced until the fallow period ends. The price of these items is likely to increase during the fallow period. As such, an appropriate rate of input price inflation must be determined and applies to these prices. Subsequent values are then depreciated. - Replacement value of any capital items destroyed as an unintended consequence of an eradication program need to be included in this element, but will not necessarily be specified in the Response Plan. Unintended destruction of capital items will be dealt with on an Owner-by-Owner basis. - Capital items for cherry orchards could potentially include: <ul style="list-style-type: none"> • Large varieties of field bins • Irrigation lines • Picking bags • Harvest bins • Trellis - wire and posts • Protective covers and support structures • Nets

	Definition of Elements from the EPPRD	Evidence Requirements (<i>in hierarchical order</i>)	Additional Information
E	<p>= Loss of net profits for any fallow period required by a Response Plan.</p> <p>Net profit is to be standardised based on regional gross margins calculations for the Crop in question by State/Territory departments of agriculture.</p>	<p>A standard Schedule of regional gross margins will be used to estimate costs based on “best practice.” This will be determined by State/Territory Agriculture Departments in consultation with Relevant Parties and best practice groups.</p> <p>Costs to be determined in accordance with <i>Appendix 2: Schedule of costs for E – Loss of net profit from a compulsory fallow.</i></p>	<ul style="list-style-type: none"> - If a period of fallow is not required by the Response Plan, E does not apply to ORC. - Gross margins information for different regions may be sourced from state agencies, industry organisations, or agronomists.
F	<p>= Tree destruction costs ‘depreciated’ depending on the age of the orchard in relation to a standardised period of rotation for the tree Crop in question.</p>	<p>Costs to be determined in accordance with <i>Appendix 3: Schedule of costs for F – Tree destruction costs</i> and based on best practice and applicable contract prices.</p> <p>The standard period of rotation is to be considered as 30 years unless a grower can provide evidence of a different intention.</p>	<p>Normally, destruction will be carried out by the Lead Agency and not included as part of the ORC calculation.</p>
G	<p>= ‘Depreciated’ tree replanting costs as for tree destruction costs.</p>	<p>Costs to be determined in accordance with <i>Appendix 4: Schedule of costs for G – Tree replanting costs.</i></p> <p>Standard costs will apply for the region as agreed by the Relevant Parties.</p>	<p>This cost is for replacing like with like. If there is an opportunity following the Response Plan for modernising or upgrading the orchard – for example, closer tree plantings, more expensive varieties, or trellis plantings, the level of ORC is to be related strictly to replacing the asset that was there. If an Owner wants to introduce more technology or better infrastructure, for example, the Owner must cover additional costs (<i>Schedule 6, part 4.4.13</i>).</p> <p>Costs are typically calculated on a tree by tree basis, for a hectare of trees, or part of a hectare and based on best practice.</p> <p>New trees are used for replanting. These would typically be 12 months old at time of planting.</p>

	Definition of Elements from the EPPRD	Evidence Requirements (<i>in hierarchical order</i>)	Additional Information
H	= 'Depreciated' loss of profit during the non-bearing period of immature trees.	<p>The yield curve and the comparative gross margin will be used to determine this loss.</p> <p>The yield curve values can be found in <i>Appendix 5: Cherry Production Yield Data and Planting Density Table</i></p>	<p>New trees typically don't come into production for 3 years after planting and come into full production by year 6-7. Harvesting commences year 4 (approximately 15% production at age 4 years).</p> <p>The expected lifespan of trees is unknown – No current Industry knowledge of rootstock lifespan. Consumer preferences are more likely to impact on the "lifespan" of the fruiting scion and top working as opposed to tree replacement being practiced. An average of 30 years for the plant as a whole is a good approximation.</p>
I	= Value of any stored produce on farm destroyed as a directive of the Response Plan including seed or nuts – as for annual broadacre Crops. If there is an opportunity following the Response Plan for modernising or upgrading the orchard – for example, closer tree plantings, more expensive varieties, or trellis plantings, the level of Owner Reimbursement Costs is to be related strictly to replacing the asset that was there. If an Owner wants to introduce more technology or better infrastructure, for example, the Owner must cover any additional costs.	<p>This will depend on what the Response Plan requires and will be calculated on an Incident by Incident basis.</p> <p>Price and yield to be determined using the applicable method as described in "A".</p> <p>Amount of any stored fruit will be determined by inspection at the time of the Incident.</p>	<p>Cherries are cooled by hydro cooling after picking and are then stored for up to a couple of weeks on farm.</p>

With such costs and values being determined in accordance with guidelines issued by Plant Health Australia as set out in *Schedule 17* of the EPPRD.

APPENDIX 1: Schedule of Costs for B and C – normal production and harvesting costs, based on 'best practice' incurred by the Owner

Appendix 1 Includes:

Appendix 1.1: Tasmania 2014 and

Appendix 1.2: Orange 2003

APPENDIX 1.1: Schedule of Costs for B and C – Tasmania 2014.

NOTE: These costs are estimates. In the event of an incursion where Owner Reimbursement Costs may be paid, the costs and values will be reviewed and updated by agreement of the Relevant Parties to allow current and case specific information to be used.

Enterprise: Gross margin for irrigated central leader cherry production

Description: Central Leader mature trees

Location: Tasmania 2014

					Standard Budget \$/Ha
GROSS MARGIN BUDGET:	1 hectare	Planting density (trees/ha):		1100	
	90% Packout (marketable yield)		Marketable Yield	11,880 kg	
INCOME:		10.8 Marketable kgs/tree	@	\$10.00 /kg	\$118,800.00
			A. Total Income		\$118,800
VARIABLE COSTS:					
Plant Protection					
<i>Disease control - fungicides</i>					
Propiconazole	0.5 L/ha	@	\$75.00 /L	4 appl.	\$150.00
Benomyl	0.75 kg/ha	@	\$58.00 /kg	1 appl.	\$43.50
Flow Bordeaux	20 kg/ha	@	\$10.50 /kg	1 appl.	\$210.00
Chlorothalonil	3.2 L/ha	@	\$22.00 /L	1 appl.	\$70.40
copper oxychloride	6 kg/ha	@	\$1.05 /kg	1 appl.	\$6.30
Iprodione (Post harvest)	0.25 L/tonne	@	\$76.00 /L	1 appl.	\$19.00
<i>Insect control - insecticides</i>					
Hort. Mineral Oil	20 L/ha	@	\$1.45 /L	1 appl.	\$29.00
Lime sulphur	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Tau-fluvalinate	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Fenthion	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Chlorpyrifos	1.5 L/ha	@	\$12.00 /L	2 appl.	\$36.00
Carbaryl	3 L/ha	@	\$11.00 /L	2 appl.	\$66.00
Azinphos methyl	0 kg/ha	@	\$0 /kg	0 appl.	\$0.00
Propargite	0 kg/ha	@	\$0 /kg	0 appl.	\$0.00
<i>Weed control - herbicides</i>					
Glyphosate	2 L/ha	@	\$6.00 /L	2 appl.	\$24.00
Glufosinate- ammonium	4 L/ha	@	\$17.25 /L	1 appl.	\$69.00
Paraquat	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Nutrition					
<i>Fertilisers</i>					
Lime	0.3 t/ha	@	\$78.00 /t	1 appl.	\$23.40
Ammonium nitrate	125 kg/ha	@	\$0.39 /kg	1 appl.	\$48.75
Superphosphate	80 kg/ha	@	\$0.25 /kg	1 appl.	\$20.00
Calcium	5 L/ha	@	\$2.25 /L	3 appl.	\$33.75
Magnesium	5 L/ha	@	\$10.00 /L	1 appl.	\$50.00
Potassium sulphate	90 kg/ha	@	\$0.60 /kg	1 appl.	\$54.00
Boron spray	1 L/ha	@	\$5.04 /L	2 appl.	\$10.08
Zinc spray	1 L/ha	@	\$12.00 /L	1 appl.	\$12.00
Leaf testing	1 kit	@	\$50.00 /kit		\$50.00
Soil testing	1 kit	@	\$50.00 /kit		\$50.00
Canopy Management - Pruning					
Winter	0 mins/tree	@	\$0 /hr		\$0.00
Preharvest	0 mins/tree	@	\$0 /hr		\$0.00
Postharvest	15 mins/tree	@	\$13.83 /hr		\$3,803.25
Crop Load Management					
Pollination (Hive hire)	3 hives/ha		\$30.00 /hive		\$90.00
Fruit thinning	5 mins/tree		\$0 /hr		\$0
Irrigation					
Total water	3 ML/ha	@	\$100.00 /ML		\$300.00
Machinery					
Mowing/slashing	1.5 hrs/ha	@	\$13.00 /hr	3 appl.	\$58.50

Pesticide application	1.5 hrs/ha	@	\$13.00 /hr	20 appl.	\$390.00
Herbicide application	1 hrs/ha	@	\$13.00 /hr	2 appl.	\$26.00
Harvesting	5 hrs/ha	@	\$13.00 /hr	3 appl.	\$195.00
Fertilising	1 hrs/ha	@	\$13.00 /hr	2 appl.	\$26.00
Pruning	3 hrs/ha	@	\$13.00 /hr	3 appl.	\$117.00

Harvesting

Picking	13320 kg	@	\$0.93 /kg (inc 9%super and 9% workers comp)		\$12,387.60
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Packing

Quarter case	1998 cases/ha	@	\$1.43 /case		\$2,857.14
Bags	1998 cases/ha	@	\$0.07 /case		\$139.86
Bubble	1998 cases/ha	@	\$0.10 /case		\$199.80
Sorting, grading & packing	1998 cases/ha	@	\$2.50 /case		\$4,995.00

Marketing

Transport	1998 cases/ha	@	\$0.75 /case		\$1,498.50
Levies	1998 cases/ha	@	\$0.05 /case		\$99.90

B. Total Variable Costs **\$28,258.73**

GROSS MARGIN/HA (A-B) **\$90,541**

GROSS MARGIN/CASE
TOTAL VARIABLE COST/CASE

SENSITIVITY ANALYSIS

Effect of Yield and Price on Gross Margin/Ha

Marketable Yield (kgs/ha)	Crop Price (\$/kg)						
	\$6.00	\$7.00	\$8.00	\$9.00	\$10.00	\$11.00	\$12.00
6600							
7700							
8800							
9900							
11000							
12100							
13200							
14300							

Cost Summary	Total	Cost/kg	% Cost
Disease control - fungicides	\$733	0.28	2.7
Insect control - insecticides	\$131	0.05	0.5
Weed control - herbicides	\$93	0.03	0.3
Nutrition	\$352	0.13	1.3
Pruning	\$2,303	0.86	8.5
Pollination	\$90	0.03	0.3
Irrigation	\$300	0.11	1.1
Machinery	\$813	0.3	3
Harvesting	\$12,388	4.65	45.9
Packing	\$8,192	3.08	30.3
Marketing	\$1,598	0.6	5.9
Total	\$26,992	\$10.13	100

CHERRIE Cost of Production Theoretical Property Size **10** ha

Change any BLACK figures - BLUE are automatically calculated

Property Size / Ha		Major cap	Life / Years	Cost	Avg	Cost/Ha/Year
Property v	50			\$400,000	\$8,000	
New Dam	50			\$80,000	\$1,600	
New Bore	10			\$20,000	\$2,000	
Bird Net S	10			\$300,000	\$30,000	
Packing Sl	50			\$60,000	\$1,200	
Fruit Grad	10			\$500,000	\$50,000	
Coolstore/	30			\$80,000	\$2,667	
Interest or	10	7.00%		\$100,800	\$100,800	
Loan princ	10			\$144,000	\$144,000	
Total major capital items				\$1,684,800	\$340,267	\$34,027

Equipment		Life / Years	Cost	Avg	Cost/Ha/Year
Tractor 1	20		\$65,000	\$3,250	
Tractor 2	20		\$45,000	\$2,250	
Airblast sp	10		\$22,000	\$2,200	
Mower/s	10		\$10,000	\$1,000	
Weed spr	10		\$3,000	\$300	
Trailer/s	15		\$7,500	\$500	
Forklift	10		\$23,000	\$2,300	
Total equipment value			\$175,500	\$11,800	\$1,180

Orchard S	Row spac	Tree space	Trees / Ha
	5	3	667
Plants / Cx	667	\$10.50	\$7,000
Block Irrigation setup			\$5,000
Soil prep mechanical			\$1,000
Pre fertilisation			\$1,000
Labour to plant			\$2,000
Harvest cr	1000	\$9.00	\$9,000
Bins @ co:	83	\$45.00	\$3,750
Total orchard setup			\$28,750
Life of crop	15		

sq.m/ha
10000

\$1,917

Annual costs per ha

Fuel / Oil / Maint / Repairs	\$2,000
Irrigation water & labour	\$1,000
Fertiliser & Labour	\$1,000
Pruning / training	\$1,000
Cropwatch	\$300
Mowing labour	\$500
Chemicals	\$750
Chem applic labour	\$500
Bird/bat net maintenance	\$1,000
Mngmt Overheads pe	\$10,000

\$18,050

Pick/store/pack costs

Bin weight	180	
Crop per h	15000	83 bins
Picking lat	\$180.00	\$15,000
Dipping cc	\$10.00	\$833
Cool stora	\$0.00	\$ -
HydroCoo	\$45.00	\$3,750
Carton we	5.05 kg	
% Packou	80%	2,376 cartons
Carton	\$1.20	\$2,851
Fridays	\$0.30	\$713
Labels	\$0.05	\$119
Levy	\$0.00	\$ -
Pack char	\$55.00	\$4,583

\$19,583

\$8,267

Trees/ha	667		
Net kgs/h	12000	NET	NET
Cartons p	2,376	Avg Price	Avg Price
Packed kg	18	Carton	kg
Net \$ per	\$71.29	\$20.00	\$3.96

Total Costs **\$83,023**

Net Sale **\$47,525**

st of Prod per carton	\$34.94	\$6.92
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Profit per Ha **-\$35,498**

APPENDIX 1: Schedule of Costs for B and C – normal production and harvesting costs, based on 'best practice' incurred by the Owner.

Appendix 1 Includes:

Appendix 1.1: Tasmania 2014 and
Appendix 1.2: Orange 2003

APPENDIX 1.2: Schedule of Costs for B and C – Orange 2003.

NOTE: These costs are estimates. In the event of an incursion where Owner Reimbursement Costs may be paid, the costs and values will be reviewed and updated by agreement of the Relevant Parties to allow current and case specific information to be used.

Enterprise: **Gross margin for irrigated central leader cherry production**

Description: Central Leader mature trees

Location: Orange 2003

					Standard Budget \$/ha
GROSS MARGIN BUDGET:	1 hectare	Planting density (trees/ha):		666	
	75% Packout (marketable yield)		Yield	13320 kg	
INCOME:		4 cases/tree	@	\$25.00 /case	\$49,950.00
			A. Total Income		\$49,950.00
VARIABLE COSTS:					
Plant Protection					
Disease control - fungicides					
Propiconazole	0.5 L/ha	@	\$75.00 /L	4 appl.	\$150.00
Benomyl	0.75 kg/ha	@	\$58.00 /kg	1 appl.	\$43.50
Flow Bordeaux	20 kg/ha	@	\$10.50 /kg	1 appl.	\$21.00
Chlorothalonil	3.2 L/ha	@	\$22.00 /L	1 appl.	\$70.40
copper oxychloride	6 kg/ha	@	\$1.05 /kg	1 appl.	\$6.30
Iprodione (Post harvest)	0.25 L/tonne	@	\$76.00 /L	1 appl.	\$19.00
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Hort. Mineral Oil	20 L/ha	@	\$1.45 /L	1 appl.	\$29.00
Lime sulphur	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Tau-fluvalinate	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Fenthion	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Chlorpyrifos	1.5 L/ha	@	\$12.00 /L	2 appl.	\$36.00
Carbaryl	3 L/ha	@	\$11.00 /L	2 appl.	\$66.00
Azinphos methyl	0 kg/ha	@	\$0 /kg	0 appl.	\$0.00
Propargite	0 kg/ha	@	\$0 /kg	0 appl.	\$0.00
Weed control - herbicides					
Glyphosate	2 L/ha	@	\$6.00 /L	2 appl.	\$24.00
Glufosinate-ammonium	4 L/ha	@	\$17.25 /L	1 appl.	\$69.00
Paraquat	0 L/ha	@	\$0 /L	0 appl.	\$0.00
Nutrition					
Fertilisers					
Lime	0.3 t/ha	@	\$78.00 /t	1 appl.	\$23.40
Ammonium nitrate	125 kg/ha	@	\$0.39 /kg	1 appl.	\$48.75
Superphosphate	80 kg/ha	@	\$0.25 /kg	1 appl.	\$20.00
Calcium	5 L/ha	@	\$2.25 /L	3 appl.	\$33.75
Magnesium	5 L/ha	@	\$10.00 /L	1 appl.	\$50.00
Potassium sulphate	90 kg/ha	@	\$0.60 /kg	1 appl.	\$54.00
Boron spray	1 L/ha	@	\$5.04 /L	2 appl.	\$10.08
Zinc spray	1 L/ha	@	\$12.00 /L	1 appl.	\$12.00
Leaf testing	1 kit	@	\$50.00 /kit		\$50.00
Soil testing	1 kit	@	\$50.00 /kit		\$50.00
Canopy Management - Pruning					
Winter	0 mins/tree	@	\$0 /hr		\$0.00
Preharvest	0 mins/tree	@	\$0 /hr		\$0.00
Postharvest	15 mins/tree	@	\$13.83 /hr		\$2,302.70
Crop Load Management					
Pollination (Hive hire)	3 hives/ha		\$30.00 /hive		\$90.00
Fruit thinning	5 mins/tree		\$0 /hr		\$0
Irrigation					
Total water	3 ML/ha	@	\$100.00 /ML		\$300.00
Machinery					
Mowing/slashing	1.5 hrs/ha	@	\$13.00 /hr	3 appl.	\$58.50
Pesticide application	1.5 hrs/ha	@	\$13.00 /hr	20 appl.	\$390.00
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Pruning	3 hrs/ha	@	\$13.00 /hr	3 appl.	\$117.00
Harvesting					
Picking	13320 kg	@	\$0.93 /kg (inc 9%super and 9% workers comp)		\$12,387.60
Packing					
Quarter case	1998 cases/ha	@	\$1.43 /case		\$2,857.14
Bags	1998 cases/ha	@	\$0.07 /case		\$139.86
Bubble	1998 cases/ha	@	\$0.10 /case		\$199.80
Sorting, grading & packing	1998 cases/ha	@	\$2.50 /case		\$4,995.00
Marketing					
Transport	1998 cases/ha	@	\$0.75 /case		\$99.90
Levies	1998 cases/ha	@	\$0.05 /case		\$1,498.50
			B. Total Variable Costs		\$26,768.18
			GROSS MARGIN/HA (A-B)		\$23,191.83
			GROSS MARGIN/CASE		\$11.49
			TOTAL VARIABLE COST/CASE		\$10.13

SENSITIVITY ANALYSIS

Effect of Yield and Price on Gross Margin/ha

Yield (cases/ha)	Crop Price (\$/case)					
	\$10.00	\$15.00	\$20.00	\$25.00	\$30.00	\$35.00 \$40.00
200	-5,034	-4,034	-3,034	-2,034	-1,034	-34 966
400	-5,254	-3,254	-1,254	746	2,746	4,746 6,746
600	-5,474	-2,474	526	3,526	6,526	9,526 12,526
800	-5,694	-1,694	2,306	6,306	10,306	14,306 18,306
1000	-5,914	-914	4,086	9,086	14,086	19,086 24,086

2000	-7,014	2,986	12,986	22,986	32,986	42,986	52,986
2500	-7,564	4,936	17,436	29,936	42,436	54,936	67,436
3000	-8,114	6,886	21,886	36,886	51,886	66,886	81,886

Cost Summary	Total	Cost/case	% Cost
Disease control - fungicides	\$733	0.28	2.7
Insect control - insecticides	\$131	0.05	0.5
Weed control - herbicides	\$93	0.03	0.3
Nutrition	\$352	0.13	1.3
Pruning	\$2,303	0.86	8.5
Pollination	\$90	0.03	0.3
Irrigation	\$300	0.11	1.1
Machinery	\$813	0.3	3
Harvesting	\$12,388	4.65	45.9
Packing	\$8,192	3.08	30.3
Marketing	\$1,598	0.6	5.9
Total	\$26,992	\$10.13	100

CHERRIE Cost of Production eoretical Property Size **10** ha

Change any BLACK figures - BLUE are automatically calculated

Property Size / Ha	Life / Years	Cost	Avg	Cost/Ha/Year
Major cap	50	\$400,000	\$8,000	
New Dam	50	\$80,000	\$1,600	
New Bore	10	\$20,000	\$2,000	
Bird Net S	10	\$300,000	\$30,000	
Packing S	50	\$60,000	\$1,200	
Fruit Grad	10	\$500,000	\$50,000	
Coolstore	30	\$80,000	\$2,667	
Interest or	10	7.00% \$100,800	\$100,800	
Loan princ	10	\$144,000	\$144,000	
Total major capital items		#####	\$340,267	\$34,027

Equipmer	Life / Years	Cost	Avg	
Tractor 1	20	\$65,000	\$3,250	
Tractor 2	20	\$45,000	\$2,250	
Airblast sp	10	\$22,000	\$2,200	
Mower/s	10	\$10,000	\$1,000	
Weed spr	10	\$3,000	\$300	
Trailer/s	15	\$7,500	\$500	
Forklift	10	\$23,000	\$2,300	
Total equipment value		\$175,500	\$11,800	\$1,180

Orchard \$	Row spac	Tree space	Trees / Ha	sq,m/ha
	5	3	667	10000
Plants / Cr	667	\$10.50	\$7,000	
Block Irrigation setup			\$5,000	
Soil prep mechanical			\$1,000	
Pre fertilisation			\$1,000	
Labour to plant			\$2,000	
Harvest cr	1000	\$9.00	\$9,000	
Bins @ co	83	\$45.00	\$3,750	
Total orchard setup			\$28,750	
Life of crop	15			\$1,917

Annual costs per ha		
Fuel / Oil / Maint / Repairs		\$2,000
Irrigation water & labour		\$1,000
Fertiliser & Labour		\$1,000
Pruning / training		\$1,000
Cropwatch		\$300
Mowing labour		\$500
Chemicals		\$750
Chem applic labour		\$500
Bird/bat net maintenance		\$1,000
Mngmt Overheads px		\$10,000
		\$18,050

Pick/store/pack costs		
Bin weight	180	
Crop per t	15000	83 bins
Picking lat	\$180.00	\$15,000
Dipping cr	\$10.00	\$833
Cool stora	\$0.00	\$ -
HydroCoo	\$45.00	\$3,750
Carton we	5.05 kg	
% Packou	80%	2,376 cartons
Carton	\$1.20	\$2,851
Fridays	\$0.30	\$713
Labels	\$0.05	\$119
Levy	\$0.00	\$ -
Pack char	\$55.00	\$4,583
		\$8,267

Trees/ha	Net lgs/h	Cartons p	Packed k	Net \$ per	Total Costs	Net Sale	Profit per Ha
667	12000	2,376	18	\$71.29	\$83,023	\$47,525	-\$35,498
	NET	Avg Price	Carton	\$20.00			
		Avg Price	kg	\$3.96			
				\$34.94			\$6.92

APPENDIX 2: Schedule of costs for E – Loss of net profit from a compulsory fallow

NOTE: These costs are estimates. In the event of an incursion where Owner Reimbursement Costs may be paid, the costs and values will be reviewed and updated by agreement of the Relevant Parties to allow current and case specific information to be used.

Where an Owner has auditable records to support a different Gross Margin (possibly due to different production methods or systems), this should be used. Where no records for some or all elements of the Gross Margins exist, those contained within Appendix 1 will be substituted/used.

Loss of net profit from a compulsory fallow will be calculated from the Gross Margins (Appendix 1), with specific reference to an Owners individual Gross Margin, as appropriate. The assumptions used to develop the Gross Margins will have to be considered when referring to them (eg, age of planting, planting density etc)

APPENDIX 3: Schedule of costs for F – Tree destruction costs

NOTE: These costs are estimates. In the event of an incursion where Owner Reimbursement Costs may be paid, the costs and values will be reviewed and updated by agreement of the Relevant Parties to allow current and case specific information to be used.

Cost	Rationale	Rate	Comments
	Dozer to remove and chip trees	Ha /day	Trees are removed and mulched on site tree age above 8 years
	Dozer / tractor stick racks	Hr/Ha	Remove tree roots /irrigation
	Fumigation of tree roots	\$/Ha	
	Tree 1 – 4 years Bobcat	\$/hr	Root growth allows for smaller equipment
	Tree 5 – 8 years Excavator with a grab	\$/hr	Can be removed with a grab and windrowed
	Tree 8 – plus Dozer	\$/hr	Larger tree require larger equipment
	Tree 8 – plus Forestry Flail	\$/hr	Mulches and remove trees in one process stumps and roots down to 6 cm
	Removal of irrigation pipe or sprinklers heads	\$/hr	Assumes sub mains and mains are not disturbed Pipe dragged out of orchard and stored for reuse. Irrigation may be reused may need to be sterilised if reused

APPENDIX 4: Schedule of costs for G – Tree replanting costs

NOTE: These costs are estimates. In the event of an incursion where Owner Reimbursement Costs may be paid, the costs and values will be reviewed and updated by agreement of the Relevant Parties to allow current and case specific information to be used.

These estimations are based on the assumption of 1100 trees/Ha.

Cost/Ha	Rationale	Comments
\$8,800	Site preparation (including labour, machinery usage and fertiliser costs etc.)	Ripping, discing, mounding, fertiliser, green manure crop, lime. Site preparation requirements may vary depending on the operations required by the Response Plan to eradicate the EPP.
\$11,000	Planting (including labour and machinery costs)	Assumed the planting retains its value.
\$14,300	Tree price	Assumed the planting retains its value. Assume \$13.00 per /tree.

Source: DPIPWE (May 2013), *Profitability and Gross Margin Analysis for Cherries* (updated by FGT and DPIPWE February 2014)

*Capital Items (e.g. irrigation and trellising) will be covered under 'D=Replacement value of any capital items destroyed as part of the Response Plan'

