

# Activity # 1- Assessing Horticultural Crop Suitability for the Queensland Murray Darling Basin Study Area

## Annual AgMargins™ examples

(1 August 2014 to 30 June 2016)

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## Table of Contents

<b>AgMargins™ disclaimer .....</b>	<b>5</b>
<b>Lockyer Valley (Gatton) Gross Margins 2016 .....</b>	<b>7</b>
Lockyer Valley: Broccoli.....	7
Lockyer Valley: Cabbage (drumhead for processing) .....	8
Lockyer Valley: Carrots.....	9
Lockyer Valley: Cauliflower.....	10
Lockyer Valley: Garlic .....	11
Lockyer Valley: Lettuce.....	12
Lockyer Valley: Onion- brown.....	13
Lockyer Valley: Pumpkin (Jap) .....	14
Lockyer Valley: Sweet Corn.....	15
<b>Darling Downs (Toowoomba) Gross Margins 2016.....</b>	<b>16</b>
Darling Downs: Irrigated Cotton.....	16
Darling Downs: Broccoli.....	17
Darling Downs: Cabbage (drumhead for processing) .....	18
Darling Downs: Carrots.....	19
Darling Downs: Cauliflower.....	20
Darling Downs: Garlic .....	21
Darling Downs: Lettuce.....	22
Darling Downs: Onion- brown.....	23
Darling Downs: Pumpkin (Jap) .....	24
Darling Downs: Sweet Corn.....	25
<b>Goondiwindi (Inglewood) Gross Margins 2016 .....</b>	<b>26</b>
Goondiwindi: Irrigated Cotton .....	26
Goondiwindi: Broccoli .....	27
Goondiwindi: Cabbage (drumhead for processing) .....	28
Goondiwindi: Carrots .....	29
Goondiwindi: Cauliflower .....	30
Goondiwindi: Garlic.....	31
Goondiwindi: Lettuce .....	32
Goondiwindi: Onion- brown .....	33
Goondiwindi: Pumpkin (Jap).....	34
Goondiwindi: Sweet Corn .....	35
<b>Balonne (St George) Gross Margins 2016.....</b>	<b>36</b>
Balonne: Irrigated Cotton.....	36
Balonne: Irrigated Broccoli.....	37
Balonne: Cabbage (drumhead for processing).....	38



Balonne: Carrots .....	39
Balonne: Cauliflower .....	40
Balonne: Garlic .....	41
Balonne: Lettuce .....	42
Balonne: Onion- brown .....	43
Balonne: Pumpkin (Jap) .....	44
Balonne: Sweet Corn .....	45
<b>Maranoa (Roma) Gross Margins 2016 .....</b>	<b>46</b>
Maranoa: Irrigated Cotton .....	46
Maranoa: Broccoli .....	47
Maranoa: Cabbage (drumhead for processing) .....	48
Maranoa: Carrots .....	49
Maranoa: Cauliflower .....	50
Maranoa: Garlic .....	51
Maranoa: Lettuce .....	52
Maranoa: Onion- brown .....	53
Maranoa: Pumpkin (Jap) .....	54
Maranoa: Sweet Corn .....	55

## Annual AgMargins™ Examples

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AgMargins™ can be used to generate agricultural gross margins. A gross margin is the difference between the gross income and variable costs of producing a commodity. This will assist farmers in making short-term decisions to increase profitability. Variable costs include those associated with crop operations, harvesting and marketing. Gross margins are quoted on a per hectare basis, and also per ML for irrigated crops.

AgMargins™ has been developed for farmers, consultants and researchers to give current estimates of commodity gross margins. It will:

- Reduce the time needed to update gross margins for changes in commodity and input prices
- Ensure consistency in the method used to generate gross margins, by minimising pricing and yield inconsistencies
- Provide regionally specific gross margins based on appropriate yield expectations and input prices
- Enable annual update of prices across commodities and regions
- Provide a standardised analysis method for all major production regions
- Enable routine update of gross margins in response to changes in technologies and practices
- Be used to investigate new production opportunities across regions
- Allow users to compare their gross margin to a generic industry gross margin

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# Lockyer Valley (Gatton) Gross Margins 2016

## Lockyer Valley: Broccoli



Broccoli - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Broccoli</b>			<b>\$27,200/ha</b>
Broccoli	1700 8 kg/styro	16.00 \$/styro	\$27,200 /ha
<b>Total Income: \$27,200 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$173/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	1 ha/hr	33.24 \$/hr	\$33 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
Operation: Spreader + FWA Light FORM	1 operation	1 ha/hr	31.65 \$/hr	\$32 /ha
<b>Planting</b>				<b>\$6,190/ha</b>
Seedlings: Broccoli	1 application	50000 plants/ha	0.08 \$/plant	\$4,150 /ha
Operation: Planting + FWA Light FORM	1 operation	3.75 hr/ha	111.89 \$/hr	\$420 /ha
Contract: Labour (hours)		60 hr/ha	27.00 \$/hr	\$1,620 /ha
<b>Nutrition</b>				<b>\$1,088/ha</b>
Nutrient: Calcium Nitrate - Farm Gate	4 application	100 kg/ha	0.56 \$/kg	\$223 /ha
Nutrient: Potassium Nitrate - Farm Gate	4 application	100 kg/ha	1.36 \$/kg	\$543 /ha
Nutrient: CK55 - Farm Gate	1 application	400 kg/ha	0.81 \$/kg	\$323 /ha
<b>Irrigation</b>				<b>\$234/ha</b>
Irrigation: Hand Shift (FORM)		2 ML/ha	70.00 \$/ML	\$140 /ha
Consumable: Water		2 ML/ha	20.00 \$/ML	\$40 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	27.00 \$/hr	\$54 /ha
<b>Crop Protection</b>				<b>\$894/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	87.68 \$/hr	\$88 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	2 application	0.5 L/ha	51.70 \$/L	\$52 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	3 application	0.1 L/ha	870.72 \$/L	\$261 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
Herbicide: Trifluralin + Hydrocarbon (e.g. Trifluralin 480 EC)	1 application	2 L/ha	9.63 \$/L	\$19 /ha
Insecticide: Emamectin Benzoate (e.g. Proclaim)	2 application	0.3 kg/ha	399.67 \$/kg	\$240 /ha
Contract: Crop agronomy/protection		4 ha/hr	102.60 \$/hr	\$26 /ha
Contract: Labour (hours)		3 hr/ha	27.00 \$/hr	\$81 /ha
<b>Harvesting</b>				<b>\$12,155/ha</b>
Contract: Labour picking	1700 8 kg/styro	15 styro/hr	27.00 \$/hr	\$3,060 /ha
Contract: Labour packing machine labour	1700 8 kg/styro	15 styro/hr	27.00 \$/hr	\$3,060 /ha
Packaging: 8kg Styros	1700 8 kg/styro	2.50 \$/ctn		\$4,250 /ha
Operation: On farm cartage of styros	1700 8 kg/styro	0.10 \$/ctn		\$170 /ha
Processing: Cooling styros	1700 8 kg/styro	0.20 \$/ctn		\$340 /ha

Processing: Ice for styros	1700 8 kg/styro	0.75 \$/ctn	\$1,275 /ha
<b>Cartage</b>			<b>\$2,884/ha</b>
Transportation: Refo pallet	1 (36L) ctn/ha	56 (36L) ctn/pallet	95.00 \$/pallet
			\$2,884 /ha
<b>Levies</b>			<b>\$4,080/ha</b>
Commission & Levies	15 %	[INCOME]	\$4,080 /ha
<b>Total Variable Costs: \$27,698 /ha</b>			
<b>Gross Margin: -\$498 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$9,665	-\$8,101	-\$6,577	-\$5,093	-\$3,649
1,360.00	-\$7,881	-\$6,149	-\$4,469	-\$2,841	-\$1,266
1,530.00	-\$6,149	-\$4,263	-\$2,443	-\$689	\$999
<b>1,700.00</b>	<b>-\$4,469</b>	<b>-\$2,443</b>	<b>-\$498</b>	<b>\$1,365</b>	<b>\$3,147</b>
1,870.00	-\$2,841	-\$689	\$1,365	\$3,321	\$5,177
2,040.00	-\$1,266	\$999	\$3,147	\$5,177	\$7,090
2,210.00	\$257	\$2,621	\$4,847	\$6,935	\$8,885

### Effects of Yield and Price on Gross Margin per ML (assuming 2.0ML/ha is used).

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$4,833	-\$4,051	-\$3,288	-\$2,546	-\$1,824
1,360.00	-\$3,940	-\$3,074	-\$2,234	-\$1,421	-\$633
1,530.00	-\$3,074	-\$2,131	-\$1,221	-\$344	\$500
<b>1,700.00</b>	<b>-\$2,234</b>	<b>-\$1,221</b>	<b>-\$249</b>	<b>\$683</b>	<b>\$1,574</b>
1,870.00	-\$1,421	-\$344	\$683	\$1,660	\$2,589
2,040.00	-\$633	\$500	\$1,574	\$2,589	\$3,545
2,210.00	\$129	\$1,311	\$2,424	\$3,468	\$4,443

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# Lockyer Valley: Cabbage (drumhead for processing)



Cabbage (Drumhead for processing) - 500kg Bins (Contract) - Plant 2016 (Lockyer Valley)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Cabbage (Drumhead for processing)</b>			<b>\$25,500/ha</b>
Cabbage	340 Bins/Ha	75.00 \$/bin	\$25,500 /ha
			<b>Total Income: \$25,500 /ha</b>

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$288/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.24 \$/hr	\$33 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	55.92 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 ha/hr	28.92 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
Forming+ FWA Light FORM				
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	31.65 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$4,235/ha</b>
Seedlings: Cabbage	1 application	40000 plants/ha	0.07 \$/plant	\$2,600 /ha
Contract: Plant seedlings	1 application	45 hr/ha	27.00 \$/hr	\$1,215 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	111.89 \$/hr	\$420 /ha
<b>Nutrition</b>				<b>\$597/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.81 \$/hr	\$404 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.56 \$/hr	\$111 /ha
Nutrient: Urea (ferigate) - Farm Gate		100 kg/ha	0.82 \$/hr	\$82 /ha
<b>Irrigation</b>				<b>\$414/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	27.00 \$/hr	\$54 /ha
<b>Crop Protection</b>				<b>\$458/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	87.68 \$/hr	\$88 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Fungicide: Mancozeb (e.g. Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	2 application	0.1 L/ha	870.72 \$/L	\$174 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
<b>Harvesting</b>				<b>\$7,293/ha</b>
Operation: Tractor / Tractor		5 hr/ha	30.70	\$153 /ha
Contract: Labour Picking	340 Bins/Ha	0.5 hrs/bin	27.00 \$/hr	\$4,590 /ha
Packaging: Bin Hire	340 Bins/Ha	0.5 Bins hired/Bin	5.00 \$/bin	\$850 /ha
Operation: Cooling Hort \$/kg	340 Bins/Ha	500 kg/bin	0.01 \$/kg	\$1,700 /ha
<b>Cartage</b>				<b>\$10,767/ha</b>
Transportation: Refo pallet	340 Bins/Ha	3 bins/pallet	95.00 \$/pallet	\$10,767 /ha
<b>Levies</b>				<b>\$638/ha</b>

Category	Rate	[INCOME]	Total
Commission & Levies	2.5 %		\$638 /ha
<b>Total Variable Costs:</b>			<b>\$24,689 /ha</b>
			<b>Gross Margin: \$811 /ha</b>

Effect of Yield and Price on Gross Margin (\$/ha)

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
238.00	-\$9,972	-\$8,240	-\$6,514	-\$4,795	-\$3,082
272.00	-\$7,993	-\$6,022	-\$4,060	-\$2,106	-\$160
306.00	-\$6,022	-\$3,815	-\$1,618	\$568	\$2,744
<b>340.00</b>	<b>-\$4,060</b>	<b>-\$1,618</b>	<b>\$811</b>	<b>\$3,227</b>	<b>\$5,630</b>
374.00	-\$2,106	\$568	\$3,227	\$5,870	\$8,497
408.00	-\$160	\$2,744	\$5,630	\$8,497	\$11,346
442.00	\$1,778	\$4,910	\$8,021	\$11,109	\$14,177

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
238.00	-\$2,493	-\$2,060	-\$1,629	-\$1,199	-\$770
272.00	-\$1,998	-\$1,506	-\$1,015	-\$526	-\$40
306.00	-\$1,506	-\$954	-\$405	\$142	\$686
<b>340.00</b>	<b>-\$1,015</b>	<b>-\$405</b>	<b>\$203</b>	<b>\$807</b>	<b>\$1,408</b>
374.00	-\$526	\$142	\$807	\$1,467	\$2,124
408.00	-\$40	\$686	\$1,408	\$2,124	\$2,837
442.00	\$445	\$1,228	\$2,005	\$2,777	\$3,544

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# Lockyer Valley: Carrots



## Carrots - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Carrots</b>			<b>\$14,250/ha</b>
Carrots 1st Grade	1425 (20kg) ctn/ha	8.00 \$/ctn	\$11,400 /ha
Carrots 2nd Grade	475 (20kg) bags/ha	6.00 \$/bag	\$2,850 /ha
<b>Total Income: \$14,250 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$287/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.24 \$/hr	\$33 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	55.92 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	28.92 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
Operation: Spreader + FWA Light FORM	1 application	5 ha/hr	31.65 \$/hr	\$6 /ha
<b>Planting</b>				<b>\$2,812/ha</b>
Seed: Carrot	1 application	3 kg/ha	900.00 \$/kg	\$2,700 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 ha/hr	111.89 \$/hr	\$112 /ha
<b>Nutrition</b>				<b>\$556/ha</b>
Nutrient: CK55 - Farm Gate	1 application	500 kg/ha	0.81 \$/kg	\$404 /ha
Nutrient: Urea (fertigate) - Farm Gate	1 application	125 kg/ha	0.82 \$/kg	\$102 /ha
Nutrient: Solubor (foliar) - Farm Gate	2 application	10 kg/ha	2.51 \$/kg	\$50 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$620/ha</b>
Operation: Shielded Sprayer + FWA Light FORM	6 operation	6 ha/hr	32.92 \$/hr	\$33 /ha
Herbicide: Glyphosate (e.g. ERICO 450)	1 application	3 kg/ha	6.05 \$/L	\$18 /ha
Herbicide: Lorox (Linuron)	2 application	2.3 L/ha	45.65 \$/L	\$210 /ha
Insecticide: Chlorpyrifos 500 EC	1 application	0.6 kg/ha	20.00 \$/L	\$12 /ha
Insecticide: Dimethoate + hydrocarbons (e.g. Dimethoate Nufarm)	2 application	0.75 L/ha	11.00 \$/L	\$17 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Vapam	1 application	225 L/ha	1.30 \$/kg	\$293 /ha
<b>Harvesting</b>				<b>\$4,417/ha</b>
Operation: Lifting FORM		10 hr/ha	82.42 \$/hr	\$824 /ha
Contract: Labour Picking	1900 (20kg) units	250 (20kg) units/hr	27.00 \$/hr	\$205 /ha
Operation: Tractor / Trailer	1900 (20kg) units	500 (20kg) units/hr	30.70 \$/hr	\$117 /ha
Operation: Washing Carrots	1900 (20kg) units	100 (20kg) units/hr	27.25 \$/hr	\$518 /ha
Contract: Labour grading	1900 (20kg) units	500 (20kg) units/hr	27.00 \$/hr	\$103 /ha
Contract: Labour packing	1900 (20kg) units	200 (20kg) units/hr	27.00 \$/hr	\$257 /ha

Packaging: Bin Hire	1900 (20kg) units	500 (20kg) units/bin	5.00 \$/bin	\$19 /ha
Packaging: (20kg) Carton	1425 (20kg) ctn/ha		1.50 \$/hr	\$2,138 /ha
Packaging: (20kg) Bag	475 (20kg) ctn/ha		0.50 \$/hr	\$238 /ha
<b>Cartage</b>				<b>\$1,805/ha</b>
Transportation: Refo pallet	1900 (20kg) ctn/ha	100 (20kg) ctn/pallet	95.00 \$/pallet	\$1,805 /ha
<b>Levies</b>				<b>\$1,710/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,710 /ha

**Total Variable Costs: \$12,674 /ha**  
**Gross Margin: \$1,576 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn	\$7.20/ctn	\$8.00/ctn	\$8.80/ctn	\$9.60/ctn
		\$4.80/bag	\$5.40/bag	\$6.00/bag	\$6.60/bag	\$7.20/bag
997.50	332.50	-\$3,521	-\$2,666	-\$1,827	-\$1,006	-\$201
1,140.00	380.00	-\$2,545	-\$1,591	-\$659	\$251	\$1,140
1,282.50	427.50	-\$1,591	-\$544	\$475	\$1,467	\$2,431
1,425.00	475.00	-\$659	\$475	\$1,576	\$2,641	\$3,673
1,567.50	522.50	\$251	\$1,467	\$2,641	\$3,774	\$4,866
1,710.00	570.00	\$1,140	\$2,431	\$3,673	\$4,866	\$6,010
1,852.50	617.50	\$2,006	\$3,367	\$4,671	\$5,916	\$7,104

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn	\$7.20/ctn	\$8.00/ctn	\$8.80/ctn	\$9.60/ctn
		\$4.80/bag	\$5.40/bag	\$6.00/bag	\$6.60/bag	\$7.20/bag
997.50	332.50	-\$880	-\$666	-\$457	-\$251	-\$50
1,140.00	380.00	-\$636	-\$398	-\$165	\$63	\$285
1,282.50	427.50	-\$398	-\$136	\$119	\$367	\$608
1,425.00	475.00	-\$165	\$119	\$394	\$660	\$918
1,567.50	522.50	\$63	\$367	\$660	\$944	\$1,217
1,710.00	570.00	\$285	\$608	\$918	\$1,217	\$1,502
1,852.50	617.50	\$501	\$842	\$1,168	\$1,479	\$1,776

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# Lockyer Valley: Cauliflower



## Cauliflower - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cauliflower</b>			<b>\$35,991/ha</b>
Cauliflower Domestic	2666 (72L) ctn/ha	13.50 \$/ctn	\$35,991 /ha
<b>Total Income: \$35,991 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$288/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.24 \$/hr	\$33 /ha
Operation: Discing	0 application	2 ha/hr	27.00 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 hr/ha	28.92 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	31.65 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,995/ha</b>
Seedlings: Cauliflower	1 application	40000 plants/ha	0.13 \$/plant	\$5,360 /ha
Contract: Plant seedlings	1 application	45 hr/ha	27.00 \$/hr	\$1,215 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	111.89 \$/hr	\$420 /ha
<b>Nutrition</b>				<b>\$597/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.81 \$/kg	\$404 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.56 \$/kg	\$111 /ha
Nutrient: Urea (fertilizer) - Farm Gate		100 kg/ha	0.82 \$/kg	\$82 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
<b>Crop Protection</b>				<b>\$719/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	87.68 \$/hr	\$88 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	2 L/ha	10.73 \$/L	\$21 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	6 application	0.75 kg/ha	67.76 \$/kg	\$305 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	1 application	0.1 L/ha	870.72 \$/L	\$87 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	2 application	1.6 L/ha	64.79 \$/L	\$207 /ha
<b>Harvesting</b>				<b>\$13,489/ha</b>
Tractor: FWA Light FORM	2666 (72L) ctn/ha	500 (36L) ctn/hr	28.92 \$/hr	\$154 /ha
Contract: Labour Picking	2666 (72L) ctn/ha	15 (72kg) ctn/hr	27.00 \$/hr	\$4,799 /ha
Operation: Pallet hire	2666 (72L) ctn/ha	36 crts/pallet	0.06 \$/pallet	\$4 /ha
Packaging: 72L Styros	2666 (72L) ctn/ha		3.00 \$/carton	\$7,998 /ha
Processing: Cooling	2666 (72L) ctn/ha		0.20 \$/(72L) ctn	\$533 /ha
<b>Cartage</b>				<b>\$7,035/ha</b>
Transportation: Refn pallet	2666 (72L) ctn/ha	36 (72L) ctn/pallet	95.00 \$/pallet	\$7,035 /ha

Levies			\$/ha
Commission & Levies	15 %	[INCOME]	\$5,399/ha
<b>Total Variable Costs: \$34,990 /ha</b>			
<b>Gross Margin: \$1,001 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,866.20	-\$11,129	-\$9,059	-\$7,043	-\$5,079	-\$3,168
2,132.80	-\$8,768	-\$6,476	-\$4,253	-\$2,100	-\$15
2,399.40	-\$6,476	-\$3,980	-\$1,572	\$749	\$2,982
2,666.00	-\$4,253	-\$1,572	\$1,001	\$3,467	\$5,824
2,932.60	-\$2,100	\$749	\$3,467	\$6,054	\$8,511
3,199.20	-\$15	\$2,982	\$5,824	\$8,511	\$11,041
3,465.80	\$2,000	\$5,128	\$8,074	\$10,836	\$13,417

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,866.20	-\$2,782	-\$2,265	-\$1,761	-\$1,270	-\$792
2,132.80	-\$2,192	-\$1,619	-\$1,063	-\$525	-\$4
2,399.40	-\$1,619	-\$995	-\$393	\$187	\$746
2,666.00	-\$1,063	-\$393	\$250	\$867	\$1,456
2,932.60	-\$525	\$187	\$867	\$1,513	\$2,128
3,199.20	-\$4	\$746	\$1,456	\$2,128	\$2,760
3,465.80	\$500	\$1,282	\$2,018	\$2,709	\$3,354

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# Lockyer Valley: Garlic



## Garlic - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Garlic</b>			<b>\$29,040/ha</b>
1st grade (large)	2960 kg/ha	6.00 \$/kg	\$17,760 /ha
2nd grade (medium)	2820 kg/ha	4.00 \$/kg	\$11,280 /ha

**Total Income: \$29,040 /ha**

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$281/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	33.24 \$/hr	\$33 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
<b>Planting</b>				<b>\$8,967/ha</b>
Seed: Garlic large bulbs (10 cloves/bulb)	928 kg/ha	8.00 \$/kg	\$7,424 /ha	
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	111.89 \$/hr	\$112 /ha
Contract: Labour for planting		3 hr/ha	27.00 \$/hr	\$81 /ha
Contract: Labour for clove separation		50 hr/ha	27.00 \$/hr	\$1,350 /ha
<b>Nutrition</b>				<b>\$665/ha</b>
Nutrient: CK88 - Farm Gate	125 kg/ha	0.81 \$/kg	\$101 /ha	
Nutrient: Urea (ferigate) - Farm Gate	60 kg/ha	0.82 \$/kg	\$49 /ha	
Nutrient: Single Superphosphate - Farm Gate	400 kg/ha	0.45 \$/kg	\$180 /ha	
Nutrient: Calcium Nitrate - Farm Gate	175 kg/ha	0.56 \$/kg	\$97 /ha	
Nutrient: Potassium Nitrate - Farm Gate	175 kg/ha	1.36 \$/kg	\$237 /ha	
<b>Irrigation</b>				<b>\$666/ha</b>
Irrigation: Hand Shift (FORM)	5 ML/ha	70.00 \$/ML	\$350 /ha	
Consumable: Water	5 ML/ha	20.00 \$/ML	\$100 /ha	
Irrigation: Water License	0 ML/ha	100.00 \$/ML	\$0 /ha	
Contract: Labour (hours)	8 hr/ha	27.00 \$/hr	\$216 /ha	
<b>Crop Protection</b>				<b>\$2,482/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	87.68 \$/hr	\$146 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	27.00 \$/hr	\$432 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
Contract: Labour for weed chipping		40 hr/ha	27.00 \$/hr	\$1,080 /ha

<b>Harvesting</b>				<b>\$11,445/ha</b>
Operation: FWA Light FORM	20 hr/ha	30.70 \$/hr		\$614 /ha
Contract: Labour harvesting	128 hr/ha	27.00 \$/hr		\$3,456 /ha
Contract: Labour for grading, topping, tailing & packing	215 hr/ha	27.00 \$/hr		\$5,805 /ha
Packaging: Bin Hire	20 Bins/ha	5.00 \$/bin		\$100 /ha
Consumable: Electricity Drying	5494 kg/ha	0.25 kwhr/kg	0.25 \$/kwhr	\$343 /ha
Packaging: Cartons 10kg	5494 kg/ha	10 20 kg/ctn	2.05 \$/ctn	\$1,126 /ha
<b>Cartage</b>				<b>\$593/ha</b>
Transportation: Refo pallet	5494 kg/ha	880 kg/pallet	95.00 \$/pallet	\$593 /ha
<b>Levies</b>				<b>\$2,664/ha</b>
Commission & Levies	15 %		[INCOME]	\$2,664 /ha

**Total Variable Costs: \$27,762 /ha**

**Gross Margin: \$1,278 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
2,072.00	1,974.00	-\$9,671	-\$7,860	-\$6,075	-\$4,316	-\$2,584
2,368.00	2,256.00	-\$7,603	-\$5,570	-\$3,571	-\$1,605	\$326
2,664.00	2,538.00	-\$5,570	-\$3,323	-\$1,120	\$1,041	\$3,158
2,960.00	2,820.00	-\$3,571	-\$1,120	\$1,278	\$3,623	\$5,914
3,256.00	3,102.00	-\$1,605	\$1,041	\$3,623	\$6,140	\$8,593
3,552.00	3,384.00	\$326	\$3,158	\$5,914	\$8,593	\$11,196
3,848.00	3,666.00	\$2,223	\$5,232	\$8,152	\$10,982	\$13,722

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
2,072.00	1,974.00	-\$1,934	-\$1,572	-\$1,215	-\$863	-\$517
2,368.00	2,256.00	-\$1,521	-\$1,114	-\$714	-\$321	\$65
2,664.00	2,538.00	-\$1,114	-\$665	-\$224	\$208	\$632
2,960.00	2,820.00	-\$714	-\$224	\$256	\$725	\$1,183
3,256.00	3,102.00	-\$321	\$208	\$725	\$1,228	\$1,719
3,552.00	3,384.00	\$65	\$632	\$1,183	\$1,719	\$2,239
3,848.00	3,666.00	\$445	\$1,046	\$1,630	\$2,196	\$2,744

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# Lockyer Valley: Lettuce



Lettuce - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Lettuce</b>			<b>\$38,330/ha</b>
Lettuce Domestic	3333 (62L)ctn/ha	11.50 \$/ctn	\$38,330 /ha
			<b>Total Income: \$38,330 /ha</b>

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$288/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.24 \$/hr	\$33 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	55.92 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	28.92 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	31.65 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,320/ha</b>
Seedlings: lettuce	50000 seeds/ha	0.09 \$/seedling		\$4,550 /ha
Contract: plant seedlings	50 hr/ha	27.00 \$/hr		\$1,350 /ha
Operation: Planting + FWA Light FORM	3.75 hr/ha	111.89 \$/hr		\$420 /ha
<b>Nutrition</b>				<b>\$1,250/ha</b>
Nutrient: CK55 - Farm Gate	600 kg/ha	0.81 \$/kg		\$484 /ha
Nutrient: Calcium Nitrate - Farm Gate	400 kg/ha	0.56 \$/kg		\$223 /ha
Nutrient: Potassium Nitrate - Farm Gate	400 kg/ha	1.36 \$/kg		\$543 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/ML		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract: Labour (hours)	4 hr/ha	27.00 \$/hr		\$108 /ha
<b>Crop Protection</b>				<b>\$633/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	4 ha/hr	87.68 \$/hr	\$132 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	1 application	2.5 kg/ha	38.50 \$/kg	\$96 /ha
Fungicide: Iprodione (e.g. Rovral Aquaflo)	2 application	1 L/ha	34.10 \$/L	\$68 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	3 L/ha	10.73 \$/L	\$32 /ha
Insecticide: Permethrin + Hydrocarbons (e.g. Ambush)	2 application	0.02 L/ha	82.50 \$/L	\$3 /ha
Insecticide: Chlorantraniliprole (e.g. Coragen)	2 application	0.15 L/ha	880.04 \$/L	\$264 /ha
<b>Harvesting</b>				<b>\$15,191/ha</b>
Tractor: FWA Light FORM	3333 (62L)ctn/ha	500 (62L) ctn/hr	28.92 \$/hr	\$193 /ha
Contract: Picking labour	3333 (62L)ctn/ha	18 (62L)ctn/hr	27.00 \$/hr	\$5,000 /ha
Packaging: 62L Waxed box	3333 (62L)ctn/ha		2.80 \$/box	\$9,332 /ha
Processing: Cooling	3333 (62L)ctn/ha	1 application	0.20 \$/ctn	\$667 /ha
<b>Cartage</b>				<b>\$7,539/ha</b>

Category	Value	Unit	Value	Unit
Transportation: Refo pallet	3333 (62L)ctn/ha	42 (62L)ctn/pallet	95.00 \$/pallet	\$7,539 /ha
<b>Levies</b>				<b>\$5,749/ha</b>
Commission & Levies	15 %	[INCOME]		\$5,749 /ha

**Total Variable Costs: \$37,439 /ha**  
**Gross Margin: \$891 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,333.10	-\$12,028	-\$9,824	-\$7,676	-\$5,585	-\$3,549
2,666.40	-\$9,514	-\$7,073	-\$4,706	-\$2,412	-\$192
2,999.70	-\$7,073	-\$4,415	-\$1,850	\$622	\$3,000
<b>3,333.00</b>	<b>-\$4,706</b>	<b>-\$1,850</b>	<b>\$891</b>	<b>\$3,516</b>	<b>\$6,027</b>
3,666.30	-\$2,412	\$622	\$3,516	\$6,271	\$8,888
3,999.60	-\$192	\$3,000	\$6,027	\$8,888	\$11,583
4,332.90	\$1,955	\$5,286	\$8,422	\$11,365	\$14,113

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,333.10	-\$3,007	-\$2,456	-\$1,919	-\$1,396	-\$887
2,666.40	-\$2,378	-\$1,768	-\$1,176	-\$603	-\$48
2,999.70	-\$1,768	-\$1,104	-\$462	\$155	\$750
<b>3,333.00</b>	<b>-\$1,176</b>	<b>-\$462</b>	<b>\$223</b>	<b>\$879</b>	<b>\$1,507</b>
3,666.30	-\$603	\$155	\$879	\$1,568	\$2,222
3,999.60	-\$48	\$750	\$1,507	\$2,222	\$2,896
4,332.90	\$489	\$1,321	\$2,106	\$2,841	\$3,528

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# Lockyer Valley: Onion- brown



## Onions - Brown - Hand Shift Irrigation - Plant 2016 (Lockyer Valley)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Onions - Brown</b>			<b>\$31,000/ha</b>
Onions 1st and 2nd grade	2000 20 kg/bag	15.50 \$/bag	\$31,000 /ha
<b>Total Income: \$31,000 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$281/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	33.24 \$/hr	\$33 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	82.42 \$/hr	\$247 /ha
<b>Planting</b>				<b>\$2,207/ha</b>
Seed: Onions	1 application	1.9 kg/ha	1060.00 \$/kg	\$2,014 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	111.89 \$/hr	\$112 /ha
Contract: Labour (hours)		3 hr/ha	27.00 \$/hr	\$81 /ha
<b>Nutrition</b>				<b>\$1,256/ha</b>
Nutrient: CK88 - Farm Gate	800 kg/ha	0.81 \$/kg	\$646 /ha	\$646 /ha
Nutrient: Urea (fertigate) - Farm Gate	600 kg/ha	0.82 \$/kg	\$490 /ha	\$490 /ha
Nutrient: Zinc Chelate (fertigate) - Farm Gate	10 kg/ha	12.00 \$/kg	\$120 /ha	\$120 /ha
<b>Irrigation</b>				<b>\$666/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	27.00 \$/hr	\$216 /ha
<b>Crop Protection</b>				<b>\$1,402/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	87.68 \$/hr	\$146 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	27.00 \$/hr	\$432 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
<b>Harvesting</b>				<b>\$13,379/ha</b>
Operation: FWA Light FORM		20 hr/ha	30.70 \$/hr	\$614 /ha
Contract: Labour harvest		220 hr/ha	27.00 \$/hr	\$5,940 /ha
Contract: Labour grading & pack		150 hr/ha	27.00 \$/hr	\$4,050 /ha

Packaging: Bin Hire (RM)		100 Bins/ha	5.00 \$/bin	\$500 /ha
Consumable: Electricity Drying	2000 20 kg/bag	2.55 kWhr/bag	0.25 \$/kwhr	\$1,275 /ha
Packaging: Bag 20kg	2000 20 kg/bag		0.50 \$/bag	\$1,000 /ha
<b>Cartage</b>				<b>\$3,800/ha</b>
Transportation: Refo pallet		40 pallets/ha	95.00 \$/pallet	\$3,800 /ha
<b>Levies</b>				<b>\$4,650/ha</b>
Commission & Levies	15 %		[INCOME]	\$4,650 /ha

**Total Variable Costs: \$27,640 /ha**  
**Gross Margin: \$3,360 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$7,088	-\$5,305	-\$3,568	-\$1,877	-\$231
1,600.00	-\$5,055	-\$3,080	-\$1,166	\$689	\$2,485
1,800.00	-\$3,080	-\$931	\$1,144	\$3,143	\$5,066
2,000.00	-\$1,166	\$1,144	\$3,360	\$5,484	\$7,514
2,200.00	\$689	\$3,143	\$5,484	\$7,712	\$9,828
2,400.00	\$2,485	\$5,066	\$7,514	\$9,828	\$12,008
2,600.00	\$4,221	\$6,915	\$9,452	\$11,831	\$14,054

Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$1,418	-\$1,061	-\$714	-\$375	-\$46
1,600.00	-\$1,011	-\$616	-\$233	\$138	\$497
1,800.00	-\$616	-\$186	\$229	\$629	\$1,013
2,000.00	-\$233	\$229	\$672	\$1,097	\$1,503
2,200.00	\$138	\$629	\$1,097	\$1,542	\$1,966
2,400.00	\$497	\$1,013	\$1,503	\$1,966	\$2,402
2,600.00	\$844	\$1,383	\$1,890	\$2,366	\$2,811

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# Lockyer Valley: Pumpkin (Jap)



## Pumpkin - Drip Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Pumpkin</b>			<b>\$12,000/ha</b>
Pumpkin	30000 kg/ha	0.40 \$/kg	\$12,000 /ha

**Total Income: \$12,000 /ha**

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$119/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	0.75 hr/ha	33.24 \$/hr	\$25 /ha
Operation: Mulcher + FWA Light FORM	1 operation	1 hr/ha	32.26 \$/hr	\$32 /ha
Operation: Discing	1 operation	0.5 hr/ha	27.00 \$/hr	\$14 /ha
Operation: Rotary hoeing	1 operation	0.75 hr/ha	53.50 \$/hr	\$40 /ha
Operation: Spreader + FWA Light FORM	1 operation	4 ha/hr	31.65 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$464/ha</b>
Seed: Pumpkin (Jap) seeds	1 operation	5000 seeds/ha	0.08 \$/seedling	\$400 /ha
Operation: planter (seed)	1 operation	2 ha/hr	127.88 \$/hr	\$64 /ha
<b>Nutrition</b>				<b>\$891/ha</b>
Nutrient: CK55	400 kg/ha	0.81 \$/kg		\$323/ha
Nutrient: Potassium Nitrate	150 kg/ha	1.35 \$/kg		\$203 /ha
Nutrient: Calcium Nitrate	100 kg/ha	0.56 \$/kg		\$56 /ha
Nutrient: Urea (fertigate)	25 kg/ha	0.82 \$/kg		\$20 /ha
Nutrient: Boron & Calcium	2 kg/ha	5.86 \$/kg		\$12 /ha
Nutrient: Trace Elements	2 kg/ha	3.71 \$/kg		\$7 /ha
Labour (hours)	10 hr/ha	27.00 \$/hr		\$270 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/m		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/m		\$0 /ha
Contract: Labour (hours)	4 hr/ha	27.00 \$/m		\$108 /ha
<b>Crop Protection</b>				<b>\$546/ha</b>
Operation: Self-propelled sprayer FORM	4 operation	6 ha/hr	87.68 \$/hr	\$58 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	1 application	1.2 L/ha	51.70 \$/L	\$62 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Glyphosate (e.g. RICO 450)	1 application	2 L/ha	6.05 \$/L	\$12 /ha
Insecticide: Bifentrin + Hydrocarbon (e.g. Talstar 250 EC)	2 application	0.24 L/ha	30.80 \$/L	\$15 /ha
Contract: Crop agronomy/protection	4 ha/hr	102.60 \$/hr		\$26 /ha
Labour (hours) pollination	2 hr/ha	27.00 \$/hr		\$54 /ha
Labour (hours)	10 hr/ha	27.00 \$/hr		\$270 /ha
<b>Harvesting</b>				<b>\$2,831/ha</b>
Labour (hours) ricking and packing	30 hr/ha	27.00 \$/hr		\$810 /ha

Labour (hours) mulch removal	5 hr/ha	27.00 \$/hr	\$135 /ha	
Packaging: Bulk octabin	30000 kg/ha	350 kg/bin	15.00 \$/bin	\$1,286 /ha
Operation: On farm cartage of octabin	30000 kg/ha		0.01 \$/kg	\$300 /ha
Operation: Cooling Hort	30000 kg/ha		0.01 \$/kg	\$300 /ha
<b>Cartage</b>				<b>\$3,167/ha</b>
Transportation: Refo pallet	30000 kg/ha	900 kg/pallet	95.00 \$/pallet	\$3,167 /ha
<b>Levies</b>				<b>\$1,800/ha</b>
Commission & Levies	15 %	[INCOME]		\$1,800 /ha

**Total Variable Costs: \$10,285 /ha**  
**Gross Margin: \$1,715 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$2,329	-\$1,639	-\$967	-\$312	\$325
24,000.00	-\$1,542	-\$778	-\$37	\$681	\$1,376
27,000.00	-\$778	\$54	\$857	\$1,631	\$2,376
30,000.00	-\$37	\$857	\$1,715	\$2,537	\$3,323
33,000.00	\$681	\$1,631	\$2,537	\$3,400	\$4,219
36,000.00	\$1,376	\$2,376	\$3,323	\$4,219	\$5,063
39,000.00	\$2,048	\$3,091	\$4,073	\$4,995	\$5,855

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$582	-\$410	-\$242	-\$78	\$81
24,000.00	-\$385	-\$194	-\$9	\$170	\$344
27,000.00	-\$194	\$14	\$214	\$408	\$594
30,000.00	-\$9	\$214	\$429	\$634	\$831
33,000.00	\$170	\$408	\$634	\$850	\$1,055
36,000.00	\$344	\$594	\$831	\$1,055	\$1,266
39,000.00	\$512	\$773	\$1,018	\$1,249	\$1,464

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# Lockyer Valley: Sweet Corn



## Sweet Corn - Drip Irrigation - Plant 2016 (Lockyer Valley)



### Commodities

	YIELD	PRICE	TOTAL
<b>Sweet Corn</b>			<b>\$16,500/ha</b>
Sweet Corn	1100 (18L) ctn/ha	15.00 \$/ctn	\$16,500 /ha
<b>Total Income: \$16,500 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$210/ha</b>
Operation: Discing	2 operation	0.9 hr/ha	27.00 \$/hr	\$49 /ha
Operation: Rotary hoeing	1 operation	1 hr/ha	53.50 \$/hr	\$54 /ha
Labour (hours)	4 hrs	1 hr/ha	27.00 \$/hr	\$108 /ha
<b>Planting</b>				<b>\$614/ha</b>
Seed: Sweet corn	1 application	55000 seeds/ha	0.01 \$/seedling	\$550 /ha
Operation: planter (seed)	1 operation	2 ha/hr	127.88 \$/hr	\$64 /ha
<b>Nutrition</b>				<b>\$679/ha</b>
Nutrient: MAP - Farm Gate	1 application	200 kg/ha	0.79 \$/kg	\$157 /ha
Nutrient: Urea	2 application	50 kg/ha	0.54 \$/kg	\$54 /ha
Nutrient: Solubor (foliar)	2 application	1 kg/ha	2.51 \$/kg	\$5 /ha
Nutrient: Ammonium Sulphate	1 application	40 kg/ha	0.49 \$/kg	\$19 /ha
Operation: FWA Light + Spreader FORM	1 hrs	2 ha/hr	31.65 \$/hr	\$16 /ha
Operation: Self-propelled sprayer FORM	1 operation	2 ha/hr	87.68 \$/hr	\$44 /ha
Contract: Soil analysis		4 ha/test	100.00 \$/test	\$25 /ha
Labour (hours)	3 hrs	1 hr/ha	27.00 \$/hr	\$81 /ha
Nutrient: Urea - Farm Gate	1 application	200 kg/ha	0.55 \$/kg	\$109 /ha
Nutrient: Sulphate of Potash	1 application	100 kg/ha	1.68 \$/kg	\$168 /ha
<b>Irrigation</b>				<b>\$1,259/ha</b>
Labour: laying and removing drip tape	5 hrs	1 hr/ha	27.00 \$/hr	\$135 /ha
Irrigation: Layflat 100mm	0.2 application	75 m/ha	4.00 \$/m	\$60 /ha
Irrigation: Drip tape 10mm	1 application	6600 m/ha	0.10 \$/m	\$660 /ha
Labour: Irrigation and fertigation	2 hrs	1 hr/ha	27.00 \$/hr	\$54 /ha
Irrigation: Drip (FORM)		5 ML/ha	50.00 \$/ML	\$250 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$911/ha</b>
Operation: Self-propelled sprayer FORM	7 operation	2 ha/hr	87.68 \$/hr	\$307 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	2 application	0.75 L/ha	67.76 \$/L	\$102 /ha
Insecticide: Nucleopolyhedrovirus (NPV) (e.g. Vivus Max)	2 application	0.2 L/ha	129.80 \$/L	\$52 /ha
Insecticide: Spinetoram (e.g. Success Neo)	2 application	0.4 L/ha	391.64 \$/L	\$313 /ha
Labour (hours)	3 hrs	1 hr/ha	27.00 \$/hr	\$81 /ha
Contract: Crop agronomy/protection	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
<b>Harvesting</b>				<b>\$4,820/ha</b>
Harvester: Sweet corn (4 row)	1100 (18L) ctn/ha	150 cr/hr	149.24 \$/hr	\$1,641.64 /ha

Packaging: 18L Styros	1100 (18L) ctn/ha		1.50 \$/(18L) ctn	\$1,650 /ha
Labour: packing	1100 (18L) ctn/ha	22 (18L) ctn/hr	27.00 \$/hr	\$1,350 /ha
Processing: Cooling styros	1100 (18L) ctn/ha		0.20 \$/(18L) ctn	\$220 /ha
Packing: machine labour	1100 (18L) ctn/ha	75 (18L) ctn/hr	27.00 \$/hr	\$396 /ha
Operation: On farm cartage of styros	1100 (18L) ctn/ha		0.10 \$/(18L) ctn	\$110 /ha
<b>Cartage</b>				<b>\$1,633/ha</b>
Freight (to Brisbane)	1100 (18L) ctn/ha	64 (18L) ctn/pallet	95.00 \$/pallet	\$1,633 /ha
<b>Levies</b>				<b>\$2,475/ha</b>
Commission, Levies: sweet corn	15 %		[INCOME]	\$2,475 /ha

**Total Variable Costs: \$12,601 /ha**  
**Gross Margin: \$3,899 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$1,663	-\$714	\$211	\$1,111	\$1,987
880.00	-\$580	\$471	\$1,490	\$2,477	\$3,433
990.00	\$471	\$1,615	\$2,719	\$3,783	\$4,807
1,100.00	\$1,490	\$2,719	\$3,899	\$5,029	\$6,110
1,210.00	\$2,477	\$3,783	\$5,029	\$6,215	\$7,341
1,320.00	\$3,433	\$4,807	\$6,110	\$7,341	\$8,501
1,430.00	\$4,357	\$5,791	\$7,141	\$8,407	\$9,590

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$333	-\$143	\$42	\$222	\$397
880.00	-\$116	\$94	\$298	\$495	\$687
990.00	\$94	\$323	\$544	\$757	\$961
1,100.00	\$298	\$544	\$780	\$1,006	\$1,222
1,210.00	\$495	\$757	\$1,006	\$1,243	\$1,468
1,320.00	\$687	\$961	\$1,222	\$1,468	\$1,700
1,430.00	\$871	\$1,158	\$1,428	\$1,681	\$1,918

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# Darling Downs (Toowoomba) Gross Margins 2016

## Darling Downs: Irrigated Cotton



Cotton - Surface irrigated - Plant 2016 (Darling Downs)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Cotton</b>			<b>\$6,444/ha</b>
Lint	12 bales/ha	480.00 \$/bale	\$5,760 /ha
Seed	3.6 t/ha	190.00 \$/tonne	\$684 /ha
<b>Total Income: \$6,444 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$65/ha</b>
Operation: Mulcher + FWA Light FORM	1 operation	12 ha/hr	33.35 \$/hr	\$3 /ha
Middlebusting	1 operation	6 ha/hr	35.03 \$/hr	\$6 /ha
Operation: Self-propelled sprayer FORM	2 operation	12 ha/hr	89.32 \$/hr	\$15 /ha
Herbicide: Glyphosate 450 CT	1 application	1.6 L/ha	6.05 \$/L	\$10 /ha
Herbicide: Trifluralin	1 application	2.8 L/ha	9.63 \$/L	\$27 /ha
Operation: Discing	1 operation	6 ha/hr	27.00 \$/hr	\$5 /ha
<b>Planting</b>				<b>\$487/ha</b>
Operation: planter (seed)	1 operation	10 ha/hr	131.73 \$/hr	\$13 /ha
Seed: Cotton	13 kg/ha	8.00 \$/kg	\$104 /ha	
Seed: Cotton Bollgard II fee: Opt1	1 Portion		370.00 \$/ha	\$370 /ha
<b>Nutrition</b>				<b>\$357/ha</b>
Nutrient: Granulock Z	1 operation	100 kg/ha	0.87 \$/kg	\$87 /ha
Operation: Spreader + FWA Light FORM	1 operation	12 ha/hr	32.76 \$/hr	\$3 /ha
Nutrient: Anhydrous ammonia		122 kg/ha	0.96 \$/kg	\$117 /ha
Operation: Side Dressing Fertiliser	1 operation	10 ha/hr	73.03 \$/hr	\$7 /ha
Nutrient: Urea - Farm Gate	1 application	260 kg/ha	0.55 \$/kg	\$143 /ha
<b>Crop Protection</b>				<b>\$162/ha</b>
Operation: Self-propelled sprayer FORM	5 operation	12 ha/hr	89.32 \$/hr	\$37 /ha
Herbicide: Roundup Ready	2 application	1.2 kg/ha	8.00 \$/kg	\$19 /ha
Insecticide: Fipronil	2 application	0.06 L/ha	350.00 \$/L	\$42 /ha
Herbicide: Roundup Ready	1 application	0.6 kg/ha	8.00 \$/kg	\$5 /ha
Aerial Spray	1 application		14.20 \$/ha	\$14 /ha
Insecticide: Indoxacarb	1 application	0.65 L/ha	69.15 \$/L	\$45 /ha
<b>Irrigation</b>				<b>\$360/ha</b>
Irrigation: Surface (FORM)		8 ML/ha	25.00 \$/ML	\$200 /ha
Consumable: Water		8 ML/ha	20.00 \$/ML	\$160 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Harvesting</b>				<b>\$258/ha</b>
Plastic Wrap: Cotton Bale		10 bales/ha	8.80 \$/bale	\$88 /ha
Aerial Spray	2 operation		14.20 \$/ha	\$28 /ha
Defoliant: Thiadazu	1 application	0.25 L/ha	52.75 \$/L	\$13 /ha
Defoliant: Crop Oil	1 application	2 L/ha	3.91 \$/L	\$8 /ha
Defoliant: Ethepon	1 application	1.5 L/ha	9.33 \$/L	\$14 /ha
Defoliant: Ethepon	1 application	2 L/ha	9.33 \$/L	\$19 /ha

Harvester: Cotton Round Bale	7 ha/hr	277.46 \$/hr	\$40 /ha
Round Bale Grab: Cotton	12 bales/ha	4.00 \$/bale	\$48 /ha
<b>Other</b>			<b>\$185/ha</b>
Crop insurance	1 %	[INCOME]	\$58 /ha
Contract: Consultant Irrigated Broadacre			\$62 /ha
R&D Levy	12 bales/ha	2.25 \$/bale	\$27 /ha
Voluntary Levy	12 bales/ha	1.50 \$/bale	\$18 /ha
5% Pigeon Pea Refuge		19.95 \$/ha	\$20 /ha
<b>Post-Harvest</b>			<b>\$730/ha</b>
Cartage: Cotton	12 bales/ha	8.80 \$/bale	\$106 /ha
Ginning	12 bales/ha	52.00 \$/bale	\$624 /ha
<b>Total Variable Costs: \$2,603 /ha</b>			
<b>Gross Margin: \$3,841 /ha</b>			

**Effect of Yield and Price on Gross Margin (\$/ha)**

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$1,045	\$1,491	\$1,937	\$2,382	\$2,827
9.60	2.88	\$1,555	\$2,064	\$2,573	\$3,080	\$3,587
10.80	3.24	\$2,064	\$2,636	\$3,207	\$3,777	\$4,347
<b>12.00</b>	<b>3.60</b>	<b>\$2,573</b>	<b>\$3,207</b>	<b>\$3,841</b>	<b>\$4,473</b>	<b>\$5,104</b>
13.20	3.96	\$3,080	\$3,777	\$4,473	\$5,167	\$5,860
14.40	4.32	\$3,587	\$4,347	\$5,104	\$5,860	\$6,614
15.60	4.68	\$4,094	\$4,915	\$5,734	\$6,551	\$7,367

**Effects of Yield and Price on Gross Margin per ML (assuming 8.0ML/ha is used)**

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$131	\$186	\$242	\$298	\$353
9.60	2.88	\$194	\$258	\$322	\$385	\$448
10.80	3.24	\$258	\$330	\$401	\$472	\$543
<b>12.00</b>	<b>3.60</b>	<b>\$322</b>	<b>\$401</b>	<b>\$480</b>	<b>\$559</b>	<b>\$638</b>
13.20	3.96	\$385	\$472	\$559	\$646	\$733
14.40	4.32	\$448	\$543	\$638	\$733	\$827
15.60	4.68	\$512	\$614	\$717	\$819	\$921

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# Darling Downs: Broccoli



## Broccoli - Hand Shift Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Broccoli</b>			<b>\$27,200/ha</b>
Broccoli	1700 8 kg/styro	16.00 \$/styro	\$27,200 /ha
<b>Total Income: \$27,200 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$175/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	1 ha/hr	34.33 \$/hr	\$34 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
Operation: Spreader + FWA Light FORM	1 operation	1 ha/hr	32.76 \$/hr	\$33 /ha
<b>Planting</b>				<b>\$6,198/ha</b>
Seedlings: Broccoli	1 application	50000 plants/ha	0.08 \$/plant	\$4,150 /ha
Operation: Planting + FWA Light FORM	1 operation	3.75 hr/ha	114.12 \$/hr	\$428 /ha
Contract: Labour (hours)		60 hr/ha	27.00 \$/hr	\$1,620 /ha
<b>Nutrition</b>				<b>\$1,092/ha</b>
Nutrient: Calcium Nitrate - Farm Gate	4 application	100 kg/ha	0.56 \$/kg	\$224 /ha
Nutrient: Potassium Nitrate - Farm Gate	4 application	100 kg/ha	1.36 \$/kg	\$544 /ha
Nutrient: CK55 - Farm Gate	1 application	400 kg/ha	0.81 \$/kg	\$324 /ha
<b>Irrigation</b>				<b>\$234/ha</b>
Irrigation: Hand Shift (FORM)		2 ML/ha	70.00 \$/ML	\$140 /ha
Consumable: Water		2 ML/ha	20.00 \$/ML	\$40 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	27.00 \$/hr	\$54 /ha
<b>Crop Protection</b>				<b>\$896/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	89.32 \$/hr	\$89 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	2 application	0.5 L/ha	51.70 \$/L	\$52 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	3 application	0.1 L/ha	870.72 \$/L	\$261 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
Herbicide: Trifluralin + Hydrocarbon (e.g. Trifluralin 480 EC)	1 application	2 L/ha	9.63 \$/L	\$19 /ha
Insecticide: Emeamectin Benzoate (e.g. Proclaim)	2 application	0.3 kg/ha	399.67 \$/kg	\$240 /ha
Contract: Crop agronomy/protection		4 ha/hr	102.60 \$/hr	\$26 /ha
Contract: Labour (hours)		3 hr/ha	27.00 \$/hr	\$81 /ha
<b>Harvesting</b>				<b>\$12,155/ha</b>
Contract: Labour picking	1700 8 kg/styro	15 styro/hr	27.00 \$/hr	\$3,060 /ha
Contract: Labour packing machine labour	1700 8 kg/styro	15 styro/hr	27.00 \$/hr	\$3,060 /ha
Packaging: 8kg Styros	1700 8 kg/styro		2.50 \$/ctn	\$4,250 /ha
Operation: On farm cartage of styros	1700 8 kg/styro		0.10 \$/ctn	\$170 /ha
Processing: Conline styros	1700 8 kg/styro		0.20 \$/ctn	\$340 /ha

Processing: Ice for styros	1700 8 kg/styro	0.75 \$/ctn	\$1,275 /ha
<b>Cartage</b>			<b>\$3,102/ha</b>
Transportation: Refo pallet	1 (36L) ctn/ha	56 (36L) ctn/pallet	102.20 \$/pallet
			\$3,102 /ha
<b>Levies</b>			<b>\$4,080/ha</b>
Commission & Levies	15 %	[INCOME]	\$4,080 /ha
<b>Total Variable Costs: \$27,932 /ha</b>			
<b>Gross Margin: -\$732 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$9,900	-\$8,335	-\$6,811	-\$5,327	-\$3,883
1,360.00	-\$8,115	-\$6,383	-\$4,703	-\$3,076	-\$1,500
1,530.00	-\$6,383	-\$4,497	-\$2,677	-\$923	\$765
1,700.00	-\$4,703	-\$2,677	-\$732	\$1,131	\$2,913
1,870.00	-\$3,076	-\$923	\$1,131	\$3,086	\$4,943
2,040.00	-\$1,500	\$765	\$2,913	\$4,943	\$6,856
2,210.00	\$23	\$2,387	\$4,613	\$6,701	\$8,651

### Effects of Yield and Price on Gross Margin per ML (assuming 2.0ML/ha is used).

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$4,950	-\$4,168	-\$3,406	-\$2,664	-\$1,941
1,360.00	-\$4,058	-\$3,192	-\$2,352	-\$1,538	-\$750
1,530.00	-\$3,192	-\$2,248	-\$1,338	-\$461	\$382
1,700.00	-\$2,352	-\$1,338	-\$366	\$566	\$1,456
1,870.00	-\$1,538	-\$461	\$566	\$1,543	\$2,471
2,040.00	-\$750	\$382	\$1,456	\$2,471	\$3,428
2,210.00	\$11	\$1,193	\$2,306	\$3,350	\$4,325

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# Darling Downs: Cabbage (drumhead for processing)



Cabbage (Drumhead for processing) - 500kg Bins (Contract) - Plant 2016 (Darling Downs)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Cabbage (Drumhead for processing)</b>			<b>\$24,225/ha</b>
Cabbage	323 Bins/Ha	75.00 \$/bin	\$24,225 /ha
<b>Total Income: \$24,225 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$293/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.33 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	57.03 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 ha/hr	30.03 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming+ FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.76 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$4,243/ha</b>
Seedlings: Cabbage	1 application	40000 plants/ha	0.07 \$/plant	\$2,600 /ha
Contract: Plant seedlings	1 application	45 hr/ha	27.00 \$/hr	\$1,215 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	114.12 \$/hr	\$428 /ha
<b>Nutrition</b>				<b>\$599/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.81 \$/hr	\$405 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.56 \$/hr	\$112 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.82 \$/hr	\$82 /ha
<b>Irrigation</b>				<b>\$414/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	27.00 \$/hr	\$54 /ha
<b>Crop Protection</b>				<b>\$460/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	89.32 \$/hr	\$89 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	2 application	0.1 L/ha	870.72 \$/L	\$174 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
<b>Harvesting</b>				<b>\$6,942/ha</b>
Operation: Tractor / Trailer		5 hr/ha	31.78	\$159 /ha
Contract: Labour Picking	323 Bins/Ha	0.5 hrs/bin	27.00 \$/hr	\$4,361 /ha
Packaging: Bin Hire	323 Bins/Ha	0.5 Bins hired/Bin	5.00 \$/bin	\$808 /ha
Operation: Cooling Hort \$/kg	323 Bins/Ha	500 kg/bin	0.01 \$/kg	\$1,615 /ha
<b>Cartage</b>				<b>\$11,004/ha</b>
Transportation: Refo pallet	323 Bins/Ha	3 bins/pallet	102.20 \$/pallet	\$11,004 /ha
<b>Levies</b>				<b>\$606/ha</b>

Commission & Levies	2.5 %	[INCOME]	\$606 /ha
<b>Total Variable Costs: \$24,560 /ha</b>			
<b>Gross Margin: -\$335 /ha</b>			

Effect of Yield and Price on Gross Margin (\$/ha)

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
226.10	-\$10,578	-\$8,933	-\$7,294	-\$5,660	-\$4,033
258.40	-\$8,698	-\$6,826	-\$4,962	-\$3,105	-\$1,257
290.70	-\$6,826	-\$4,729	-\$2,642	-\$565	\$1,502
323.00	<b>-\$4,962</b>	<b>-\$2,642</b>	<b>-\$335</b>	<b>\$1,960</b>	<b>\$4,244</b>
355.30	-\$3,105	-\$565	\$1,960	\$4,471	\$6,967
387.60	-\$1,257	\$1,502	<b>\$4,244</b>	\$6,967	\$9,674
419.90	\$585	\$3,560	<b>\$6,515</b>	\$9,449	\$12,363

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
226.10	-\$2,645	-\$2,233	-\$1,823	-\$1,415	-\$1,008
258.40	-\$2,175	-\$1,707	-\$1,240	-\$776	-\$314
290.70	-\$1,707	-\$1,182	-\$661	-\$141	\$376
323.00	<b>-\$1,240</b>	<b>-\$661</b>	<b>-\$84</b>	<b>\$490</b>	<b>\$1,061</b>
355.30	-\$776	-\$141	\$490	\$1,118	\$1,742
387.60	-\$314	\$376	<b>\$1,061</b>	\$1,742	\$2,418
419.90	\$146	\$890	<b>\$1,629</b>	\$2,362	\$3,091

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# Darling Downs: Carrots



## Carrots - Hand Shift Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Carrots</b>			<b>\$14,250/ha</b>
Carrots 1st Grade	1425 (20kg) ctn/ha	8.00 \$/ctn	\$11,400 /ha
Carrots 2nd Grade	475 (20kg) bags/ha	6.00 \$/bag	\$2,850 /ha
<b>Total Income: \$14,250 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$291/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.33 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	57.03 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	30.03 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
Operation: Spreader + FWA Light FORM	1 application	5 ha/hr	32.76 \$/hr	\$7 /ha
<b>Planting</b>				<b>\$2,814/ha</b>
Seed: Carrot	1 application	3 kg/ha	900.00 \$/kg	\$2,700 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 ha/hr	114.12 \$/hr	\$114 /ha
<b>Nutrition</b>				<b>\$558/ha</b>
Nutrient: CK55 - Farm Gate	1 application	500 kg/ha	0.81 \$/kg	\$405 /ha
Nutrient: Urea (fertigate) - Farm Gate	1 application	125 kg/ha	0.82 \$/kg	\$103 /ha
Nutrient: Solubor (foliar) - Farm Gate	2 application	10 kg/ha	2.51 \$/kg	\$50 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$621/ha</b>
Operation: Shielded Sprayer + FWA Light FORM	6 operation	6 ha/hr	34.03 \$/hr	\$34 /ha
Herbicide: Glyphosate (e.g. ERICO 450)	1 application	3 kg/ha	6.05 \$/L	\$18 /ha
Herbicide: LoroX (Linuron)	2 application	2.3 L/ha	45.65 \$/L	\$210 /ha
Insecticide: Chlorpyrifos 500 EC	1 application	0.6 kg/ha	20.00 \$/L	\$12 /ha
Insecticide: Dimethoate + hydrocarbons (e.g. Dimethoate Nufam)	2 application	0.75 L/ha	11.00 \$/L	\$17 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Vapam	1 application	225 L/ha	1.30 \$/kg	\$293 /ha
<b>Harvesting</b>				<b>\$4,432/ha</b>
Operation: Lifting FORM		10 hr/ha	83.53 \$/hr	\$835 /ha
Contract: Labour Picking	1900 (20kg) units	250 (20kg) units/hr	27.00 \$/hr	\$205 /ha
Operation: Tractor / Trailer	1900 (20kg) units	500 (20kg) units/hr	31.78 \$/hr	\$121 /ha
Operation: Washing Carrots	1900 (20kg) units	100 (20kg) units/hr	27.25 \$/hr	\$518 /ha
Contract: Labour grading	1900 (20kg) units	500 (20kg) units/hr	27.00 \$/hr	\$103 /ha
Contract: Labour packing	1900 (20kg) units	200 (20kg) units/hr	27.00 \$/hr	\$257 /ha

Packaging: Bin Hire	1900 (20kg) units	500 (20kg) units/bin	5.00 \$/bin	\$19 /ha
Packaging: (20kg) Carton	1425 (20kg) ctn/ha		1.50 \$/hr	\$2,138 /ha
Packaging: (20kg) Bag	475 (20kg) ctn/ha		0.50 \$/hr	\$238 /ha
<b>Cartage</b>				<b>\$1,942/ha</b>
Transportation: Refo pallet	1900 (20kg) ctn/ha	100 (20kg) ctn/pallet	102.20 \$/pallet	\$1,942 /ha
<b>Levies</b>				<b>\$1,710/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,710 /ha

**Total Variable Costs: \$12,836 /ha**  
**Gross Margin: \$1,414 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
997.50	332.50	-\$3,683	-\$2,828	-\$1,989	-\$1,168	-\$363
1,140.00	380.00	-\$2,707	-\$1,753	-\$821	\$89	\$978
1,282.50	427.50	-\$1,753	-\$706	\$314	\$1,305	\$2,269
1,425.00	475.00	-\$821	\$314	\$1,414	\$2,480	\$3,511
1,567.50	522.50	\$89	\$1,305	\$2,480	\$3,613	\$4,704
1,710.00	570.00	\$978	\$2,269	\$3,511	\$4,704	\$5,848
1,852.50	617.50	\$1,844	\$3,205	\$4,509	\$5,754	\$6,942

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used)

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
997.50	332.50	-\$921	-\$707	-\$497	-\$292	-\$91
1,140.00	380.00	-\$677	-\$438	-\$205	\$22	\$244
1,282.50	427.50	-\$438	-\$176	\$78	\$326	\$567
1,425.00	475.00	-\$205	\$78	\$353	\$620	\$878
1,567.50	522.50	\$22	\$326	\$620	\$903	\$1,176
1,710.00	570.00	\$244	\$567	\$878	\$1,176	\$1,462
1,852.50	617.50	\$461	\$801	\$1,127	\$1,439	\$1,736

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# Darling Downs: Cauliflower



## Cauliflower - Hand Shift Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cauliflower</b>			<b>\$34,196/ha</b>
Cauliflower Domestic	2533 (72L) ctn/ha	13.50 \$/ctn	\$34,196 /ha
<b>Total Income: \$34,196 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$293/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.33 \$/hr	\$34 /ha
Operation: Discing	0 application	2 ha/hr	27.00 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 hr/ha	30.03 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.76 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$7,003/ha</b>
Seedlings: Cauliflower	1 application	40000 plants/ha	0.13 \$/plant	\$5,360 /ha
Contract: Plant seedlings	1 application	45 hr/ha	27.00 \$/hr	\$1,215 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	114.12 \$/hr	\$428 /ha
<b>Nutrition</b>				<b>\$599/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.81 \$/kg	\$405 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.56 \$/kg	\$112 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.82 \$/kg	\$82 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		4 hr/ha	27.00 \$/hr	\$108 /ha
<b>Crop Protection</b>				<b>\$721/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	89.32 \$/hr	\$89 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	2 L/ha	10.73 \$/L	\$21 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	6 application	0.75 kg/ha	67.76 \$/kg	\$305 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	1 application	0.1 L/ha	870.72 \$/L	\$87 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	2 application	1.6 L/ha	64.79 \$/L	\$207 /ha
<b>Harvesting</b>				<b>\$12,821/ha</b>
Tractor: FWA Light FORM	2533 (72L) ctn/ha	500 (36L) ctn/hr	30.03 \$/hr	\$152 /ha
Contract: Labour Picking	2533 (72L) ctn/ha	15 (72kg) ctn/hr	27.00 \$/hr	\$4,559 /ha
Operation: Pallet hire	2533 (72L) ctn/ha	36 crts/pallet	0.06 \$/pallet	\$4 /ha
Packaging: 72L Styros	2533 (72L) ctn/ha		3.00 \$/carton	\$7,599 /ha
Processing: Cooling	2533 (72L) ctn/ha		0.20 \$/(72L) ctn	\$507 /ha
<b>Cartage</b>				<b>\$7,191/ha</b>
Transportation: Refn pallet	2533 (72L) ctn/ha	36 (72L) ctn/pallet	102.20 \$/pallet	\$7,191 /ha

Levies			\$/ha
Commission & Levies	15 %	[INCOME]	\$5,129/ha
<b>Total Variable Costs: \$34,226 /ha</b>			
<b>Gross Margin: -\$30 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,773.10	-\$11,555	-\$9,589	-\$7,673	-\$5,807	-\$3,991
2,026.40	-\$9,312	-\$7,135	-\$5,023	-\$2,977	-\$996
2,279.70	-\$7,135	-\$4,763	-\$2,475	-\$270	\$1,852
2,533.00	-\$5,023	-\$2,475	-\$30	\$2,312	\$4,552
2,786.30	-\$2,977	-\$270	\$2,312	\$4,770	\$7,104
3,039.60	-\$996	\$1,852	\$4,552	\$7,104	\$9,509
3,292.90	\$919	\$3,891	\$6,689	\$9,314	\$11,766

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,773.10	-\$2,889	-\$2,397	-\$1,918	-\$1,452	-\$998
2,026.40	-\$2,328	-\$1,784	-\$1,256	-\$744	-\$249
2,279.70	-\$1,784	-\$1,191	-\$619	-\$68	\$463
2,533.00	-\$1,256	-\$619	-\$8	\$578	\$1,138
2,786.30	-\$744	-\$68	\$578	\$1,193	\$1,776
3,039.60	-\$249	\$463	\$1,138	\$1,776	\$2,377
3,292.90	\$230	\$973	\$1,672	\$2,329	\$2,941

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## Darling Downs: Garlic



## Onions - Brown - Hand Shift Irrigation - Plant 2016 (Darling Downs)



## Commodities

	YIELD	PRICE	TOTAL
<b>Onions - Brown</b>			<b>\$31,000/ha</b>
Onions 1st and 2nd grade	2000 20 kg/bag	15.50 \$/bag	\$31,000 /ha
<b>Total Income: \$31,000 /ha</b>			

## Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$285/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.33 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
<b>Planting</b>				<b>\$2,209/ha</b>
Seed: Onions	1 application	1.9 kg/ha	1060.00 \$/kg	\$2,014 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	114.12 \$/hr	\$114 /ha
Contract: Labour (hours)		3 hr/ha	27.00 \$/hr	\$81 /ha
<b>Nutrition</b>				<b>\$1,260/ha</b>
Nutrient: CK88 - Farm Gate		800 kg/ha	0.81 \$/kg	\$648 /ha
Nutrient: Urea (fertigate) - Farm Gate		600 kg/ha	0.82 \$/kg	\$492 /ha
Nutrient: Zinc Chelate (fertigate) - Farm Gate		10 kg/ha	12.00 \$/kg	\$120 /ha
<b>Irrigation</b>				<b>\$666/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	27.00 \$/hr	\$216 /ha
<b>Crop Protection</b>				<b>\$1,405/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	89.32 \$/hr	\$149 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	27.00 \$/hr	\$432 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
<b>Harvesting</b>				<b>\$13,401/ha</b>
Operation: FWA Light FORM		20 hr/ha	31.78 \$/hr	\$636 /ha
Contract: Labour harvest		220 hr/ha	27.00 \$/hr	\$5,940 /ha
Contract: Labour grading & pack		150 hr/ha	27.00 \$/hr	\$4,050 /ha

Packaging: Bin Hire (RM)		100 Bins/Ha	5.00 \$/bin	\$500 /ha
Consumable: Electricity Drying	2000 20 kg/bag	2.55 kwhr/bag	0.25 \$/kwhr	\$1,275 /ha
Packaging: Bag 20kg	2000 20 kg/bag		0.50 \$/bag	\$1,000 /ha
<b>Cartage</b>				<b>\$4,088/ha</b>
Transportation: Refo pallet		40 pallets/ha	102.20 \$/pallet	\$4,088 /ha
<b>Levies</b>				<b>\$4,650/ha</b>
Commission & Levies	15 %		[INCOME]	\$4,650 /ha

**Total Variable Costs: \$27,963 /ha**  
**Gross Margin: \$3,037 /ha**

## Effect of Yield and Price on Gross Margin (\$/ha)

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$7,411	-\$5,629	-\$3,892	-\$2,200	-\$554
1,600.00	-\$5,378	-\$3,404	-\$1,489	\$366	\$2,161
1,800.00	-\$3,404	-\$1,254	\$820	\$2,819	\$4,743
2,000.00	-\$1,489	\$820	\$3,037	\$5,160	\$7,191
2,200.00	\$366	\$2,819	\$5,160	\$7,389	\$9,505
2,400.00	\$2,161	\$4,743	\$7,191	\$9,505	\$11,685
2,600.00	\$3,897	\$6,591	\$9,128	\$11,508	\$13,731

## Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$1,482	-\$1,126	-\$778	-\$440	-\$111
1,600.00	-\$1,076	-\$681	-\$298	\$73	\$432
1,800.00	-\$681	-\$251	\$164	\$564	\$949
2,000.00	-\$298	\$164	\$607	\$1,032	\$1,438
2,200.00	\$73	\$564	\$1,032	\$1,478	\$1,901
2,400.00	\$432	\$949	\$1,438	\$1,901	\$2,337
2,600.00	\$779	\$1,318	\$1,826	\$2,302	\$2,746

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# Darling Downs: Lettuce



## Pumpkin - Drip Irrigation - Plant 2016 (Darling Downs)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Pumpkin</b>			\$12,000/ha
Pumpkin	30000 kg/ha	0.40 \$/kg	\$12,000 /ha
<b>Total Income: \$12,000 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				\$121/ha
Operation: Ripper + FWA Light FORM	1 operation	0.75 hr/ha	34.33 \$/hr	\$26 /ha
Operation: Mulcher + FWA Light FORM	1 operation	1 hr/ha	33.35 \$/hr	\$33 /ha
Operation: Discing	1 operation	0.5 hr/ha	27.00 \$/hr	\$14 /ha
Operation: Rotary hoeing	1 operation	0.75 hr/ha	53.50 \$/hr	\$40 /ha
Operation: Spreader + FWA Light FORM	1 operation	4 ha/hr	32.76 \$/hr	\$8 /ha
<b>Planting</b>				\$466/ha
Seed: Pumpkin (Jap) seeds	1 operation	5000 seeds/ha	0.08 \$/seedling	\$400 /ha
Operation: planter (seed)	1 operation	2 ha/hr	131.73 \$/hr	\$66 /ha
<b>Nutrition</b>				\$892/ha
Nutrient: CK55	400 kg/ha	0.81 \$/kg		\$324 /ha
Nutrient: Potassium Nitrate	150 kg/ha	1.35 \$/kg		\$203 /ha
Nutrient: Calcium Nitrate	100 kg/ha	0.56 \$/kg		\$56 /ha
Nutrient: Urea (fertigate)	25 kg/ha	0.82 \$/kg		\$21 /ha
Nutrient: Boron & Calcium	2 kg/ha	5.86 \$/kg		\$12 /ha
Nutrient: Trace Elements	2 kg/ha	3.71 \$/kg		\$7 /ha
Labour (hours)	10 hr/ha	27.00 \$/hr		\$270 /ha
<b>Irrigation</b>				\$468/ha
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/m		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/m		\$0 /ha
Contract: Labour (hours)	4 hr/ha	27.00 \$/m		\$108 /ha
<b>Crop Protection</b>				\$547/ha
Operation: Self-propelled sprayer FORM	4 operation	6 ha/hr	89.32 \$/hr	\$60 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	1 application	1.2 L/ha	51.70 \$/L	\$62 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Glyphosate (e.g. RICO 450)	1 application	2 L/ha	6.05 \$/L	\$12 /ha
Insecticide: Bifentrin + Hydrocarbon (e.g. Talstar 250 EC)	2 application	0.24 L/ha	30.80 \$/L	\$15 /ha
Contract: Crop agronomy/protection	4 ha/hr	102.60 \$/hr		\$26 /ha
Labour (hours) pollination	2 hr/ha	27.00 \$/hr		\$54 /ha
Labour (hours)	10 hr/ha	27.00 \$/hr		\$270 /ha
<b>Harvesting</b>				\$2,831/ha
Labour (hours) picking and packing	30 hr/ha	27.00 \$/hr		\$810 /ha

Labour (hours) mulch removal		5 hr/ha	27.00 \$/hr	\$135 /ha
Packaging: Bulk octabin	30000 kg/ha	350 kg/bin	15.00 \$/bin	\$1,286 /ha
Operation: On farm cartage of octabin	30000 kg/ha		0.01 \$/kg	\$300 /ha
Operation: Cooling Hort \$/kg	30000 kg/ha		0.01 \$/kg	\$300 /ha
<b>Cartage</b>				\$3,407/ha
Transportation: Refo pallet	30000 kg/ha	900 kg/pallet	102.20 \$/pallet	\$3,407 /ha
<b>Levies</b>				\$1,800/ha
Commission & Levies	15 %		[INCOME]	\$1,800 /ha

**Total Variable Costs: \$10,531 /ha**  
**Gross Margin: \$1,469 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$2,576	-\$1,886	-\$1,213	-\$559	\$79
24,000.00	-\$1,789	-\$1,025	-\$283	\$435	\$1,130
27,000.00	-\$1,025	-\$192	\$611	\$1,384	\$2,129
30,000.00	-\$283	\$611	\$1,469	\$2,291	\$3,077
33,000.00	\$435	\$1,384	\$2,291	\$3,153	\$3,972
36,000.00	\$1,130	\$2,129	\$3,077	\$3,972	\$4,816
39,000.00	\$1,802	\$2,845	\$3,827	\$4,748	\$5,608

**Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).**

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$644	-\$471	-\$303	-\$140	\$20
24,000.00	-\$447	-\$256	-\$71	\$109	\$282
27,000.00	-\$256	-\$48	\$153	\$346	\$532
30,000.00	-\$71	\$153	\$367	\$573	\$769
33,000.00	\$109	\$346	\$573	\$788	\$993
36,000.00	\$282	\$532	\$769	\$993	\$1,204
39,000.00	\$450	\$711	\$957	\$1,187	\$1,402

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# Darling Downs: Onion- brown



## Garlic - Hand Shift Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Garlic</b>			<b>\$29,040/ha</b>
1st grade (large)	2960 kg/ha	6.00 \$/kg	\$17,760 /ha
2nd grade (medium)	2820 kg/ha	4.00 \$/kg	\$11,280 /ha
<b>Total Income:</b>			<b>\$29,040 /ha</b>

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$285/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.33 \$/hr	\$34 /ha
Operation: Rotary hoeing & bed forming + FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
<b>Planting</b>				<b>\$8,969/ha</b>
Seed: Garlic large bulbs (10 cloves/bulb)		928 kg/ha	8.00 \$/kg	\$7,424 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	114.12 \$/hr	\$114 /ha
Contract: Labour for planting		3 hr/ha	27.00 \$/hr	\$81 /ha
Contract: Labour for clove separation		50 hr/ha	27.00 \$/hr	\$1,350 /ha
<b>Nutrition</b>				<b>\$666/ha</b>
Nutrient: CK88 - Farm Gate		125 kg/ha	0.81 \$/kg	\$101 /ha
Nutrient: Urea (fertigate) - Farm Gate		60 kg/ha	0.82 \$/kg	\$49 /ha
Nutrient: Single Superphosphate - Farm Gate		400 kg/ha	0.45 \$/kg	\$180 /ha
Nutrient: Calcium Nitrate - Farm Gate		175 kg/ha	0.56 \$/kg	\$98 /ha
Nutrient: Potassium Nitrate - Farm Gate		175 kg/ha	1.36 \$/kg	\$238 /ha
<b>Irrigation</b>				<b>\$666/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	27.00 \$/hr	\$216 /ha
<b>Crop Protection</b>				<b>\$2,485/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	89.32 \$/hr	\$149 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	27.00 \$/hr	\$432 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Tontil)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
Contract: Labour for weed chipping		40 hr/ha	27.00 \$/hr	\$1,080 /ha

<b>Harvesting</b>					<b>\$11,466/ha</b>
Operation: FWA Light FORM	20 hr/ha	31.78 \$/hr			\$636 /ha
Contract: Labour harvesting	128 hr/ha	27.00 \$/hr			\$3,456 /ha
Contract: Labour for grading, topping, tailing & packing	215 hr/ha	27.00 \$/hr			\$5,805 /ha
Packaging: Bin Hire	20 Bins/ha	5.00 \$/bin			\$100 /ha
Consumable: Electricity Drying	5494 kg/ha	0.25 \$/kwhr/kg			\$343 /ha
Packaging: Cartons 10kg	5494 kg/ha	10 20 kg/ctn	2.05 \$/ctn		\$1,126 /ha
<b>Cartage</b>					<b>\$638/ha</b>
Transportation: Refo pallet	5494 kg/ha	880 kg/pallet	102.20 \$/pallet		\$638 /ha
<b>Levies</b>					<b>\$2,664/ha</b>
Commission & Levies	15 %		[INCOME]		\$2,664 /ha
<b>Total Variable Costs:</b>					<b>\$27,839 /ha</b>
<b>Gross Margin:</b>					<b>\$1,201 /ha</b>

### Effect of Yield and Price on Gross Margin (\$/ha)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
2,072.00	1,974.00	-\$9,748	-\$7,937	-\$6,153	-\$4,394	-\$2,661
2,368.00	2,256.00	-\$7,681	-\$5,648	-\$3,648	-\$1,683	\$248
2,664.00	2,538.00	-\$5,648	-\$3,401	-\$1,197	\$963	\$3,081
2,960.00	2,820.00	-\$3,648	-\$1,197	\$1,201	\$3,545	\$5,837
3,256.00	3,102.00	-\$1,683	\$963	\$3,545	\$6,063	\$8,516
3,552.00	3,384.00	\$248	\$3,081	\$5,837	\$8,516	\$11,118
3,848.00	3,666.00	\$2,145	\$5,155	\$8,075	\$10,904	\$13,644

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
2,072.00	1,974.00	-\$1,950	-\$1,587	-\$1,231	-\$879	-\$532
2,368.00	2,256.00	-\$1,536	-\$1,130	-\$730	-\$337	\$50
2,664.00	2,538.00	-\$1,130	-\$680	-\$239	\$193	\$616
2,960.00	2,820.00	-\$730	-\$239	\$240	\$709	\$1,167
3,256.00	3,102.00	-\$337	\$193	\$709	\$1,213	\$1,703
3,552.00	3,384.00	\$50	\$616	\$1,167	\$1,703	\$2,224
3,848.00	3,666.00	\$429	\$1,031	\$1,615	\$2,181	\$2,729

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# Darling Downs: Pumpkin (Jap)



Lettuce - Hand Shift Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Lettuce</b>			<b>\$36,409/ha</b>
Lettuce Domestic	3166 (62L)ctn/ha	11.50 \$/ctn	\$36,409 /ha
<b>Total Income: \$36,409 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$293/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.33 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	57.03 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	30.03 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.53 \$/hr	\$251 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.76 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,328/ha</b>
Seedlings: lettuce	50000 seeds/ha	0.09 \$/seedling		\$4,550 /ha
Contract: plant seedlings	50 hr/ha	27.00 \$/hr		\$1,350 /ha
Operation: Planting + FWA Light FORM	3.75 hr/ha	114.12 \$/hr		\$428 /ha
<b>Nutrition</b>				<b>\$1,254/ha</b>
Nutrient: CK55 - Farm Gate	600 kg/ha	0.81 \$/kg		\$486 /ha
Nutrient: Calcium Nitrate - Farm Gate	400 kg/ha	0.56 \$/kg		\$224 /ha
Nutrient: Potassium Nitrate - Farm Gate	400 kg/ha	1.36 \$/kg		\$544 /ha
<b>Irrigation</b>				<b>\$468/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/ML		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract: Labour (hours)	4 hr/ha	27.00 \$/hr		\$108 /ha
<b>Crop Protection</b>				<b>\$636/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	4 ha/hr	89.32 \$/hr	\$134 /ha
Fungicide: Mancozeb (e.g. Dithane Rainsield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	1 application	2.5 kg/ha	38.50 \$/kg	\$96 /ha
Fungicide: Iprodione (e.g. Rovral Aquaflo)	2 application	1 L/ha	34.10 \$/L	\$68 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	3 L/ha	10.73 \$/L	\$32 /ha
Insecticide: Permethrin + Hydrocarbons (e.g. Ambush)	2 application	0.02 L/ha	82.50 \$/L	\$3 /ha
Insecticide: Chlorantraniliprole (e.g. Coragen)	2 application	0.15 L/ha	880.04 \$/L	\$264 /ha
<b>Harvesting</b>				<b>\$14,437/ha</b>
Tractor: FWA Light FORM	3166 (62L)ctn/ha	500 (62L) ctn/hr	30.03 \$/hr	\$190 /ha
Contract: Picking labour	3166 (62L)ctn/ha	18 (62L)ctn/hr	27.00 \$/hr	\$4,749 /ha
Packaging: 62L Waxed box	3166 (62L)ctn/ha		2.80 \$/box	\$8,865 /ha
Processing: Cooling	3166 (62L)ctn/ha	1 application	0.20 \$/ctn	\$633 /ha
<b>Cartage</b>				<b>\$7,704/ha</b>

<b>Cartage</b>				
Transportation: Refo pallet	3166 (62L)ctn/ha	42 (62L)ctn/pallet	102.20 \$/pallet	\$7,704 /ha
<b>Levies</b>				<b>\$5,461/ha</b>
Commission & Levies	15 %		[INCOME]	\$5,461 /ha

**Total Variable Costs: \$36,581 /ha**  
**Gross Margin: -\$172 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,216.20	-\$12,444	-\$10,350	-\$8,310	-\$6,323	-\$4,390
2,532.80	-\$10,055	-\$7,737	-\$5,488	-\$3,309	-\$1,201
2,849.40	-\$7,737	-\$5,212	-\$2,776	-\$428	\$1,832
3,166.00	-\$5,488	-\$2,776	-\$172	\$2,322	\$4,706
3,482.60	-\$3,309	-\$428	\$2,322	\$4,939	\$7,424
3,799.20	-\$1,201	\$1,832	\$4,706	\$7,424	\$9,984
4,115.80	\$838	\$4,002	\$6,982	\$9,777	\$12,387

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,216.20	-\$3,111	-\$2,587	-\$2,077	-\$1,581	-\$1,098
2,532.80	-\$2,514	-\$1,934	-\$1,372	-\$827	-\$300
2,849.40	-\$1,934	-\$1,303	-\$694	-\$107	\$458
3,166.00	-\$1,372	-\$694	-\$43	\$580	\$1,177
3,482.60	-\$827	-\$107	\$580	\$1,235	\$1,856
3,799.20	-\$300	\$458	\$1,177	\$1,856	\$2,496
4,115.80	\$210	\$1,001	\$1,745	\$2,444	\$3,097

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# Darling Downs: Sweet Corn



## Sweet Corn - Drip Irrigation - Plant 2016 (Darling Downs)



### Commodities

	YIELD	PRICE	TOTAL
<b>Sweet Corn</b>			<b>\$16,500/ha</b>
Sweet Corn	1100 (18L) ctn/ha	15.00 \$/ctn	\$16,500 /ha
			<b>Total Income: \$16,500 /ha</b>

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$210/ha</b>
Operation: Discing	2 operation	0.9 hr/ha	27.00 \$/hr	\$49 /ha
Operation: Rotary hoeing	1 operation	1 hr/ha	53.50 \$/hr	\$54 /ha
Labour (hours)	4 hrs	1 hr/ha	27.00 \$/hr	\$108 /ha
<b>Planting</b>				<b>\$616/ha</b>
Seed: Sweet corn	1 application	55000 seeds/ha	0.01 \$/seeding	\$550 /ha
Operation: planter (seed)	1 operation	2 ha/hr	131.73 \$/hr	\$66 /ha
<b>Nutrition</b>				<b>\$682/ha</b>
Nutrient: MAP - Farm Gate	1 application	200 kg/ha	0.79 \$/kg	\$158 /ha
Nutrient: Urea	2 application	50 kg/ha	0.54 \$/kg	\$54 /ha
Nutrient: Solubor (foliar)	2 application	1 kg/ha	2.51 \$/kg	\$5 /ha
Nutrient: Ammonium Sulphate	1 application	40 kg/ha	0.49 \$/kg	\$20 /ha
Operation: FWA Light + Spreader FORM	1 hrs	2 ha/hr	32.76 \$/hr	\$16 /ha
Operation: Self-propelled sprayer FORM	1 operation	2 ha/hr	89.32 \$/hr	\$45 /ha
Contract: Soil analysis	4 ha/test		100.00 \$/test	\$25 /ha
Labour (hours)	3 hrs	1 hr/ha	27.00 \$/hr	\$81 /ha
Nutrient: Urea - Farm Gate	1 application	200 kg/ha	0.55 \$/kg	\$110 /ha
Nutrient: Sulphate of Potash	1 application	100 kg/ha	1.68 \$/kg	\$168 /ha
<b>Irrigation</b>				<b>\$1,259/ha</b>
Labour: laying and removing drip tape	5 hrs	1 hr/ha	27.00 \$/hr	\$135 /ha
Irrigation: Layflat 100mm	0.2 application	75 m/ha	4.00 \$/m	\$60 /ha
Irrigation: Drip tape 10mm	1 application	6600 m/ha	0.10 \$/m	\$660 /ha
Labour: Irrigation and fertigation	2 hrs	1 hr/ha	27.00 \$/hr	\$54 /ha
Irrigation: Drip (FORM)	5 ML/ha		50.00 \$/ML	\$250 /ha
Consumable: Water	5 ML/ha		20.00 \$/ML	\$100 /ha
Irrigation: Water License	0 ML/ha		100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$917/ha</b>
Operation: Self-propelled sprayer FORM	7 operation	2 ha/hr	89.32 \$/hr	\$313 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTan WG)	2 application	0.75 L/ha	67.76 \$/L	\$102 /ha
Insecticide: Nucleopolydihydrovirus (NPV) (e.g. Vivus Max)	2 application	0.2 L/ha	129.80 \$/L	\$52 /ha
Insecticide: Spinetoram (e.g. Success Neo)	2 application	0.4 L/ha	391.64 \$/L	\$313 /ha
Labour (hours)	3 hrs	1 hr/ha	27.00 \$/hr	\$81 /ha
Contract: Crop agronomy/protection	1 application	4 ha/hr	102.60 \$/hr	\$26 /ha
<b>Harvesting</b>				<b>\$4,844/ha</b>
Harvester: Sweet corn (4 row)	1100 (18L) ctn/ha	150 ctn/hr	152.43 \$/hr	\$1 118 /ha

Packaging: 18L Styros	1100 (18L) ctn/ha		1.50 \$/(18L) ctn	\$1,650 /ha
Labour: packing	1100 (18L) ctn/ha	22 (18L) ctn/hr	27.00 \$/hr	\$1,350 /ha
Processing: Cooling styros	1100 (18L) ctn/ha		0.20 \$/(18L) ctn	\$220 /ha
Packing: machine labour	1100 (18L) ctn/ha	75 (18L) ctn/hr	27.00 \$/hr	\$396 /ha
Operation: On farm cartage of styros	1100 (18L) ctn/ha		0.10 \$/(18L) ctn	\$110 /ha
<b>Cartage</b>				<b>\$1,757/ha</b>
Freight (to Brisbane)	1100 (18L) ctn/ha	64 (18L) ctn/pallet	102.20 \$/pallet	\$1,757 /ha
<b>Levies</b>				<b>\$2,475/ha</b>
Commission, Levies: sweet corn	15 %		[INCOME]	\$2,475 /ha

**Total Variable Costs: \$12,759 /ha**  
**Gross Margin: \$3,741 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$1,820	-\$871	\$53	\$954	\$1,830
880.00	-\$738	\$313	\$1,332	\$2,319	\$3,275
990.00	\$313	\$1,457	\$2,561	\$3,625	\$4,649
<b>1,100.00</b>	<b>\$1,332</b>	<b>\$2,561</b>	<b>\$3,741</b>	<b>\$4,871</b>	<b>\$5,952</b>
1,210.00	\$2,319	\$3,625	\$4,871	\$6,057	\$7,184
1,320.00	\$3,275	\$4,649	\$5,952	\$7,184	\$8,344
1,430.00	\$4,199	\$5,633	\$6,983	\$8,250	\$9,433

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$364	-\$174	\$11	\$191	\$366
880.00	-\$148	\$63	\$266	\$464	\$655
990.00	\$63	\$291	\$512	\$725	\$930
<b>1,100.00</b>	<b>\$266</b>	<b>\$512</b>	<b>\$748</b>	<b>\$974</b>	<b>\$1,190</b>
1,210.00	\$464	\$725	\$974	\$1,211	\$1,437
1,320.00	\$655	\$930	\$1,190	\$1,437	\$1,669
1,430.00	\$840	\$1,127	\$1,397	\$1,650	\$1,887

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# Goondiwindi (Inglewood) Gross Margins 2016

## Goondiwindi: Irrigated Cotton



Cotton - Surface irrigated - Plant 2016 (Goondiwindi)



Commodities

	YIELD	PRICE	TOTAL
<b>Cotton</b>			<b>\$6,444/ha</b>
Lint	12 bales/ha	480.00 \$/bale	\$5,760 /ha
Seed	3.6 t/ha	190.00 \$/tonne	\$684 /ha
<b>Total Income: \$6,444 /ha</b>			

Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$65/ha</b>
Operation: Mulcher + FWA Light FORM	1 operation	12 ha/hr	33.14 \$/hr	\$3 /ha
Middlebusting	1 operation	6 ha/hr	34.82 \$/hr	\$6 /ha
Operation: Self-propelled sprayer FORM	2 operation	12 ha/hr	90.36 \$/hr	\$15 /ha
Herbicide: Glyphosate 450 CT	1 application	1.6 L/ha	6.05 \$/L	\$10 /ha
Herbicide: Trifluralin	1 application	2.8 L/ha	9.63 \$/L	\$27 /ha
Operation: Discing	1 operation	6 ha/hr	27.00 \$/hr	\$5 /ha
<b>Planting</b>				<b>\$487/ha</b>
Operation: planter (seed)	1 operation	10 ha/hr	132.35 \$/hr	\$13 /ha
Seed: Cotton	13 kg/ha	8.00 \$/kg		\$104 /ha
Seed: Cotton Bollgard II fee: Opt1	1 Portion		370.00 \$/ha	\$370 /ha
<b>Nutrition</b>				<b>\$365/ha</b>
Nutrient: Granulock Z	100 kg/ha	0.87 \$/kg		\$87 /ha
Operation: Spreader + FWA Light FORM	1 operation	12 ha/hr	32.55 \$/hr	\$3 /ha
Nutrient: Anhydrous ammonia	122 kg/ha	0.98 \$/kg		\$120 /ha
Operation: Side Dressing Fertiliser	1 operation	10 ha/hr	74.17 \$/hr	\$7 /ha
Nutrient: Urea - Farm Gate	1 application	260 kg/ha	0.57 \$/kg	\$148 /ha
<b>Crop Protection</b>				<b>\$163/ha</b>
Operation: Self-propelled sprayer FORM	5 operation	12 ha/hr	90.36 \$/hr	\$38 /ha
Herbicide: Roundup Ready	2 application	1.2 kg/ha	8.00 \$/kg	\$19 /ha
Insecticide: Fipronil	2 application	0.06 L/ha	350.00 \$/L	\$42 /ha
Herbicide: Roundup Ready	1 application	0.6 kg/ha	8.00 \$/kg	\$5 /ha
Aerial Spray	1 application		14.37 \$/ha	\$14 /ha
Insecticide: Indoxacarb	1 application	0.65 L/ha	69.15 \$/L	\$45 /ha
<b>Irrigation</b>				<b>\$360/ha</b>
Irrigation: Surface (FORM)	8 ML/ha	25.00 \$/ML		\$200 /ha
Consumable: Water	8 ML/ha	20.00 \$/ML		\$160 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
<b>Harvesting</b>				<b>\$258/ha</b>
Plastic Wrap: Cotton Bale	10 bales/ha	8.80 \$/bale		\$88 /ha
Aerial Spray	2 operation		14.37 \$/ha	\$29 /ha
Defoliant: Thiadazu	1 application	0.25 L/ha	52.75 \$/L	\$13 /ha
Defoliant: Crop Oil	1 application	2 L/ha	3.91 \$/L	\$8 /ha
Defoliant: Ethepon	1 application	1.5 L/ha	9.33 \$/L	\$14 /ha
Defoliant: Ethepon	1 application	2 L/ha	9.33 \$/L	\$19 /ha

Harvester: Cotton Round Bale	7 ha/hr	276.34 \$/hr	\$39 /ha
Round Bale Grab: Cotton	12 bales/ha	4.00 \$/bale	\$48 /ha
<b>Other</b>			<b>\$188/ha</b>
Crop insurance	1 %	[INCOME]	\$58 /ha
Contract: Consultant Irrigated Broadacre		65.20 \$/ha	\$65 /ha
R&D Levy	12 bales/ha	2.25 \$/bale	\$27 /ha
Voluntary Levy	12 bales/ha	1.50 \$/bale	\$18 /ha
5% Pigeon Pea Refuge		19.95 \$/ha	\$20 /ha
<b>Post-Harvest</b>			<b>\$745/ha</b>
Cartage: Cotton	12 bales/ha	8.70 \$/bale	\$104 /ha
Ginning	12 bales/ha	53.35 \$/bale	\$640 /ha

**Total Variable Costs: \$2,630 /ha**  
**Gross Margin: \$3,814 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$1,018	\$1,464	\$1,910	\$2,355	\$2,800
9.60	2.88	\$1,528	\$2,037	\$2,546	\$3,054	\$3,561
10.80	3.24	\$2,037	\$2,609	\$3,180	\$3,751	\$4,320
12.00	3.60	\$2,546	\$3,180	\$3,814	\$4,446	\$5,077
13.20	3.96	\$3,054	\$3,751	\$4,446	\$5,140	\$5,833
14.40	4.32	\$3,561	\$4,320	\$5,077	\$5,833	\$6,587
15.60	4.68	\$4,067	\$4,888	\$5,707	\$6,525	\$7,340

Effects of Yield and Price on Gross Margin per ML (assuming 8.0ML/ha is used).

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$127	\$183	\$239	\$294	\$350
9.60	2.88	\$191	\$255	\$318	\$382	\$445
10.80	3.24	\$255	\$326	\$398	\$469	\$540
12.00	3.60	\$318	\$398	\$477	\$556	\$635
13.20	3.96	\$382	\$469	\$556	\$643	\$729
14.40	4.32	\$445	\$540	\$635	\$729	\$823
15.60	4.68	\$508	\$611	\$713	\$816	\$918

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# Goondiwindi: Broccoli



## Broccoli - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



### Commodities

	YIELD	PRICE	TOTAL
<b>Broccoli</b>			<b>\$27,200/ha</b>
Broccoli	1700 8 kg/styro	16.00 \$/styro	\$27,200 /ha
<b>Total Income: \$27,200 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$180/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	1 ha/hr	34.12 \$/hr	\$34 /ha
Contract: Labour (hours)	4 hr/ha		28.35 \$/hr	\$113 /ha
Operation: Spreader + FWA Light FORM	1 operation	1 ha/hr	32.55 \$/hr	\$33 /ha
<b>Planting</b>				<b>\$6,282/ha</b>
Seedlings: Broccoli	1 application	50000 plants/ha	0.08 \$/plant	\$4,150 /ha
Operation: Planting + FWA Light FORM	1 operation	3.75 hr/ha	115.05 \$/hr	\$431 /ha
Contract: Labour (hours)	60 hr/ha		28.35 \$/hr	\$1,701 /ha
<b>Nutrition</b>				<b>\$1,116/ha</b>
Nutrient: Calcium Nitrate - Farm Gate	4 application	100 kg/ha	0.58 \$/kg	\$232 /ha
Nutrient: Potassium Nitrate - Farm Gate	4 application	100 kg/ha	1.38 \$/kg	\$552 /ha
Nutrient: CK55 - Farm Gate	1 application	400 kg/ha	0.83 \$/kg	\$332 /ha
<b>Irrigation</b>				<b>\$237/ha</b>
Irrigation: Hand Shift (FORM)		2 ML/ha	70.00 \$/ML	\$140 /ha
Consumable: Water		2 ML/ha	20.00 \$/ML	\$40 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	28.35 \$/hr	\$57 /ha
<b>Crop Protection</b>				<b>\$902/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	90.36 \$/hr	\$90 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	2 application	0.5 L/ha	51.70 \$/L	\$52 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	3 application	0.1 L/ha	870.72 \$/L	\$261 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
Herbicide: Trifluralin + Hydrocarbon (e.g. Trifluralin 480 EC)	1 application	2 L/ha	9.63 \$/L	\$19 /ha
Insecticide: Emamectin Benzoate (e.g. Proclaim)	2 application	0.3 kg/ha	399.67 \$/kg	\$240 /ha
Contract: Crop agronomy/protection		4 ha/hr	107.73 \$/hr	\$27 /ha
Contract: Labour (hours)		3 hr/ha	28.35 \$/hr	\$85 /ha
<b>Harvesting</b>				<b>\$12,469/ha</b>
Contract: Labour picking	1700 8 kg/styro	15 styro/hr	28.35 \$/hr	\$3,213 /ha
Contract: Labour packing machine labour	1700 8 kg/styro	15 styro/hr	28.35 \$/hr	\$3,213 /ha
Packaging: 8kg Styros	1700 8 kg/styro		2.50 \$/ctn	\$4,250 /ha
Operation: On farm cartage of styros	1700 8 kg/styro		0.10 \$/ctn	\$178 /ha
Processing: Cooling styros	1700 8 kg/styro		0.20 \$/ctn	\$340 /ha

Processing: Ice for styros	1700 8 kg/styro		0.75 \$/ctn	\$1,275 /ha
<b>Cartage</b>				<b>\$3,172/ha</b>
Transportation: Refo pallet	1 (36L) ctn/ha	56 (36L) ctn/pallet	104.50 \$/pallet	\$3,172 /ha
<b>Levies</b>				<b>\$4,080/ha</b>
Commission & Levies	15 %		[INCOME]	\$4,080 /ha
<b>Total Variable Costs: \$28,439 /ha</b>				
<b>Gross Margin: -\$1,239 /ha</b>				

### Effect of Yield and Price on Gross Margin (\$/ha)

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$10,406	-\$8,842	-\$7,318	-\$5,834	-\$4,390
1,360.00	-\$8,622	-\$6,890	-\$5,210	-\$3,582	-\$2,007
1,530.00	-\$6,890	-\$5,004	-\$3,184	-\$1,430	\$258
1,700.00	-\$5,210	-\$3,184	-\$1,239	\$624	\$2,406
1,870.00	-\$3,582	-\$1,430	\$624	\$2,580	\$4,436
2,040.00	-\$2,007	\$258	\$2,406	\$4,436	\$6,349
2,210.00	-\$484	\$1,880	\$4,106	\$6,194	\$8,144

### Effects of Yield and Price on Gross Margin per ML (assuming 2.0ML/ha is used).

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,190.00	-\$5,203	-\$4,421	-\$3,659	-\$2,917	-\$2,195
1,360.00	-\$4,311	-\$3,445	-\$2,605	-\$1,791	-\$1,004
1,530.00	-\$3,445	-\$2,502	-\$1,592	-\$715	\$129
1,700.00	-\$2,605	-\$1,592	-\$619	\$312	\$1,203
1,870.00	-\$1,791	-\$715	\$312	\$1,290	\$2,218
2,040.00	-\$1,004	\$129	\$1,203	\$2,218	\$3,174
2,210.00	-\$242	\$940	\$2,053	\$3,097	\$4,072

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# Goondiwindi: Cabbage (drumhead for processing)



Cabbage (Drumhead for processing) - 500kg Bins (Contract) - Plant 2016 (Goondiwindi)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Cabbage (Drumhead for processing)</b>			<b>\$24,225/ha</b>
Cabbage	323 Bins/Ha	75.00 \$/bin	\$24,225 /ha
<b>Total Income: \$24,225 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.12 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.82 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 ha/hr	29.82 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming+ FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.55 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$4,307/ha</b>
Seedlings: Cabbage	1 application	40000 plants/ha	0.07 \$/plant	\$2,600 /ha
Contract: Plant seedlings	1 application	45 hr/ha	28.35 \$/hr	\$1,276 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	115.05 \$/hr	\$431 /ha
<b>Nutrition</b>				<b>\$616/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.83 \$/hr	\$415 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.58 \$/hr	\$116 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.85 \$/hr	\$85 /ha
<b>Irrigation</b>				<b>\$417/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	28.35 \$/hr	\$57 /ha
<b>Crop Protection</b>				<b>\$461/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	90.36 \$/hr	\$90 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Metbacthor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	2 application	0.1 L/ha	870.72 \$/L	\$174 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
<b>Harvesting</b>				<b>\$7,159/ha</b>
Operation: Tractor / Trailer		5 hr/ha	31.57	\$158 /ha
Contract: Labour Picking	323 Bins/Ha	0.5 hrs/bin	28.35 \$/hr	\$4,579 /ha
Packaging: Bin Hire	323 Bins/Ha	0.5 Bins hired/Bin	5.00 \$/bin	\$808 /ha
Operation: Cooling Hort \$/kg	323 Bins/Ha	500 kg/bin	0.01 \$/kg	\$1,615 /ha
<b>Cartage</b>				<b>\$11,251/ha</b>
Transportation: Refo pallet	323 Bins/Ha	3 bins/pallet	104.50 \$/pallet	\$11,251 /ha
<b>Levies</b>				<b>\$606/ha</b>

Commission & Levies	2.5 %	[INCOME]	\$606 /ha
<b>Total Variable Costs: \$25,109 /ha</b>			
<b>Gross Margin: -\$884 /ha</b>			

Effect of Yield and Price on Gross Margin (\$/ha)

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
226.10	-\$11,127	-\$9,482	-\$7,843	-\$6,209	-\$4,582
258.40	-\$9,247	-\$7,375	-\$5,511	-\$3,654	-\$1,806
290.70	-\$7,375	-\$5,279	-\$3,191	-\$1,114	\$953
323.00	-\$5,511	-\$3,191	-\$884	\$1,411	\$3,694
355.30	-\$3,654	-\$1,114	\$1,411	\$3,922	\$6,418
387.60	-\$1,806	\$953	\$3,694	\$6,418	\$9,125
419.90	\$36	\$3,011	\$5,966	\$8,900	\$11,814

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
226.10	-\$2,782	-\$2,371	-\$1,961	-\$1,552	-\$1,145
258.40	-\$2,312	-\$1,844	-\$1,378	-\$914	-\$451
290.70	-\$1,844	-\$1,320	-\$798	-\$279	\$238
323.00	-\$1,378	-\$798	-\$221	\$353	\$924
355.30	-\$914	-\$279	\$353	\$981	\$1,605
387.60	-\$451	\$238	\$924	\$1,605	\$2,281
419.90	\$9	\$753	\$1,491	\$2,225	\$2,953

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# Goondiwindi: Carrots



## Carrots - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Carrots</b>			<b>\$14,250/ha</b>
Carrots 1st Grade	1425 (20kg) ctn/ha	8.00 \$/ctn	\$11,400 /ha
Carrots 2nd Grade	475 (20kg) bags/ha	6.00 \$/bag	\$2,850 /ha
<b>Total Income: \$14,250 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$291/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.12 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.82 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.82 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	5 ha/hr	32.55 \$/hr	\$7 /ha
<b>Planting</b>				<b>\$2,815/ha</b>
Seed: Carrot	1 application	3 kg/ha	900.00 \$/kg	\$2,700 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 ha/hr	115.05 \$/hr	\$115 /ha
<b>Nutrition</b>				<b>\$572/ha</b>
Nutrient: CK55 - Farm Gate	1 application	500 kg/ha	0.83 \$/kg	\$415 /ha
Nutrient: Urea (fertigate) - Farm Gate	1 application	125 kg/ha	0.85 \$/kg	\$107 /ha
Nutrient: Solubor (foliar) - Farm Gate	2 application	10 kg/ha	2.53 \$/kg	\$51 /ha
<b>Irrigation</b>				<b>\$473/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Contract: Labour (hours)		4 hr/ha	28.35 \$/hr	\$113 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$621/ha</b>
Operation: Shielded Sprayer + FWA Light FORM	6 operation	6 ha/hr	33.82 \$/hr	\$34 /ha
Herbicide: Glyphosate (e.g. ERICO 450)	1 application	3 kg/ha	6.05 \$/L	\$18 /ha
Herbicide: Lorox (Linuron)	2 application	2.3 L/ha	45.65 \$/L	\$210 /ha
Insecticide: Chlorpyrifos 500 EC	1 application	0.6 kg/ha	20.00 \$/L	\$12 /ha
Insecticide: Dimethoate + hydrocarbons (e.g. Dimethoate Nufam)	2 application	0.75 L/ha	11.00 \$/L	\$17 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Vapam	1 application	225 L/ha	1.30 \$/kg	\$293 /ha
<b>Harvesting</b>				<b>\$4,483/ha</b>
Operation: Lifting FORM		10 hr/ha	83.32 \$/hr	\$833 /ha
Contract: Labour Picking	1900 (20kg) units	250 (20kg) units/hr	28.35 \$/hr	\$215 /ha
Operation: Tractor / Trailer	1900 (20kg) units	500 (20kg) units/hr	31.57 \$/hr	\$120 /ha
Operation: Washing Carrots	1900 (20kg) units	100 (20kg) units/hr	28.60 \$/hr	\$543 /ha
Contract: Labour grading	1900 (20kg) units	500 (20kg) units/hr	28.35 \$/hr	\$108 /ha
Contract: Labour packing	1900 (20kg) units	200 (20kg) units/hr	28.35 \$/hr	\$269 /ha

Packaging: Bin Hire	1900 (20kg) units	500 (20kg) units/bin	5.00 \$/bin	\$19 /ha
Packaging: (20kg) Carton	1425 (20kg) ctn/ha		1.50 \$/hr	\$2,138 /ha
Packaging: (20kg) Bag	475 (20kg) ctn/ha		0.50 \$/hr	\$238 /ha
<b>Cartage</b>				<b>\$1,986/ha</b>
Transportation: Refo pallet	1900 (20kg) ctn/ha	100 (20kg) ctn/pallet	104.50 \$/pallet	\$1,986 /ha
<b>Levies</b>				<b>\$1,710/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,710 /ha

**Total Variable Costs: \$12,951 /ha**  
**Gross Margin: \$1,299 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn	\$7.20/ctn	\$8.00/ctn	\$8.80/ctn	\$9.60/ctn
		\$4.80/bag	\$5.40/bag	\$6.00/bag	\$6.60/bag	\$7.20/bag
997.50	332.50	-\$3,797	-\$2,942	<b>-\$2,104</b>	-\$1,282	-\$477
1,140.00	380.00	-\$2,821	-\$1,867	-\$935	-\$25	\$863
1,282.50	427.50	-\$1,867	-\$820	\$199	\$1,191	\$2,155
1,425.00	475.00	-\$935	\$199	<b>\$1,299</b>	<b>\$2,365</b>	<b>\$3,397</b>
1,567.50	522.50	-\$25	\$1,191	<b>\$2,365</b>	\$3,498	\$4,590
1,710.00	570.00	\$863	\$2,155	<b>\$3,397</b>	\$4,590	\$5,733
1,852.50	617.50	\$1,730	\$3,091	<b>\$4,394</b>	\$5,640	\$6,828

**Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).**

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn	\$7.20/ctn	\$8.00/ctn	\$8.80/ctn	\$9.60/ctn
		\$4.80/bag	\$5.40/bag	\$6.00/bag	\$6.60/bag	\$7.20/bag
997.50	332.50	-\$949	-\$736	-\$526	-\$321	-\$119
1,140.00	380.00	-\$705	-\$467	-\$234	-\$6	\$216
1,282.50	427.50	-\$467	-\$205	\$50	\$298	\$539
1,425.00	475.00	-\$234	\$50	<b>\$325</b>	<b>\$591</b>	<b>\$849</b>
1,567.50	522.50	-\$6	\$298	<b>\$591</b>	\$875	\$1,147
1,710.00	570.00	\$216	\$539	<b>\$849</b>	\$1,147	\$1,433
1,852.50	617.50	\$432	\$773	<b>\$1,099</b>	\$1,410	\$1,707

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# Goondiwindi: Cauliflower



## Cauliflower - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cauliflower</b>			<b>\$32,481/ha</b>
Cauliflower Domestic	2406 (72L) ctn/ha	13.50 \$/ctn	\$32,481 /ha
<b>Total Income: \$32,481 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.12 \$/hr	\$34 /ha
Operation: Discing	0 application	2 ha/hr	27.00 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 hr/ha	29.82 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.55 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$7,067/ha</b>
Seedlings: Cauliflower	1 application	40000 plants/ha	0.13 \$/plant	\$5,360 /ha
Contract: Plant seedlings	1 application	45 hr/ha	28.35 \$/hr	\$1,276 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	115.05 \$/hr	\$431 /ha
<b>Nutrition</b>				<b>\$616/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.83 \$/kg	\$415 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.58 \$/kg	\$116 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.85 \$/kg	\$85 /ha
<b>Irrigation</b>				<b>\$473/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		4 hr/ha	28.35 \$/hr	\$113 /ha
<b>Crop Protection</b>				<b>\$722/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	90.36 \$/hr	\$90 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	2 L/ha	10.73 \$/L	\$21 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	6 application	0.75 kg/ha	67.76 \$/kg	\$305 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	1 application	0.1 L/ha	870.72 \$/L	\$87 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	2 application	1.6 L/ha	64.79 \$/L	\$207 /ha
<b>Harvesting</b>				<b>\$12,394/ha</b>
Tractor: FWA Light FORM	2406 (72L) ctn/ha	500 (36L) ctn/hr	29.82 \$/hr	\$143 /ha
Contract: Labour Picking	2406 (72L) ctn/ha	15 (72kg) ctn/hr	28.35 \$/hr	\$4,547 /ha
Operation: Pallet hire	2406 (72L) ctn/ha	36 crts/pallet	0.06 \$/pallet	\$4 /ha
Packaging: 72L Styros	2406 (72L) ctn/ha		3.00 \$/carton	\$7,218 /ha
Processing: Cooling	2406 (72L) ctn/ha		0.20 \$(/72L) ctn	\$481 /ha
<b>Cartage</b>				<b>\$6,984/ha</b>
Transportation: Refr pallet	2406 (72L) ctn/ha	36 (72L) ctn/pallet	104.50 \$/pallet	\$6,984 /ha

Levies			\$4,872/ha
Commission & Levies	15 %	[INCOME]	\$4,872 /ha
<b>Total Variable Costs: \$33,422 /ha</b>			
<b>Gross Margin: -\$941 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,684.20	-\$11,888	-\$10,020	-\$8,200	-\$6,428	-\$4,703
1,924.80	-\$9,757	-\$7,689	-\$5,683	-\$3,739	-\$1,858
2,165.40	-\$7,689	-\$5,436	-\$3,263	-\$1,168	\$847
2,406.00	-\$5,683	-\$3,263	-\$941	\$1,284	\$3,412
2,646.60	-\$3,739	-\$1,168	\$1,284	\$3,619	\$5,836
2,887.20	-\$1,858	\$847	\$3,412	\$5,836	\$8,120
3,127.80	-\$39	\$2,784	\$5,442	\$7,935	\$10,264

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,684.20	-\$2,972	-\$2,505	-\$2,050	-\$1,607	-\$1,176
1,924.80	-\$2,439	-\$1,922	-\$1,421	-\$935	-\$464
2,165.40	-\$1,922	-\$1,359	-\$816	-\$292	\$212
2,406.00	-\$1,421	-\$816	-\$235	\$321	\$853
2,646.60	-\$935	-\$292	\$321	\$905	\$1,459
2,887.20	-\$464	\$212	\$853	\$1,459	\$2,030
3,127.80	-\$10	\$696	\$1,360	\$1,984	\$2,566

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# Goondiwindi: Garlic



## Garlic - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



### Commodities

	YIELD	PRICE	TOTAL
<b>Garlic</b>			<b>\$29,040/ha</b>
1st grade (large)	2960 kg/ha	6.00 \$/kg	\$17,760 /ha
2nd grade (medium)	2820 kg/ha	4.00 \$/kg	\$11,280 /ha
<b>Total Income: \$29,040 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$284/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.12 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
<b>Planting</b>				<b>\$9,042/ha</b>
Seed: Garlic large bulbs (10 cloves/bulb)	928 kg/ha	8.00 \$/kg	\$7,424 /ha	
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	115.05 \$/hr	\$115 /ha
Contract: Labour for planting	3 hr/ha	28.35 \$/hr	\$85 /ha	
Contract: Labour for clove separation	50 hr/ha	28.35 \$/hr	\$1,417 /ha	
<b>Nutrition</b>				<b>\$678/ha</b>
Nutrient: CK88 - Farm Gate	125 kg/ha	0.83 \$/kg	\$104 /ha	
Nutrient: Urea (fertigate) - Farm Gate	60 kg/ha	0.85 \$/kg	\$51 /ha	
Nutrient: Single Superphosphate - Farm Gate	400 kg/ha	0.45 \$/kg	\$180 /ha	
Nutrient: Calcium Nitrate - Farm Gate	175 kg/ha	0.58 \$/kg	\$102 /ha	
Nutrient: Potassium Nitrate - Farm Gate	175 kg/ha	1.38 \$/kg	\$241 /ha	
<b>Irrigation</b>				<b>\$677/ha</b>
Irrigation: Hand Shift (FORM)	5 ML/ha	70.00 \$/ML	\$350 /ha	
Consumable: Water	5 ML/ha	20.00 \$/ML	\$100 /ha	
Irrigation: Water License	0 ML/ha	100.00 \$/ML	\$0 /ha	
Contract: Labour (hours)	8 hr/ha	28.35 \$/hr	\$227 /ha	
<b>Crop Protection</b>				<b>\$2,563/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	90.36 \$/hr	\$151 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	28.35 \$/hr	\$454 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	107.73 \$/hr	\$27 /ha
Contract: Labour for weed chipping	40 hr/ha	28.35 \$/hr	\$1,134 /ha	

<b>Harvesting</b>				<b>\$11,925/ha</b>
Operation: FWA Light FORM	20 hr/ha	31.57 \$/hr		\$631 /ha
Contract: Labour harvesting	128 hr/ha	28.35 \$/hr		\$3,629 /ha
Contract: Labour for grading, topping, tailing & packing	215 hr/ha	28.35 \$/hr		\$6,095 /ha
Packaging: Bin Hire	20 Bins/ha	5.00 \$/bin		\$100 /ha
Consumable: Electricity Drying	5494 kg/ha	0.25 kw/hr/kg	0.25 \$/kwhr	\$343 /ha
Packaging: Cartons 10kg	5494 kg/ha	10 20 kg/ctn	2.05 \$/ctn	\$1,126 /ha
<b>Cartage</b>				<b>\$652/ha</b>
Transportation: Refo pallet	5494 kg/ha	880 kg/pallet	104.50 \$/pallet	\$652 /ha
<b>Levies</b>				<b>\$2,664/ha</b>
Commission & Levies	15 %		[INCOME]	\$2,664 /ha
<b>Total Variable Costs: \$28,485 /ha</b>				
<b>Gross Margin: \$555 /ha</b>				

### Effect of Yield and Price on Gross Margin (\$/ha)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg		\$5.40/kg		\$6.00/kg		\$6.60/kg		\$7.20/kg	
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg	\$5.20/kg	\$5.60/kg	\$6.00/kg	\$6.40/kg	\$6.80/kg
2,072.00	1,974.00	-10,394	-\$8,583	-\$6,799	-\$5,040	-\$3,307					
2,368.00	2,256.00	-\$8,327	-\$6,293	-\$4,294	-\$2,329	-\$398					
2,664.00	2,538.00	-\$6,293	-\$4,047	-\$1,843	-\$317	-\$2435					
2,960.00	2,820.00	-\$4,294	-\$1,843	\$555	\$2,899	\$5,191					
3,256.00	3,102.00	-\$2,329	\$317	\$2,899	\$5,417	\$7,870					
3,552.00	3,384.00	-\$398	\$2,435	\$5,191	\$7,870	\$10,472					
3,848.00	3,666.00	\$1,499	\$4,509	\$7,429	\$10,258	\$12,998					

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg		\$5.40/kg		\$6.00/kg		\$6.60/kg		\$7.20/kg	
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg	\$5.20/kg	\$5.60/kg	\$6.00/kg	\$6.40/kg	\$6.80/kg
2,072.00	1,974.00	-\$2,079	-\$1,717	-\$1,360	-\$1,008	-\$661					
2,368.00	2,256.00	-\$1,665	-\$1,259	-\$859	-\$466	-\$80					
2,664.00	2,538.00	-\$1,259	-\$809	-\$369	\$63	\$487					
2,960.00	2,820.00	-\$859	-\$369	\$111	\$580	\$1,038					
3,256.00	3,102.00	-\$466	\$63	\$580	\$1,083	\$1,574					
3,552.00	3,384.00	-\$80	\$487	\$1,038	\$1,574	\$2,094					
3,848.00	3,666.00	\$300	\$902	\$1,486	\$2,052	\$2,600					

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# Goondiwindi: Lettuce



Lettuce - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Lettuce</b>			<b>\$34,592/ha</b>
Lettuce Domestic	3008 (62L)ctn/ha	11.50 \$/ctn	\$34,592 /ha
<b>Total Income: \$34,592 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.12 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.82 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.82 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.55 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,399/ha</b>
Seedlings: lettuce	50000 seeds/ha	0.09 \$/seedling		\$4,550 /ha
Contract: plant seedlings	50 hr/ha	28.35 \$/hr		\$1,417 /ha
Operation: Planting + FWA Light FORM	3.75 hr/ha	115.05 \$/hr		\$431 /ha
<b>Nutrition</b>				<b>\$1,282/ha</b>
Nutrient: CK55 - Farm Gate	600 kg/ha	0.83 \$/kg		\$498 /ha
Nutrient: Calcium Nitrate - Farm Gate	400 kg/ha	0.58 \$/kg		\$232 /ha
Nutrient: Potassium Nitrate - Farm Gate	400 kg/ha	1.38 \$/kg		\$552 /ha
<b>Irrigation</b>				<b>\$473/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/ML		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract: Labour (hours)	4 hr/ha	28.35 \$/hr		\$113 /ha
<b>Crop Protection</b>				<b>\$637/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	4 ha/hr	90.36 \$/hr	\$136 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	1 application	2.5 kg/ha	38.50 \$/kg	\$96 /ha
Fungicide: Iprodione (e.g. Rovral Aquaflo)	2 application	1 L/ha	34.10 \$/L	\$68 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	3 L/ha	10.73 \$/L	\$32 /ha
Insecticide: Permethrin + Hydrocarbons (e.g. Ambush)	2 application	0.02 L/ha	82.50 \$/L	\$3 /ha
Insecticide: Chlorantraniliprole (e.g. Coragen)	2 application	0.15 L/ha	880.04 \$/L	\$264 /ha
<b>Harvesting</b>				<b>\$13,941/ha</b>
Tractor: FWA Light FORM	3008 (62L)ctn/ha	500 (62L) ctn/hr	29.82 \$/hr	\$179 /ha
Contract: Picking labour	3008 (62L)ctn/ha	18 (62L)ctn/hr	28.35 \$/hr	\$4,738 /ha
Packaging: 62L Waxed box	3008 (62L)ctn/ha		2.80 \$/box	\$8,422 /ha
Processing: Cooling	3008 (62L)ctn/ha	1 application	0.20 \$/ctn	\$602 /ha
<b>Cartage</b>				<b>\$7,484/ha</b>

Category	3008 (62L)ctn/ha	42 (62L)ctn/pallet	104.50 \$/pallet	
Transportation: Refo pallet				\$7,484 /ha
<b>Levies</b>				<b>\$5,189/ha</b>
Commission & Levies	15 %		[INCOME]	\$5,189 /ha

**Total Variable Costs: \$35,698 /ha**  
**Gross Margin: -\$1,106 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,105.60	-\$12,765	-\$10,776	-\$8,837	-\$6,950	-\$5,113
2,406.40	-\$10,496	-\$8,293	-\$6,156	-\$4,086	-\$2,083
2,707.20	-\$8,293	-\$5,894	-\$3,579	-\$1,349	\$798
3,008.00	-\$6,156	-\$3,579	-\$1,106	\$1,264	\$3,529
3,308.80	-\$4,086	-\$1,349	\$1,264	\$3,750	\$6,111
3,609.60	-\$2,083	\$798	\$3,529	\$6,111	\$8,544
3,910.40	-\$146	\$2,861	\$5,691	\$8,347	\$10,827

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,105.60	-\$3,191	-\$2,694	-\$2,209	-\$1,737	-\$1,278
2,406.40	-\$2,624	-\$2,073	-\$1,539	-\$1,022	-\$521
2,707.20	-\$2,073	-\$1,474	-\$895	-\$337	\$199
3,008.00	-\$1,539	-\$895	-\$276	\$316	\$882
3,308.80	-\$1,022	-\$337	\$316	\$938	\$1,528
3,609.60	-\$521	\$199	\$882	\$1,528	\$2,136
3,910.40	-\$36	\$715	\$1,423	\$2,087	\$2,707

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# Goondiwindi: Onion- brown



Onions - Brown - Hand Shift Irrigation - Plant 2016 (Goondiwindi)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Onions - Brown</b>			<b>\$31,000/ha</b>
Onions 1st and 2nd grade	2000 20 kg/bag	15.50 \$/bag	\$31,000 /ha
<b>Total Income: \$31,000 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$284/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.12 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.32 \$/hr	\$250 /ha
<b>Planting</b>				<b>\$2,214/ha</b>
Seed: Onions	1 application	1.9 kg/ha	1060.00 \$/kg	\$2,014 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	115.05 \$/hr	\$115 /ha
Contract Labour (hours)	3 hr/ha	28.35 \$/hr		\$85 /ha
<b>Nutrition</b>				<b>\$1,296/ha</b>
Nutrient: CK88 - Farm Gate	800 kg/ha	0.83 \$/kg		\$664 /ha
Nutrient: Urea (fertigate) - Farm Gate	600 kg/ha	0.85 \$/kg		\$512 /ha
Nutrient: Zinc Chelate (fertigate) - Farm Gate	10 kg/ha	12.00 \$/kg		\$120 /ha
<b>Irrigation</b>				<b>\$677/ha</b>
Irrigation: Hand Shift (FORM)	5 ML/ha	70.00 \$/ML		\$350 /ha
Consumable: Water	5 ML/ha	20.00 \$/ML		\$100 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract Labour (hours)	8 hr/ha	28.35 \$/hr		\$227 /ha
<b>Crop Protection</b>				<b>\$1,429/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	90.36 \$/hr	\$151 /ha
Contract Labour weed chipping	1 operation	16 hr/ha	28.35 \$/hr	\$454 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract Consultant Horticulture	1 application	4 ha/hr	107.73 \$/hr	\$27 /ha
<b>Harvesting</b>				<b>\$13,896/ha</b>
Operation: FWA Light FORM	20 hr/ha	31.57 \$/hr		\$631 /ha
Contract Labour harvest	220 hr/ha	28.35 \$/hr		\$6,237 /ha
Contract Labour grading & pack	150 hr/ha	28.35 \$/hr		\$4,252 /ha

Packaging: Bin Hire (RM)	100 Bins/ha	5.00 \$/bin	\$500 /ha	
Consumable: Electricity Drying	2000 20 kg/bag	2.55 kw/hr/bag	0.25 \$/kw/hr	\$1,275 /ha
Packaging: Bag 20kg	2000 20 kg/bag	0.50 \$/bag	\$1,000 /ha	
<b>Cartage</b>			<b>\$4,180/ha</b>	
Transportation: Refo pallet	40 pallets/ha	104.50 \$/pallet	\$4,180 /ha	
<b>Levies</b>			<b>\$4,650/ha</b>	
Commission & Levies	15 %	[INCOME]	\$4,650 /ha	
<b>Total Variable Costs: \$28,626 /ha</b>				
<b>Gross Margin: \$2,374 /ha</b>				

**Effect of Yield and Price on Gross Margin (\$/ha)**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$8,074	-\$6,292	-\$4,555	-\$2,863	-\$1,217
1,600.00	-\$6,041	-\$4,067	-\$2,152	-\$297	\$1,498
1,800.00	-\$4,067	-\$1,917	\$157	\$2,156	\$4,080
<b>2,000.00</b>	<b>-\$2,152</b>	<b>\$157</b>	<b>\$2,374</b>	<b>\$4,497</b>	<b>\$6,528</b>
2,200.00	-\$297	\$2,156	\$4,497	\$6,726	\$8,842
2,400.00	\$1,498	\$4,080	\$6,528	\$8,842	\$11,022
2,600.00	\$3,234	\$5,928	\$8,465	\$10,845	\$13,068

**Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,400.00	-\$1,615	-\$1,258	-\$911	-\$573	-\$243
1,600.00	-\$1,208	-\$813	-\$430	-\$59	\$300
1,800.00	-\$813	-\$383	\$31	\$431	\$816
<b>2,000.00</b>	<b>-\$430</b>	<b>\$31</b>	<b>\$475</b>	<b>\$899</b>	<b>\$1,306</b>
2,200.00	-\$59	\$431	\$899	\$1,345	\$1,768
2,400.00	\$300	\$816	\$1,306	\$1,768	\$2,204
2,600.00	\$647	\$1,186	\$1,693	\$2,169	\$2,614

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# Goondiwindi: Pumpkin (Jap)



## Pumpkin - Drip Irrigation - Plant 2016 (Goondiwindi)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Pumpkin</b>			<b>\$12,000/ha</b>
Pumpkin	30000 kg/ha	0.40 \$/kg	\$12,000 /ha
<b>Total Income: \$12,000 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$120/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	0.75 hr/ha	34.12 \$/hr	\$26 /ha
Operation: Mulcher + FWA Light FORM	1 operation	1 hr/ha	33.14 \$/hr	\$33 /ha
Operation: Discing	1 operation	0.5 hr/ha	27.00 \$/hr	\$14 /ha
Operation: Rotary hoeing	1 operation	0.75 hr/ha	53.50 \$/hr	\$40 /ha
Operation: Spreader + FWA Light FORM	1 operation	4 ha/hr	32.55 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$466/ha</b>
Seed: Pumpkin (Jap) seeds	1 operation	5000 seeds/ha	0.08 \$/seedling	\$400 /ha
Operation: planter (seed)	1 operation	2 ha/hr	132.35 \$/hr	\$66 /ha
<b>Nutrition</b>				<b>\$916/ha</b>
Nutrient: CK55	400 kg/ha	0.83 \$/kg		\$332 /ha
Nutrient: Potassium Nitrate	150 kg/ha	1.35 \$/kg		\$203 /ha
Nutrient: Calcium Nitrate	100 kg/ha	0.58 \$/kg		\$58 /ha
Nutrient: Urea (fertigate)	25 kg/ha	0.85 \$/kg		\$21 /ha
Nutrient: Boron & Calcium	2 kg/ha	5.86 \$/kg		\$12 /ha
Nutrient: Trace Elements	2 kg/ha	3.71 \$/kg		\$7 /ha
Labour (hours)	10 hr/ha	28.35 \$/hr		\$283 /ha
<b>Irrigation</b>				<b>\$473/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/m		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/m		\$0 /ha
Contract: Labour (hours)	4 hr/ha	28.35 \$/m		\$113 /ha
<b>Crop Protection</b>				<b>\$565/ha</b>
Operation: Self-propelled sprayer FORM	4 operation	6 ha/hr	90.36 \$/hr	\$60 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	1 application	1.2 L/ha	51.70 \$/L	\$62 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Glyphosate (e.g. RICO 450)	1 application	2 L/ha	6.05 \$/L	\$12 /ha
Insecticide: Bifentrin + Hydrocarbon (e.g. Talstar 250 EC)	2 application	0.24 L/ha	30.80 \$/L	\$15 /ha
Contract: Crop agronomy/protection	4 ha/hr	107.73 \$/hr		\$27 /ha
Labour (hours) pollination	2 hr/ha	28.35 \$/hr		\$57 /ha
Labour (hours)	10 hr/ha	28.35 \$/hr		\$283 /ha
<b>Harvesting</b>				<b>\$2,893/ha</b>
Labour (hours) picking and packing	30 hr/ha	28.35 \$/hr		\$850 /ha

Labour (hours) mulch removal	5 hr/ha	28.35 \$/hr	\$142 /ha	
Packaging: Bulk octabin	30000 kg/ha	350 kg/bin	15.00 \$/bin	\$1,286 /ha
Operation: On farm cartage of octabin	30000 kg/ha		0.01 \$/kg	\$315 /ha
Operation: Cooling Hort \$/kg	30000 kg/ha		0.01 \$/kg	\$300 /ha
<b>Cartage</b>				<b>\$3,483/ha</b>
Transportation: Refo pallet	30000 kg/ha	900 kg/pallet	104.50 \$/pallet	\$3,483 /ha
<b>Levies</b>				<b>\$1,800/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,800 /ha

**Total Variable Costs: \$10,718 /ha**  
**Gross Margin: \$1,282 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$2,763	-\$2,073	-\$1,400	-\$745	-\$108
24,000.00	-\$1,975	-\$1,211	-\$470	\$248	\$943
27,000.00	-\$1,211	-\$379	\$424	\$1,198	\$1,942
30,000.00	-\$470	\$424	\$1,282	\$2,104	\$2,890
33,000.00	\$248	\$1,198	\$2,104	\$2,966	\$3,786
36,000.00	\$943	\$1,942	\$2,890	\$3,786	\$4,629
39,000.00	\$1,615	\$2,658	\$3,640	\$4,561	\$5,421

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
21,000.00	-\$691	-\$518	-\$350	-\$186	-\$27
24,000.00	-\$494	-\$303	-\$118	\$62	\$236
27,000.00	-\$303	-\$95	\$106	\$299	\$486
30,000.00	-\$118	\$106	\$320	\$526	\$722
33,000.00	\$62	\$299	\$526	\$742	\$946
36,000.00	\$236	\$486	\$722	\$946	\$1,157
39,000.00	\$404	\$664	\$910	\$1,140	\$1,355

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# Goondiwindi: Sweet Corn



Sweet Corn - Drip Irrigation - Plant 2016 (Goondiwindi)



### Commodities

	YIELD	PRICE	TOTAL
<b>Sweet Corn</b>			<b>\$16,500/ha</b>
Sweet Corn	1100 (18L) ctn/ha	15.00 \$/ctn	\$16,500 /ha

**Total Income: \$16,500 /ha**

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$215/ha</b>
Operation: Discing	2 operation	0.9 hr/ha	27.00 \$/hr	\$49 /ha
Operation: Rotary hoeing	1 operation	1 hr/ha	53.50 \$/hr	\$54 /ha
Labour (hours)	4 hrs	1 hr/ha	28.35 \$/hr	\$113 /ha
<b>Planting</b>				<b>\$616/ha</b>
Seed: Sweet corn	1 application	55000 seeds/ha	0.01 \$/seedling	\$550 /ha
Operation: planter (seed)	1 operation	2 ha/hr	132.35 \$/hr	\$66 /ha
<b>Nutrition</b>				<b>\$695/ha</b>
Nutrient: MAP - Farm Gate	1 application	200 kg/ha	0.81 \$/kg	\$162 /ha
Nutrient: Urea	2 application	50 kg/ha	0.54 \$/kg	\$54 /ha
Nutrient: Solubor (foliar)	2 application	1 kg/ha	2.53 \$/kg	\$5 /ha
Nutrient: Ammonium Sulphate	1 application	40 kg/ha	0.51 \$/kg	\$20 /ha
Operation: FWA Light + Spreader FORM	1 hrs	2 ha/hr	32.55 \$/hr	\$16 /ha
Operation: Self-propelled sprayer FORM	1 operation	2 ha/hr	90.36 \$/hr	\$45 /ha
Contract: Soil analysis		4 ha/test	100.00 \$/test	\$25 /ha
Labour (hours)	3 hrs	1 hr/ha	28.35 \$/hr	\$85 /ha
Nutrient: Urea - Farm Gate	1 application	200 kg/ha	0.57 \$/kg	\$114 /ha
Nutrient: Sulphate of Potash	1 application	100 kg/ha	1.68 \$/kg	\$168 /ha
<b>Irrigation</b>				<b>\$1,268/ha</b>
Labour: laying and removing drip tape	5 hrs	1 hr/ha	28.35 \$/hr	\$142 /ha
Irrigation: Layflat 100mm	0.2 application	75 m/ha	4.00 \$/m	\$60 /ha
Irrigation: Drip tape 10mm	1 application	6600 m/ha	0.10 \$/m	\$660 /ha
Labour: Irrigation and fertigation	2 hrs	1 hr/ha	28.35 \$/hr	\$57 /ha
Irrigation: Drip (FORM)		5 ML/ha	50.00 \$/ML	\$250 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$926/ha</b>
Operation: Self-propelled sprayer FORM	7 operation	2 ha/hr	90.36 \$/hr	\$316 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	2 application	0.75 L/ha	67.76 \$/L	\$102 /ha
Insecticide: Nucleopolyhedrovirus (NPV) (e.g. Vivus Max)	2 application	0.2 L/ha	129.80 \$/L	\$52 /ha
Insecticide: Spinetoram (e.g. Success Neo)	2 application	0.4 L/ha	391.64 \$/L	\$313 /ha
Labour (hours)	3 hrs	1 hr/ha	28.35 \$/hr	\$85 /ha
Contract: Crop agronomy/protection	1 application	4 ha/hr	107.73 \$/hr	\$27 /ha
<b>Harvesting</b>				<b>\$4,932/ha</b>
Harvester: Sweet corn (4 row)	1100 (18L) ctn/ha	150 ctn/hr	151.82 \$/hr	\$1,113 /ha

Packaging: 18L Styros	1100 (18L) ctn/ha		1.50 \$(18L) ctn	\$1,650 /ha
Labour: packing	1100 (18L) ctn/ha	22 (18L) ctn/hr	28.35 \$/hr	\$1,417 /ha
Processing: Cooling styros	1100 (18L) ctn/ha		0.20 \$(18L) ctn	\$220 /ha
Packing: machine labour	1100 (18L) ctn/ha	75 (18L) ctn/hr	28.35 \$/hr	\$416 /ha
Operation: On farm cartage of styros	1100 (18L) ctn/ha		0.10 \$(18L) ctn	\$115 /ha
<b>Cartage</b>				<b>\$1,796/ha</b>
Freight (to Brisbane)	1100 (18L) ctn/ha	64 (18L) ctn/pallet	104.50 \$/pallet	\$1,796 /ha
<b>Levies</b>				<b>\$2,475/ha</b>
Commission, Levies: sweet corn	15 %		[INCOME]	\$2,475 /ha

**Total Variable Costs: \$12,924 /ha**  
**Gross Margin: \$3,576 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$1,985	-\$1,037	-\$112	\$788	\$1,664
880.00	-\$903	\$148	\$1,167	\$2,154	\$3,110
990.00	\$148	\$1,292	\$2,396	\$3,460	\$4,484
1,100.00	\$1,167	\$2,396	\$3,576	\$4,706	\$5,787
1,210.00	\$2,154	\$3,460	\$4,706	\$5,892	\$7,018
1,320.00	\$3,110	\$4,484	\$5,787	\$7,018	\$8,179
1,430.00	\$4,034	\$5,468	\$6,818	\$8,085	\$9,268

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
770.00	-\$397	-\$207	-\$22	\$158	\$333
880.00	-\$181	\$30	\$233	\$431	\$622
990.00	\$30	\$258	\$479	\$692	\$897
1,100.00	\$233	\$479	\$715	\$941	\$1,157
1,210.00	\$431	\$692	\$941	\$1,178	\$1,404
1,320.00	\$622	\$897	\$1,157	\$1,404	\$1,636
1,430.00	\$807	\$1,094	\$1,364	\$1,617	\$1,854

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# Balonne (St George) Gross Margins 2016

## Balonne: Irrigated Cotton



Cotton - Surface irrigated - Plant 2016 (Balonne)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cotton</b>			<b>\$6,444/ha</b>
Lint	12 bales/ha	480.00 \$/bale	\$5,760 /ha
Seed	3.6 t/ha	190.00 \$/tonne	\$684 /ha
<b>Total Income: \$6,444 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$65/ha</b>
Operation: Mulcher + FWA Light FORM	1 operation	12 ha/hr	32.90 \$/hr	\$3 /ha
Middlebusting	1 operation	6 ha/hr	34.57 \$/hr	\$6 /ha
Operation: Self-propelled sprayer FORM	2 operation	12 ha/hr	91.63 \$/hr	\$15 /ha
Herbicide: Glyphosate 450 CT	1 application	1.6 L/ha	6.05 \$/L	\$10 /ha
Herbicide: Trifluralin	1 application	2.8 L/ha	9.63 \$/L	\$27 /ha
Operation: Discing	1 operation	6 ha/hr	27.00 \$/hr	\$5 /ha
<b>Planting</b>				<b>\$487/ha</b>
Operation: planter (seed)	1 operation	10 ha/hr	133.12 \$/hr	\$13 /ha
Seed: Cotton	13 kg/ha		8.00 \$/kg	\$104 /ha
Seed: Cotton Bollgard II fee: Opt1	1 Portion		370.00 \$/ha	\$370 /ha
<b>Nutrition</b>				<b>\$371/ha</b>
Nutrient: Granulock Z		100 kg/ha	0.87 \$/kg	\$87 /ha
Operation: Spreader + FWA Light FORM	1 operation	12 ha/hr	32.30 \$/hr	\$3 /ha
Nutrient: Anhydrous ammonia		122 kg/ha	1.00 \$/kg	\$121 /ha
Operation: Side Dressing Fertiliser	1 operation	10 ha/hr	75.57 \$/hr	\$8 /ha
Nutrient: Urea - Farm Gate	1 application	260 kg/ha	0.59 \$/kg	\$152 /ha
<b>Crop Protection</b>				<b>\$164/ha</b>
Operation: Self-propelled sprayer FORM	5 operation	12 ha/hr	91.63 \$/hr	\$38 /ha
Herbicide: Roundup Ready	2 application	1.2 kg/ha	8.00 \$/kg	\$19 /ha
Insecticide: Fipronil	2 application	0.06 L/ha	350.00 \$/L	\$42 /ha
Herbicide: Roundup Ready	1 application	0.6 kg/ha	8.00 \$/kg	\$5 /ha
Aerial Spray	1 application		14.58 \$/ha	\$15 /ha
Insecticide: Indoxacarb	1 application	0.65 L/ha	69.15 \$/L	\$45 /ha
<b>Irrigation</b>				<b>\$360/ha</b>
Irrigation: Surface (FORM)		8 ML/ha	25.00 \$/ML	\$200 /ha
Consumable: Water		8 ML/ha	20.00 \$/ML	\$160 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Harvesting</b>				<b>\$258/ha</b>
Plastic Wrap: Cotton Bale		10 bales/ha	8.80 \$/bale	\$88 /ha
Aerial Spray	2 operation		14.58 \$/ha	\$29 /ha
Defoliant: Thiadazu	1 application	0.25 L/ha	52.75 \$/L	\$13 /ha
Defoliant: Crop Oil	1 application	2 L/ha	3.91 \$/L	\$8 /ha
Defoliant: Ethepon	1 application	1.5 L/ha	9.33 \$/L	\$14 /ha
Defoliant: Ethepon	1 application	2 L/ha	9.33 \$/L	\$19 /ha

Harvester: Cotton Round Bale	7 ha/hr	275.00 \$/hr	\$39 /ha
Round Bale Grab: Cotton	12 bales/ha	4.00 \$/bale	\$48 /ha
<b>Other</b>			<b>\$192/ha</b>
Crop insurance	1 %	[INCOME]	\$58 /ha
Contract: Consultant Irrigated Broadacre		68.99 \$/ha	\$69 /ha
R&D Levy	12 bales/ha	2.25 \$/bale	\$27 /ha
Voluntary Levy	12 bales/ha	1.50 \$/bale	\$18 /ha
5% Pigeon Pea Refuge		19.95 \$/ha	\$20 /ha
<b>Post-Harvest</b>			<b>\$763/ha</b>
Cartage: Cotton	12 bales/ha	8.58 \$/bale	\$103 /ha
Ginning	12 bales/ha	55.00 \$/bale	\$660 /ha
<b>Total Variable Costs: \$2,659 /ha</b>			
<b>Gross Margin: \$3,785 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$989	\$1,435	\$1,881	\$2,326	\$2,771
9.60	2.88	\$1,499	\$2,008	\$2,517	\$3,025	\$3,532
10.80	3.24	\$2,008	\$2,580	\$3,151	\$3,722	\$4,291
12.00	3.60	\$2,517	\$3,151	\$3,785	\$4,417	\$5,048
13.20	3.96	\$3,025	\$3,722	\$4,417	\$5,111	\$5,804
14.40	4.32	\$3,532	\$4,291	\$5,048	\$5,804	\$6,558
15.60	4.68	\$4,038	\$4,859	\$5,678	\$6,496	\$7,311

### Effects of Yield and Price on Gross Margin per ML (assuming 8.0ML/ha is used).

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$124	\$179	\$235	\$291	\$346
9.60	2.88	\$187	\$251	\$315	\$378	\$441
10.80	3.24	\$251	\$323	\$394	\$465	\$536
12.00	3.60	\$315	\$394	\$473	\$552	\$631
13.20	3.96	\$378	\$465	\$552	\$639	\$726
14.40	4.32	\$441	\$536	\$631	\$726	\$820
15.60	4.68	\$505	\$607	\$710	\$812	\$914

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# Balonne: Irrigated Broccoli



## Broccoli - Hand Shift Irrigation - Plant 2016 (Balonne)



### Commodities

	YIELD	PRICE	TOTAL
<b>Broccoli</b>			<b>\$23,120/ha</b>
Broccoli	1445.8 kg/styro	16.00 \$/styro	\$23,120 /ha
			<b>Total Income: \$23,120 /ha</b>

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$186/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	1 ha/hr	33.88 \$/hr	\$34 /ha
Contract: Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
Operation: Spreader + FWA Light FORM	1 operation	1 ha/hr	32.30 \$/hr	\$32 /ha
<b>Planting</b>				<b>\$6,386/ha</b>
Seedlings: Broccoli	1 application	50000 plants/ha	0.08 \$/plant	\$4,150 /ha
Operation: Planting + FWA Light FORM	1 operation	3.75 hr/ha	116.19 \$/hr	\$436 /ha
Contract: Labour (hours)		60 hr/ha	30.00 \$/hr	\$1,800 /ha
<b>Nutrition</b>				<b>\$1,134/ha</b>
Nutrient: Calcium Nitrate - Farm Gate	4 application	100 kg/ha	0.60 \$/kg	\$238 /ha
Nutrient: Potassium Nitrate - Farm Gate	4 application	100 kg/ha	1.40 \$/kg	\$558 /ha
Nutrient: CK55 - Farm Gate	1 application	400 kg/ha	0.85 \$/kg	\$338 /ha
<b>Irrigation</b>				<b>\$240/ha</b>
Irrigation: Hand Shift (FORM)		2 ML/ha	70.00 \$/ML	\$140 /ha
Consumable: Water		2 ML/ha	20.00 \$/ML	\$40 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	30.00 \$/hr	\$60 /ha
<b>Crop Protection</b>				<b>\$910/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.63 \$/hr	\$92 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	2 application	0.5 L/ha	51.70 \$/L	\$52 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	3 application	0.1 L/ha	870.72 \$/L	\$261 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
Herbicide: Trifluralin + Hydrocarbon (e.g. Trifluralin 480 EC)	1 application	2 L/ha	9.63 \$/L	\$19 /ha
Insecticide: Emamectin Benzoate (e.g. Proclaim)	2 application	0.3 kg/ha	399.67 \$/kg	\$240 /ha
Contract: Crop agronomy/protection		4 ha/hr	113.99 \$/hr	\$28 /ha
Contract: Labour (hours)		3 hr/ha	30.00 \$/hr	\$90 /ha
<b>Harvesting</b>				<b>\$10,925/ha</b>
Contract: Labour picking	1445.8 kg/styro	15 styro/hr	30.00 \$/hr	\$2,890 /ha
Contract: Labour packing machine labour	1445.8 kg/styro	15 styro/hr	30.00 \$/hr	\$2,890 /ha
Packaging: 8kg Styros	1445.8 kg/styro		2.50 \$/ctn	\$3,613 /ha
Operation: On farm cartage of styros	1445.8 kg/styro		0.11 \$/ctn	\$161 /ha
Processing: Cooling styros	1445.8 kg/styro		0.20 \$/ctn	\$289 /ha

Processing: Ice for styros	1445.8 kg/styro	0.75 \$/ctn	\$1,084 /ha
<b>Cartage</b>			<b>\$3,483/ha</b>
Transportation: Refo pallet	1 (36L) ctn/ha	56 (36L) ctn/pallet	135.00 \$/pallet
			\$3,483 /ha
<b>Levies</b>			<b>\$3,468/ha</b>
Commission & Levies	15 %	[INCOME]	\$3,468 /ha
			<b>Total Variable Costs: \$26,732 /ha</b>
			<b>Gross Margin: -\$3,612 /ha</b>

### Effect of Yield and Price on Gross Margin (\$/ha)

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,011.50	-\$11,404	-\$10,075	-\$8,779	-\$7,518	-\$6,290
1,156.00	-\$9,888	-\$8,415	-\$6,988	-\$5,604	-\$4,265
1,300.50	-\$8,415	-\$6,812	-\$5,265	-\$3,774	-\$2,340
<b>1,445.00</b>	<b>-\$6,988</b>	<b>-\$5,265</b>	<b>-\$3,612</b>	<b>-\$2,028</b>	<b>-\$514</b>
1,589.50	-\$5,604	-\$3,774	-\$2,028	-\$366	\$1,212
1,734.00	-\$4,265	-\$2,340	-\$514	\$1,212	\$2,837
<b>1,878.50</b>	<b>-\$2,970</b>	<b>-\$961</b>	<b>\$931</b>	<b>\$2,706</b>	<b>\$4,363</b>

### Effects of Yield and Price on Gross Margin per ML (assuming 2.0ML/ha is used).

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,011.50	-\$5,702	-\$5,037	-\$4,390	-\$3,759	-\$3,145
1,156.00	-\$4,944	-\$4,208	-\$3,494	-\$2,802	-\$2,132
1,300.50	-\$4,208	-\$3,406	-\$2,633	-\$1,887	-\$1,170
<b>1,445.00</b>	<b>-\$3,494</b>	<b>-\$2,633</b>	<b>-\$1,806</b>	<b>-\$1,014</b>	<b>-\$257</b>
1,589.50	-\$2,802	-\$1,887	-\$1,014	-\$183	\$606
1,734.00	-\$2,132	-\$1,170	-\$257	\$606	\$1,419
<b>1,878.50</b>	<b>-\$1,485</b>	<b>-\$481</b>	<b>\$465</b>	<b>\$1,353</b>	<b>\$2,182</b>

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# Balonne: Cabbage (drumhead for processing)



Cabbage (Drumhead for processing) - 500kg Bins (Contract) - Plant 2016 (Balonne)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Cabbage (Drumhead for processing)</b>			<b>\$22,125/ha</b>
Cabbage	295 Bins/Ha	75.00 \$/bin	\$22,125 /ha

**Total Income: \$22,125 /ha**

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$291/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.88 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.57 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 ha/hr	29.57 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming+ FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.30 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$4,386/ha</b>
Seedlings: Cabbage	1 application	40000 plants/ha	0.07 \$/plant	\$2,600 /ha
Contract: Plant seedlings	1 application	45 hr/ha	30.00 \$/hr	\$1,350 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	116.19 \$/hr	\$436 /ha
<b>Nutrition</b>				<b>\$630/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.85 \$/hr	\$423 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.60 \$/hr	\$119 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.88 \$/hr	\$88 /ha
<b>Irrigation</b>				<b>\$420/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	30.00 \$/hr	\$60 /ha
<b>Crop Protection</b>				<b>\$462/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.63 \$/hr	\$92 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	2 application	0.1 L/ha	870.72 \$/L	\$174 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
<b>Harvesting</b>				<b>\$6,794/ha</b>
Operation: Tractor / Trailer		5 hr/ha	31.33	\$157 /ha
Contract: Labour Picking	295 Bins/Ha	0.5 hrs/bin	30.00 \$/hr	\$4,425 /ha
Packaging: Bin Hire	295 Bins/Ha	0.5 Bins hired/Bin	5.00 \$/bin	\$738 /ha
Operation: Cooling Hort \$/kg	295 Bins/Ha	500 kg/bin	0.01 \$/kg	\$1,475 /ha
<b>Cartage</b>				<b>\$13,275/ha</b>
Transportation: Refo pallet	295 Bins/Ha	3 bins/pallet	135.00 \$/pallet	\$13,275 /ha
<b>Levies</b>				<b>\$553/ha</b>

Commission & Levies	2.5 %	[INCOME]	\$553 /ha
<b>Total Variable Costs:</b>			<b>\$26,811 /ha</b>
<b>Gross Margin:</b>			<b>-\$4,686 /ha</b>

**Effect of Yield and Price on Gross Margin (\$/ha)**

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
206.50	-\$14,041	-\$12,538	-\$11,041	-\$9,549	-\$8,063
236.00	-\$12,324	-\$10,614	-\$8,912	-\$7,216	-\$5,527
265.50	-\$10,614	-\$8,699	-\$6,793	-\$4,896	-\$3,008
<b>295.00</b>	<b>-\$8,912</b>	<b>-\$6,793</b>	<b>-\$4,686</b>	<b>-\$2,589</b>	<b>-\$504</b>
324.50	-\$7,216	-\$4,896	-\$2,589	-\$296	\$1,984
354.00	-\$5,527	-\$3,008	-\$504	\$1,984	\$4,455
383.50	-\$3,846	-\$1,129	\$1,570	\$4,250	\$6,911

**Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).**

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
206.50	-\$3,510	-\$3,135	-\$2,760	-\$2,387	-\$2,016
236.00	-\$3,081	-\$2,654	-\$2,228	-\$1,804	-\$1,382
265.50	-\$2,654	-\$2,175	-\$1,698	-\$1,224	-\$752
<b>295.00</b>	<b>-\$2,228</b>	<b>-\$1,698</b>	<b>-\$1,171</b>	<b>-\$647</b>	<b>-\$126</b>
324.50	-\$1,804	-\$1,224	-\$647	-\$74	\$496
354.00	-\$1,382	-\$752	-\$126	\$496	\$1,114
383.50	-\$961	-\$282	\$393	\$1,063	\$1,728

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# Balonne: Carrots



## Carrots - Hand Shift Irrigation - Plant 2016 (Balonne)



Commodities

	YIELD	PRICE	TOTAL
<b>Carrots</b>			<b>\$12,826/ha</b>
Carrots 1st Grade	1283 (20kg) ctn/ha	8.00 \$/ctn	\$10,264 /ha
Carrots 2nd Grade	427 (20kg) bags/ha	6.00 \$/bag	\$2,562 /ha
<b>Total Income: \$12,826 /ha</b>			

Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$290/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.88 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.57 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.57 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
Operation: Spreader + FWA Light FORM	1 application	5 ha/hr	32.30 \$/hr	\$6 /ha
<b>Planting</b>				<b>\$2,816/ha</b>
Seed: Carrot	1 application	3 kg/ha	900.00 \$/kg	\$2,700 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 ha/hr	116.19 \$/hr	\$116 /ha
<b>Nutrition</b>				<b>\$584/ha</b>
Nutrient: CK55 - Farm Gate	1 application	500 kg/ha	0.85 \$/kg	\$423 /ha
Nutrient: Urea (fertigate) - Farm Gate	1 application	125 kg/ha	0.88 \$/kg	\$111 /ha
Nutrient: Solubor (foliar) - Farm Gate	2 application	10 kg/ha	2.55 \$/kg	\$51 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Contract Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$621/ha</b>
Operation: Shielded Sprayer + FWA Light FORM	6 operation	6 ha/hr	33.57 \$/hr	\$34 /ha
Herbicide: Glyphosate (e.g. ERICO 450)	1 application	3 kg/ha	6.05 \$/L	\$18 /ha
Herbicide: Lorox (Linuron)	2 application	2.3 L/ha	45.65 \$/L	\$210 /ha
Insecticide: Chlorpyrifos 500 EC	1 application	0.6 kg/ha	20.00 \$/L	\$12 /ha
Insecticide: Dimethoate + hydrocarbons (e.g. Dimethoate Nufam)	2 application	0.75 L/ha	11.00 \$/L	\$17 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Vapam	1 application	225 L/ha	1.30 \$/kg	\$293 /ha
<b>Harvesting</b>				<b>\$4,545/ha</b>
Operation: Lifting FORM		10 hr/ha	83.07 \$/hr	\$831 /ha
Contract Labour Picking	1900 (20kg) units	250 (20kg) units/hr	30.00 \$/hr	\$228 /ha
Operation: Tractor / Trailer	1900 (20kg) units	500 (20kg) units/hr	31.33 \$/hr	\$119 /ha
Operation: Washing Carrots	1900 (20kg) units	100 (20kg) units/hr	30.25 \$/hr	\$575 /ha
Contract Labour grading	1900 (20kg) units	500 (20kg) units/hr	30.00 \$/hr	\$114 /ha
Contract Labour packing	1900 (20kg) units	200 (20kg) units/hr	30.00 \$/hr	\$285 /ha

Packaging: Bin Hire	1900 (20kg) units	500 (20kg) units/bin	5.00 \$/bin	\$19 /ha
Packaging: (20kg) Carton	1425 (20kg) ctn/ha		1.50 \$/hr	\$2,138 /ha
Packaging: (20kg) Bag	475 (20kg) ctn/ha		0.50 \$/hr	\$238 /ha
<b>Cartage</b>				<b>\$2,565/ha</b>
Transportation: Refo pallet	1900 (20kg) ctn/ha	100 (20kg) ctn/pallet	135.00 \$/pallet	\$2,565 /ha
<b>Levies</b>				<b>\$1,540/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,540 /ha

**Total Variable Costs: \$13,440 /ha**  
**Gross Margin: -\$614 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
898.10	298.90	-\$5,201	-\$4,431	-\$3,677	-\$2,938	-\$2,213
1,026.40	341.60	-\$4,323	-\$3,464	-\$2,625	-\$1,806	-\$1,007
1,154.70	384.30	-\$3,464	-\$2,522	-\$1,604	-\$712	\$155
<b>1,283.00</b>	<b>427.00</b>	<b>-\$2,625</b>	<b>-\$1,604</b>	<b>-\$614</b>	<b>\$345</b>	<b>\$1,273</b>
1,411.30	469.70	-\$1,806	-\$712	\$345	\$1,365	\$2,347
1,539.60	512.40	-\$1,007	\$155	\$1,273	\$2,347	\$3,376
1,667.90	555.10	-\$227	\$998	\$2,171	\$3,292	\$4,361

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
898.10	298.90	-\$1,300	-\$1,108	-\$919	-\$734	-\$553
1,026.40	341.60	-\$1,081	-\$866	-\$656	-\$452	-\$252
1,154.70	384.30	-\$866	-\$630	-\$401	-\$178	\$39
<b>1,283.00</b>	<b>427.00</b>	<b>-\$656</b>	<b>-\$401</b>	<b>-\$154</b>	<b>\$86</b>	<b>\$318</b>
1,411.30	469.70	-\$452	-\$178	\$86	\$341	\$587
1,539.60	512.40	-\$252	\$39	\$318	\$587	\$844
1,667.90	555.10	-\$57	\$250	\$543	\$823	\$1,090

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# Balonne: Cauliflower



## Cauliflower - Hand Shift Irrigation - Plant 2016 (Balonne)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cauliflower</b>			<b>\$32,400/ha</b>
Cauliflower Domestic	2400 (72L) ctn/ha	13.50 \$/ctn	\$32,400 /ha
<b>Total Income: \$32,400 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$291/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.88 \$/hr	\$34 /ha
Operation: Discing	0 application	2 ha/hr	27.00 \$/hr	\$0 /ha
Operation: Cultivation	1 hr/ha	1 hr/ha	29.57 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.30 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$7,146/ha</b>
Seedlings: Cauliflower	1 application	40000 plants/ha	0.13 \$/plant	\$5,360 /ha
Contract: Plant seedlings	1 application	45 hr/ha	30.00 \$/hr	\$1,350 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	116.19 \$/hr	\$436 /ha
<b>Nutrition</b>				<b>\$630/ha</b>
Nutrient: CK55 - Fam Gate		500 kg/ha	0.85 \$/kg	\$423 /ha
Nutrient: Calcium Nitrate - Fam Gate		200 kg/ha	0.60 \$/kg	\$119 /ha
Nutrient: Urea (fertigate) - Fam Gate		100 kg/ha	0.88 \$/kg	\$88 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
<b>Crop Protection</b>				<b>\$723/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.63 \$/hr	\$92 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	2 L/ha	10.73 \$/L	\$21 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. Xen Tari WG)	6 application	0.75 kg/ha	67.76 \$/kg	\$305 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	1 application	0.1 L/ha	870.72 \$/L	\$87 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	2 application	1.6 L/ha	64.79 \$/L	\$207 /ha
<b>Harvesting</b>				<b>\$12,625/ha</b>
Tractor: FWA Light FORM	2400 (72L) ctn/ha	500 (36L) ctn/hr	29.57 \$/hr	\$142 /ha
Contract: Labour Picking	2400 (72L) ctn/ha	15 (72kg) ctn/hr	30.00 \$/hr	\$4,800 /ha
Operation: Pallet hire	2400 (72L) ctn/ha	36 crts/pallet	0.06 \$/pallet	\$4 /ha
Packaging: 72L Styros	2400 (72L) ctn/ha		3.00 \$/carton	\$7,200 /ha
Processing: Cooling	2400 (72L) ctn/ha		0.20 \$/(72L) ctn	\$480 /ha
<b>Cartage</b>				<b>\$9,000/ha</b>
Transportation: Refn pallet	2400 (72L) ctn/ha	36 (72L) ctn/pallet	135.00 \$/pallet	\$9,000 /ha

Levies			\$4,860/ha
Commission & Levies	15 %	[INCOME]	\$4,860 /ha
<b>Total Variable Costs: \$35,756 /ha</b>			
<b>Gross Margin: -\$3,356 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,680.00	-\$14,276	-\$12,412	-\$10,597	-\$8,829	-\$7,109
1,920.00	-\$12,150	-\$10,087	-\$8,086	-\$6,147	-\$4,271
2,160.00	-\$10,087	-\$7,840	-\$5,672	-\$3,583	-\$1,572
2,400.00	-\$8,086	-\$5,672	-\$3,356	-\$1,136	\$986
2,640.00	-\$6,147	-\$3,583	-\$1,136	\$1,193	\$3,404
2,880.00	-\$4,271	-\$1,572	\$986	\$3,404	\$5,683
3,120.00	-\$2,456	\$360	\$3,011	\$5,498	\$7,821

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,680.00	-\$3,569	-\$3,103	-\$2,649	-\$2,207	-\$1,777
1,920.00	-\$3,038	-\$2,522	-\$2,021	-\$1,537	-\$1,068
2,160.00	-\$2,522	-\$1,960	-\$1,418	-\$896	-\$393
2,400.00	-\$2,021	-\$1,418	-\$839	-\$284	\$247
2,640.00	-\$1,537	-\$896	-\$284	\$298	\$851
2,880.00	-\$1,068	-\$393	\$247	\$851	\$1,421
3,120.00	-\$614	\$90	\$753	\$1,375	\$1,955

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# Balonne: Garlic



## Garlic - Hand Shift Irrigation - Plant 2016 (Balonne)



### Commodities

	YIELD	PRICE	TOTAL
<b>Garlic</b>			<b>\$26,136/ha</b>
1st grade (large)	2664 kg/ha	6.00 \$/kg	\$15,984 /ha
2nd grade (medium)	2538 kg/ha	4.00 \$/kg	\$10,152 /ha
<b>Total Income: \$26,136 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$283/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	33.88 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
<b>Planting</b>				<b>\$9,130/ha</b>
Seed: Garlic large bulbs (10 cloves/bulb)	928 kg/ha	8.00 \$/kg	\$7,424 /ha	
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	116.19 \$/hr	\$116 /ha
Contract: Labour for planting	3 hr/ha	30.00 \$/hr	\$90 /ha	
Contract: Labour for clove separation	50 hr/ha	30.00 \$/hr	\$1,500 /ha	
<b>Nutrition</b>				<b>\$687/ha</b>
Nutrient: CK88 - Farm Gate	125 kg/ha	0.85 \$/kg	\$106 /ha	
Nutrient: Urea (fertigate) - Farm Gate	60 kg/ha	0.88 \$/kg	\$53 /ha	
Nutrient: Single Superphosphate - Farm Gate	400 kg/ha	0.45 \$/kg	\$180 /ha	
Nutrient: Calcium Nitrate - Farm Gate	175 kg/ha	0.60 \$/kg	\$104 /ha	
Nutrient: Potassium Nitrate - Farm Gate	175 kg/ha	1.40 \$/kg	\$244 /ha	
<b>Irrigation</b>				<b>\$690/ha</b>
Irrigation: Hand Shift (FORM)	5 ML/ha	70.00 \$/ML	\$350 /ha	
Consumable: Water	5 ML/ha	20.00 \$/ML	\$100 /ha	
Irrigation: Water License	0 ML/ha	100.00 \$/ML	\$0 /ha	
Contract: Labour (hours)	8 hr/ha	30.00 \$/hr	\$240 /ha	
<b>Crop Protection</b>				<b>\$2,659/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	91.63 \$/hr	\$153 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	30.00 \$/hr	\$480 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totrill)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
Contract: Labour for weed chipping	40 hr/ha	30.00 \$/hr	\$1,200 /ha	

<b>Harvesting</b>				<b>\$12,485/ha</b>
Operation: FWA Light FORM	20 hr/ha	31.33 \$/hr	\$627 /ha	
Contract: Labour harvesting	128 hr/ha	30.00 \$/hr	\$3,840 /ha	
Contract: Labour for grading, topping, tailing & packing	215 hr/ha	30.00 \$/hr	\$6,449 /ha	
Packaging: Bin Hire	20 Bins/ha	5.00 \$/bin	\$100 /ha	
Consumable: Electricity Drying	5494 kg/ha	0.25 \$/kwhr	\$343 /ha	
Packaging: Cartons 10kg	5494 kg/ha	10 20 kg/ctn	2.05 \$/ctn	\$1,126 /ha
<b>Cartage</b>				<b>\$843/ha</b>
Transportation: Refo pallet	5494 kg/ha	880 kg/pallet	135.00 \$/pallet	\$843 /ha
<b>Levies</b>				<b>\$2,398/ha</b>
Commission & Levies	15 %	[INCOME]		\$2,398 /ha

**Total Variable Costs: \$29,175 /ha**

**Gross Margin: -\$3,039 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
1,864.80	1,776.60	-\$12,893	-\$11,263	-\$9,657	-\$8,074	-\$6,515
2,131.20	2,030.40	-\$11,032	-\$9,202	-\$7,403	-\$5,634	-\$3,896
2,397.60	2,284.20	-\$9,202	-\$7,180	-\$5,197	-\$3,252	-\$1,347
<b>2,664.00</b>	<b>2,538.00</b>	<b>-\$7,403</b>	<b>-\$5,197</b>	<b>-\$3,039</b>	<b>-\$929</b>	<b>\$1,134</b>
2,930.40	2,791.80	-\$5,634	-\$3,252	-\$929	\$1,337	\$3,545
3,196.80	3,045.60	-\$3,896	-\$1,347	\$1,134	\$3,545	\$5,887
3,463.20	3,299.40	-\$2,189	\$520	\$3,148	\$5,694	\$8,160

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
1,864.80	1,776.60	-\$2,579	-\$2,253	-\$1,931	-\$1,615	-\$1,303
2,131.20	2,030.40	-\$2,206	-\$1,840	-\$1,481	-\$1,127	-\$779
2,397.60	2,284.20	-\$1,840	-\$1,436	-\$1,039	-\$650	-\$269
<b>2,664.00</b>	<b>2,538.00</b>	<b>-\$1,481</b>	<b>-\$1,039</b>	<b>-\$608</b>	<b>-\$186</b>	<b>\$227</b>
2,930.40	2,791.80	-\$1,127	-\$650	-\$186	\$267	\$709
3,196.80	3,045.60	-\$779	-\$269	\$227	\$709	\$1,177
3,463.20	3,299.40	-\$438	\$104	\$630	\$1,139	\$1,632

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# Balonne: Lettuce



Lettuce - Hand Shift Irrigation - Plant 2016 (Balonne)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Lettuce</b>			<b>\$34,500/ha</b>
Lettuce Domestic	3000 (62L)ctn/ha	11.50 \$/ctn	\$34,500 /ha
<b>Total Income: \$34,500 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$291/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	33.88 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.57 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.57 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.30 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,486/ha</b>
Seedlings: lettuce	50000 seeds/ha	0.09 \$/seedling		\$4,550 /ha
Contract: plant seedlings	50 hr/ha	30.00 \$/hr		\$1,500 /ha
Operation: Planting + FWA Light FORM	3.75 hr/ha	116.19 \$/hr		\$436 /ha
<b>Nutrition</b>				<b>\$1,303/ha</b>
Nutrient: CK55 - Farm Gate	600 kg/ha	0.85 \$/kg		\$507 /ha
Nutrient: Calcium Nitrate - Farm Gate	400 kg/ha	0.60 \$/kg		\$238 /ha
Nutrient: Potassium Nitrate - Farm Gate	400 kg/ha	1.40 \$/kg		\$558 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/ML		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract: Labour (hours)	4 hr/ha	30.00 \$/hr		\$120 /ha
<b>Crop Protection</b>				<b>\$639/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	4 ha/hr	91.63 \$/hr	\$137 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	1 application	2.5 kg/ha	38.50 \$/kg	\$96 /ha
Fungicide: Iprodione (e.g. Rovral Aquafo)	2 application	1 L/ha	34.10 \$/L	\$68 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	3 L/ha	10.73 \$/L	\$32 /ha
Insecticide: Permethrin + Hydrocarbons (e.g. Ambush)	2 application	0.02 L/ha	82.50 \$/L	\$3 /ha
Insecticide: Chlorantraniliprole (e.g. Coragen)	2 application	0.15 L/ha	880.04 \$/L	\$264 /ha
<b>Harvesting</b>				<b>\$14,177/ha</b>
Tractor: FWA Light FORM	3000 (62L)ctn/ha	500 (62L) ctn/hr	29.57 \$/hr	\$177 /ha
Contract: Picking labour	3000 (62L)ctn/ha	18 (62L)ctn/hr	30.00 \$/hr	\$4,999 /ha
Packaging: 62L Waxed box	3000 (62L)ctn/ha		2.80 \$/box	\$8,400 /ha
Processing: Cooling	3000 (62L)ctn/ha	1 application	0.20 \$/ctn	\$600 /ha
<b>Cartage</b>				<b>\$9,643/ha</b>

<b>Cartage</b>				
Transportation: Refo pallet	3000 (62L)ctn/ha	42 (62L)ctn/pallet	135.00 \$/pallet	\$9,643 /ha
<b>Levies</b>				<b>\$5,175/ha</b>
Commission & Levies	15 %		[INCOME]	\$5,175 /ha

**Total Variable Costs: \$38,194 /ha**  
**Gross Margin: -\$3,694 /ha**

Effect of Yield and Price on Gross Margin (\$/ha)

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,100.00	-\$15,322	-\$13,338	-\$11,405	-\$9,522	-\$7,690
2,400.00	-\$13,059	-\$10,862	-\$8,731	-\$6,666	-\$4,668
2,700.00	-\$10,862	-\$8,469	-\$6,161	-\$3,936	-\$1,795
<b>3,000.00</b>	<b>-\$8,731</b>	<b>-\$6,161</b>	<b>-\$3,694</b>	<b>-\$1,331</b>	<b>\$929</b>
3,300.00	-\$6,666	-\$3,936	-\$1,331	\$1,149	\$3,504
3,600.00	-\$4,668	-\$1,795	\$929	\$3,504	\$5,930
3,900.00	-\$2,736	\$262	\$3,085	\$5,734	\$8,207

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,100.00	-\$3,830	-\$3,334	-\$2,851	-\$2,381	-\$1,923
2,400.00	-\$3,265	-\$2,715	-\$2,183	-\$1,667	-\$1,167
2,700.00	-\$2,715	-\$2,117	-\$1,540	-\$984	-\$449
<b>3,000.00</b>	<b>-\$2,183</b>	<b>-\$1,540</b>	<b>-\$923</b>	<b>-\$333</b>	<b>\$232</b>
3,300.00	-\$1,667	-\$984	-\$333	\$287	\$676
3,600.00	-\$1,167	-\$449	\$232	\$676	\$1,483
3,900.00	-\$684	\$66	\$771	\$1,433	\$2,052

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# Balonne: Onion- brown



## Onions - Brown - Hand Shift Irrigation - Plant 2016 (Balonne)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Onions - Brown</b>			<b>\$29,450/ha</b>
Onions 1st and 2nd grade	1900 20 kg/bag	15.50 \$/bag	\$29,450 /ha
<b>Total Income: \$29,450 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$283/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	33.88 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.07 \$/hr	\$249 /ha
<b>Planting</b>				<b>\$2,220/ha</b>
Seed: Onions	1 application	1.9 kg/ha	1060.00 \$/kg	\$2,014 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	116.19 \$/hr	\$116 /ha
Contract: Labour (hours)		3 hr/ha	30.00 \$/hr	\$90 /ha
<b>Nutrition</b>				<b>\$1,327/ha</b>
Nutrient: CK88 - Farm Gate		800 kg/ha	0.85 \$/kg	\$676 /ha
Nutrient: Urea (fertigate) - Farm Gate		600 kg/ha	0.88 \$/kg	\$531 /ha
Nutrient: Zinc Chelate (fertigate) - Farm Gate		10 kg/ha	12.00 \$/kg	\$120 /ha
<b>Irrigation</b>				<b>\$690/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	30.00 \$/hr	\$240 /ha
<b>Crop Protection</b>				<b>\$1,459/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	91.63 \$/hr	\$153 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	30.00 \$/hr	\$480 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
<b>Harvesting</b>				<b>\$14,387/ha</b>
Operation: FWA Light FORM		20 hr/ha	31.33 \$/hr	\$627 /ha
Contract: Labour harvest		220 hr/ha	30.00 \$/hr	\$6,599 /ha
Contract: Labour grading & pack		150 hr/ha	30.00 \$/hr	\$4,500 /ha

Packaging: Bin Hire (RM)		100 Bins/ha	5.00 \$/bin	\$500 /ha
Consumable: Electricity Drying	1900 20 kg/bag	2.55 kwhr/bag	0.25 \$/kwhr	\$1,211 /ha
Packaging: Bag 20kg	1900 20 kg/bag		0.50 \$/bag	\$950 /ha
<b>Cartage</b>				<b>\$5,400/ha</b>
Transportation: Refo pallet		40 pallets/ha	135.00 \$/pallet	\$5,400 /ha
<b>Levies</b>				<b>\$4,418/ha</b>
Commission & Levies	15 %		[INCOME]	\$4,418 /ha

**Total Variable Costs: \$30,184 /ha**  
**Gross Margin: -\$734 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,330.00	-\$10,659	-\$8,966	-\$7,316	-\$5,709	-\$4,145
1,520.00	-\$8,728	-\$6,852	-\$5,033	-\$3,271	-\$1,565
1,710.00	-\$6,852	-\$4,810	-\$2,839	-\$940	\$887
1,900.00	-\$5,033	-\$2,839	-\$734	\$1,284	\$3,213
2,090.00	-\$3,271	-\$940	\$1,284	\$3,401	\$5,411
2,280.00	-\$1,565	\$887	\$3,213	\$5,411	\$7,482
2,470.00	\$84	\$2,643	\$5,053	\$7,314	\$9,425

**Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,330.00	-\$2,132	-\$1,793	-\$1,463	-\$1,142	-\$829
1,520.00	-\$1,746	-\$1,370	-\$1,007	-\$654	-\$313
1,710.00	-\$1,370	-\$962	-\$568	-\$188	\$177
1,900.00	-\$1,007	-\$568	-\$147	\$257	\$643
2,090.00	-\$654	-\$188	\$257	\$680	\$1,082
2,280.00	-\$313	\$177	\$643	\$1,082	\$1,496
2,470.00	\$17	\$529	\$1,011	\$1,463	\$1,885

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# Balonne: Pumpkin (Jap)



## Pumpkin - Drip Irrigation - Plant 2016 (Balonne)



### Commodities

	YIELD	PRICE	TOTAL
<b>Pumpkin</b>			<b>\$11,400/ha</b>
Pumpkin	28500 kg/ha	0.40 \$/kg	\$11,400 /ha
<b>Total Income: \$11,400 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$120/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	0.75 hr/ha	33.88 \$/hr	\$25 /ha
Operation: Mulcher + FWA Light FORM	1 operation	1 hr/ha	32.90 \$/hr	\$33 /ha
Operation: Discing	1 operation	0.5 hr/ha	27.00 \$/hr	\$14 /ha
Operation: Rotary hoeing	1 operation	0.75 hr/ha	53.50 \$/hr	\$40 /ha
Operation: Spreader + FWA Light FORM	1 operation	4 ha/hr	32.30 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$467/ha</b>
Seed: Pumpkin (Jap) seeds	1 operation	5000 seeds/ha	0.08 \$/seedling	\$400 /ha
Operation: planter (seed)	1 operation	2 ha/hr	133.12 \$/hr	\$67 /ha
<b>Nutrition</b>				<b>\$941/ha</b>
Nutrient: CK55	400 kg/ha	0.85 \$/kg		\$338 /ha
Nutrient: Potassium Nitrate	150 kg/ha	1.35 \$/kg		\$203 /ha
Nutrient: Calcium Nitrate	100 kg/ha	0.60 \$/kg		\$60 /ha
Nutrient: Urea (fertigate)	25 kg/ha	0.88 \$/kg		\$22 /ha
Nutrient: Boron & Calcium	2 kg/ha	5.86 \$/kg		\$12 /ha
Nutrient: Trace Elements	2 kg/ha	3.71 \$/kg		\$7 /ha
Labour (hours)	10 hr/ha	30.00 \$/hr		\$300 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/m		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/m		\$0 /ha
Contract: Labour (hours)	4 hr/ha	30.00 \$/m		\$120 /ha
<b>Crop Protection</b>				<b>\$587/ha</b>
Operation: Self-propelled sprayer FORM	4 operation	6 ha/hr	91.63 \$/hr	\$61 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	1 application	1.2 L/ha	51.70 \$/L	\$62 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Glyphosate (e.g. RICO 450)	1 application	2 L/ha	6.05 \$/L	\$12 /ha
Insecticide: Bifentrin + Hydrocarbon (e.g. Talstar 250 EC)	2 application	0.24 L/ha	30.80 \$/L	\$15 /ha
Contract: Crop agronomy/protection	4 ha/hr	113.99 \$/hr		\$28 /ha
Labour (hours) pollination	2 hr/ha	30.00 \$/hr		\$60 /ha
Labour (hours)	10 hr/ha	30.00 \$/hr		\$300 /ha
<b>Harvesting</b>				<b>\$2,873/ha</b>
Labour (hours) picking and packing	30 hr/ha	30.00 \$/hr		\$900 /ha

Labour (hours) mulch removal	5 hr/ha	30.00 \$/hr	\$150 /ha	
Packaging: Bulk octabin	28500 kg/ha	350 kg/bin	15.00 \$/bin	\$1,221 /ha
Operation: On farm cartage of octabin	28500 kg/ha		0.01 \$/kg	\$317 /ha
Operation: Cooling Hort \$/kg	28500 kg/ha		0.01 \$/kg	\$285 /ha
<b>Cartage</b>				<b>\$4,275/ha</b>
Transportation: Refo pallet	28500 kg/ha	900 kg/pallet	135.00 \$/pallet	\$4,275 /ha
<b>Levies</b>				<b>\$1,710/ha</b>
Commission & Levies	15 %	[INCOME]		\$1,710 /ha

**Total Variable Costs: \$11,453 /ha**  
**Gross Margin: -\$53 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
19,950.00	-\$3,895	-\$3,240	-\$2,601	-\$1,979	-\$1,374
22,800.00	-\$3,148	-\$2,422	-\$1,718	-\$1,035	-\$375
25,650.00	-\$2,422	-\$1,631	-\$868	-\$133	\$574
<b>28,500.00</b>	<b>-\$1,718</b>	<b>-\$868</b>	<b>-\$53</b>	<b>\$728</b>	<b>\$1,474</b>
31,350.00	-\$1,035	-\$133	\$728	\$1,547	\$2,325
34,200.00	-\$375	\$574	\$1,474	\$2,325	\$3,127
37,050.00	\$263	\$1,254	\$2,187	\$3,062	\$3,879

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
19,950.00	-\$974	-\$810	-\$650	-\$495	-\$343
22,800.00	-\$787	-\$605	-\$429	-\$259	-\$94
25,650.00	-\$605	-\$408	-\$217	-\$33	\$144
<b>28,500.00</b>	<b>-\$429</b>	<b>-\$217</b>	<b>-\$13</b>	<b>\$182</b>	<b>\$369</b>
31,350.00	-\$259	-\$33	\$182	\$387	\$581
34,200.00	-\$94	\$144	\$369	\$581	\$782
37,050.00	\$66	\$313	\$547	\$765	\$970

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# Balonne: Sweet Corn



Sweet Corn - Drip Irrigation - Plant 2016 (Balonne)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Sweet Corn</b>			<b>\$14,850/ha</b>
Sweet Corn	990 (18L) ctn/ha	15.00 \$/ctn	\$14,850 /ha
<b>Total Income: \$14,850 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$222/ha</b>
Operation: Discing	2 operation	0.9 hr/ha	27.00 \$/hr	\$49 /ha
Operation: Rotary hoeing	1 operation	1 hr/ha	53.50 \$/hr	\$54 /ha
Labour (hours)	4 hrs	1 hr/ha	30.00 \$/hr	\$120 /ha
<b>Planting</b>				<b>\$617/ha</b>
Seed: Sweet corn	1 application	55000 seeds/ha	0.01 \$/seedling	\$550 /ha
Operation: planter (seed)	1 operation	2 ha/hr	133.12 \$/hr	\$67 /ha
<b>Nutrition</b>				<b>\$707/ha</b>
Nutrient: MAP - Farm Gate	1 application	200 kg/ha	0.83 \$/kg	\$165 /ha
Nutrient: Urea	2 application	50 kg/ha	0.54 \$/kg	\$54 /ha
Nutrient: Solubor (foliar)	2 application	1 kg/ha	2.55 \$/kg	\$5 /ha
Nutrient: Ammonium Sulphate	1 application	40 kg/ha	0.53 \$/kg	\$21 /ha
Operation: FWA Light + Spreader FORM	1 hrs	2 ha/hr	32.30 \$/hr	\$16 /ha
Operation: Self-propelled sprayer FORM	1 operation	2 ha/hr	91.63 \$/hr	\$46 /ha
Contract: Soil analysis		4 ha/test	100.00 \$/test	\$25 /ha
Labour (hours)	3 hrs	1 hr/ha	30.00 \$/hr	\$90 /ha
Nutrient: Urea - Farm Gate	1 application	200 kg/ha	0.59 \$/kg	\$117 /ha
Nutrient: Sulphate of Potash	1 application	100 kg/ha	1.68 \$/kg	\$168 /ha
<b>Irrigation</b>				<b>\$1,280/ha</b>
Labour: laying and removing drip tape	5 hrs	1 hr/ha	30.00 \$/hr	\$150 /ha
Irrigation: Layflat 100mm	0.2 application	75 m/ha	4.00 \$/m	\$60 /ha
Irrigation: Drip tape 10mm	1 application	6600 m/ha	0.10 \$/m	\$660 /ha
Labour: Irrigation and fertigation	2 hrs	1 hr/ha	30.00 \$/hr	\$60 /ha
Irrigation: Drip (FORM)		5 ML/ha	50.00 \$/ML	\$250 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$937/ha</b>
Operation: Self-propelled sprayer FORM	7 operation	2 ha/hr	91.63 \$/hr	\$321 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	2 application	0.75 L/ha	67.76 \$/L	\$102 /ha
Insecticide: Nucleopolyhedrovirus (NPV) (e.g. Virus Max)	2 application	0.2 L/ha	129.80 \$/L	\$52 /ha
Insecticide: Spinetoram (e.g. Success Neo)	2 application	0.4 L/ha	391.64 \$/L	\$313 /ha
Labour (hours)	3 hrs	1 hr/ha	30.00 \$/hr	\$90 /ha
Contract: Crop agronomy/protection	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
<b>Harvesting</b>				<b>\$4,536/ha</b>
Harvester: Sweet corn (4 row)	990 (18l) ctn/ha	150 ctn/hr	151.10 \$/hr	\$997 /ha

Packaging: 18L Styros	990 (18l) ctn/ha		1.50 \$/(18L) ctn	\$1,485 /ha
Labour: packing	990 (18l) ctn/ha	22 (18L) ctn/hr	30.00 \$/hr	\$1,350 /ha
Processing: Cooling styros	990 (18l) ctn/ha		0.20 \$/(18L) ctn	\$198 /ha
Packing: machine labour	990 (18l) ctn/ha	75 (18L) ctn/hr	30.00 \$/hr	\$396 /ha
Operation: On farm cartage of styros	990 (18l) ctn/ha		0.11 \$/(18L) ctn	\$110 /ha
<b>Cartage</b>				<b>\$2,088/ha</b>
Freight (to Brisbane)	990 (18l) ctn/ha	64 (18L) ctn/pallet	135.00 \$/pallet	\$2,088 /ha
<b>Levies</b>				<b>\$2,228/ha</b>
Commission, Levies: sweet corn	15 %		[INCOME]	\$2,228 /ha

**Total Variable Costs: \$12,614 /ha**  
**Gross Margin: \$2,236 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
693.00	-\$2,769	-\$1,916	-\$1,083	-\$273	\$515
792.00	-\$1,795	-\$850	\$67	\$956	\$1,816
891.00	-\$850	\$180	\$1,174	\$2,131	\$3,053
990.00	\$67	\$1,174	\$2,236	\$3,253	\$4,225
1,089.00	\$956	\$2,131	\$3,253	\$4,320	\$5,334
1,188.00	\$1,816	\$3,053	\$4,225	\$5,334	\$6,378
1,287.00	\$2,648	\$3,938	\$5,154	\$6,294	\$7,358

**Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).**

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
693.00	-\$554	-\$383	-\$217	-\$55	\$103
792.00	-\$359	-\$170	\$13	\$191	\$363
891.00	-\$170	\$36	\$235	\$426	\$611
990.00	\$13	\$235	\$447	\$651	\$845
1,089.00	\$191	\$426	\$651	\$864	\$1,067
1,188.00	\$363	\$611	\$845	\$1,067	\$1,276
1,287.00	\$530	\$788	\$1,031	\$1,259	\$1,472

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# Maranoa (Roma) Gross Margins 2016

## Maranoa: Irrigated Cotton



Cotton - Surface irrigated - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cotton</b>			<b>\$6,444/ha</b>
Lint	12 bales/ha	480.00 \$/bale	\$5,760 /ha
Seed	3.6 t/ha	190.00 \$/tonne	\$684 /ha
<b>Total Income: \$6,444 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$65/ha</b>
Operation: Mulcher + FWA Light FORM	1 operation	12 ha/hr	33.04 \$/hr	\$3 /ha
Middlebusting	1 operation	6 ha/hr	34.71 \$/hr	\$6 /ha
Operation: Self-propelled sprayer FORM	2 operation	12 ha/hr	91.85 \$/hr	\$15 /ha
Herbicide: Glyphosate 450 CT	1 application	1.6 L/ha	6.05 \$/L	\$10 /ha
Herbicide: Trifluralin	1 application	2.8 L/ha	9.63 \$/L	\$27 /ha
Operation: Discing	1 operation	6 ha/hr	27.00 \$/hr	\$5 /ha
<b>Planting</b>				<b>\$487/ha</b>
Operation: planter (seed)	1 operation	10 ha/hr	133.63 \$/hr	\$13 /ha
Seed: Cotton		13 kg/ha	8.00 \$/kg	\$104 /ha
Seed: Cotton Bollgard II fee: Opt1		1 Portion	370.00 \$/ha	\$370 /ha
<b>Nutrition</b>				<b>\$373/ha</b>
Nutrient: Granulock Z		100 kg/ha	0.87 \$/kg	\$87 /ha
Operation: Spreader + FWA Light FORM	1 operation	12 ha/hr	32.44 \$/hr	\$3 /ha
Nutrient: Anhydrous ammonia		122 kg/ha	1.00 \$/kg	\$122 /ha
Operation: Side Dressing Fertiliser	1 operation	10 ha/hr	75.71 \$/hr	\$8 /ha
Nutrient: Urea - Farm Gate	1 application	260 kg/ha	0.59 \$/kg	\$153 /ha
<b>Crop Protection</b>				<b>\$164/ha</b>
Operation: Self-propelled sprayer FORM	5 operation	12 ha/hr	91.85 \$/hr	\$38 /ha
Herbicide: Roundup Ready	2 application	1.2 kg/ha	8.00 \$/kg	\$19 /ha
Insecticide: Fipronil	2 application	0.06 L/ha	350.00 \$/L	\$42 /ha
Herbicide: Roundup Ready	1 application	0.6 kg/ha	8.00 \$/kg	\$5 /ha
Aerial Spray	1 application		14.65 \$/ha	\$15 /ha
Insecticide: Indoxacarb	1 application	0.65 L/ha	69.15 \$/L	\$45 /ha
<b>Irrigation</b>				<b>\$360/ha</b>
Irrigation: Surface (FORM)		8 ML/ha	25.00 \$/ML	\$200 /ha
Consumable: Water		8 ML/ha	20.00 \$/ML	\$160 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Harvesting</b>				<b>\$258/ha</b>
Plastic Wrap: Cotton Bale		10 bales/ha	8.80 \$/bale	\$88 /ha
Aerial Spray	2 operation		14.65 \$/ha	\$29 /ha
Defoliant: Thiadazu	1 application	0.25 L/ha	52.75 \$/L	\$13 /ha
Defoliant: Crop Oil	1 application	2 L/ha	3.91 \$/L	\$8 /ha
Defoliant: Ethepon	1 application	1.5 L/ha	9.33 \$/L	\$14 /ha
Defoliant: Ethepon	1 application	2 L/ha	9.33 \$/L	\$19 /ha

Harvester: Cotton Round Bale	7 ha/hr	275.77 \$/hr	\$39 /ha
Round Bale Grab: Cotton	12 bales/ha	4.00 \$/bale	\$48 /ha
<b>Other</b>			<b>\$192/ha</b>
Crop insurance	1 %	[INCOME]	\$58 /ha
Contract: Consultant Irrigated Broadacre		68.99 \$/ha	\$69 /ha
R&D Levy	12 bales/ha	2.25 \$/bale	\$27 /ha
Voluntary Levy	12 bales/ha	1.50 \$/bale	\$18 /ha
5% Pigeon Pea Refuge		19.95 \$/ha	\$20 /ha
<b>Post-Harvest</b>			<b>\$764/ha</b>
Cartage: Cotton	12 bales/ha	8.65 \$/bale	\$104 /ha
Ginning	12 bales/ha	55.00 \$/bale	\$660 /ha

**Total Variable Costs: \$2,663 /ha**  
**Gross Margin: \$3,781 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$986	\$1,432	\$1,878	\$2,323	\$2,767
9.60	2.88	\$1,496	\$2,005	\$2,513	\$3,021	\$3,528
10.80	3.24	\$2,005	\$2,577	\$3,148	\$3,718	\$4,287
12.00	3.60	\$2,513	\$3,148	\$3,781	\$4,414	\$5,045
13.20	3.96	\$3,021	\$3,718	\$4,414	\$5,108	\$5,801
14.40	4.32	\$3,528	\$4,287	\$5,045	\$5,801	\$6,555
15.60	4.68	\$4,035	\$4,856	\$5,675	\$6,492	\$7,308

### Effects of Yield and Price on Gross Margin per ML (assuming 8.0ML/ha is used).

Lint Yield (bales/ha)	Seed Yield (t/ha)	\$384.00/bale \$152.00/tonne	\$432.00/bale \$171.00/tonne	\$480.00/bale \$190.00/tonne	\$528.00/bale \$209.00/tonne	\$576.00/bale \$228.00/tonne
8.40	2.52	\$123	\$179	\$235	\$290	\$346
9.60	2.88	\$187	\$251	\$314	\$378	\$441
10.80	3.24	\$251	\$322	\$394	\$465	\$536
12.00	3.60	\$314	\$394	\$473	\$552	\$631
13.20	3.96	\$378	\$465	\$552	\$639	\$725
14.40	4.32	\$441	\$536	\$631	\$725	\$819
15.60	4.68	\$504	\$607	\$709	\$812	\$913

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# Maranoa: Broccoli



## Broccoli - Hand Shift Irrigation - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Broccoli</b>			<b>\$23,120/ha</b>
Broccoli	1445 8 kg/styro	16.00 \$/styro	\$23,120 /ha
<b>Total Income: \$23,120 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$186/ha</b>
Operation: Ripper + FWA Light FORM	1 operation	1 ha/hr	34.02 \$/hr	\$34 /ha
Contract: Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
Operation: Spreader + FWA Light FORM	1 operation	1 ha/hr	32.44 \$/hr	\$32 /ha
<b>Planting</b>				<b>\$6,387/ha</b>
Seedlings: Broccoli	1 application	50000 plants/ha	0.08 \$/plant	\$4,150 /ha
Operation: Planting + FWA Light FORM	1 operation	3.75 hr/ha	116.48 \$/hr	\$437 /ha
Contract: Labour (hours)		60 hr/ha	30.00 \$/hr	\$1,800 /ha
<b>Nutrition</b>				<b>\$1,140/ha</b>
Nutrient: Calcium Nitrate - Farm Gate	4 application	100 kg/ha	0.60 \$/kg	\$240 /ha
Nutrient: Potassium Nitrate - Farm Gate	4 application	100 kg/ha	1.40 \$/kg	\$560 /ha
Nutrient: CK55 - Farm Gate	1 application	400 kg/ha	0.85 \$/kg	\$340 /ha
<b>Irrigation</b>				<b>\$240/ha</b>
Irrigation: Hand Shift (FORM)		2 ML/ha	70.00 \$/ML	\$140 /ha
Consumable: Water		2 ML/ha	20.00 \$/ML	\$40 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	30.00 \$/hr	\$60 /ha
<b>Crop Protection</b>				<b>\$910/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.85 \$/hr	\$92 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	2 application	0.5 L/ha	51.70 \$/L	\$52 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	3 application	0.1 L/ha	870.72 \$/L	\$261 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
Herbicide: Trifluralin + Hydrocarbon (e.g. Trifluralin 480 EC)	1 application	2 L/ha	9.63 \$/L	\$19 /ha
Insecticide: Emamectin Benzoate (e.g. Proclaim)	2 application	0.3 kg/ha	399.67 \$/kg	\$240 /ha
Contract: Crop agronomy/protection		4 ha/hr	113.99 \$/hr	\$28 /ha
Contract: Labour (hours)		3 hr/ha	30.00 \$/hr	\$90 /ha
<b>Harvesting</b>				<b>\$10,925/ha</b>
Contract: Labour picking	1445 8 kg/styro	15 styro/hr	30.00 \$/hr	\$2,890 /ha
Contract: Labour packing machine labour	1445 8 kg/styro	15 styro/hr	30.00 \$/hr	\$2,890 /ha
Packaging: 8kg Styros	1445 8 kg/styro		2.50 \$/ctn	\$3,613 /ha
Operation: On farm cartage of styros	1445 8 kg/styro		0.11 \$/ctn	\$161 /ha
Processing: Cooling styros	1445 8 kg/styro		0.20 \$/ctn	\$289 /ha

Processing: Ice for styros	1445 8 kg/styro		0.75 \$/ctn	\$1,084 /ha
<b>Cartage</b>				<b>\$3,483/ha</b>
Transportation: Refo pallet	1 (36L) ctn/ha	56 (36L) ctn/pallet	135.00 \$/pallet	\$3,483 /ha
<b>Levies</b>				<b>\$3,468/ha</b>
Commission & Levies	15 %		[INCOME]	\$3,468 /ha

**Total Variable Costs: \$26,740 /ha**  
**Gross Margin: -\$3,620 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,011.50	-\$11,412	-\$10,083	-\$8,787	-\$7,525	-\$6,298
1,156.00	-\$9,895	-\$8,423	-\$6,995	-\$5,612	-\$4,273
1,300.50	-\$8,423	-\$6,820	-\$5,273	-\$3,782	-\$2,347
1,445.00	-\$6,995	-\$5,273	-\$3,620	-\$2,036	-\$522
1,589.50	-\$5,612	-\$3,782	-\$2,036	-\$374	\$1,204
1,734.00	-\$4,273	-\$2,347	-\$522	\$1,204	\$2,830
1,878.50	-\$2,978	-\$969	\$923	\$2,698	\$4,356

### Effects of Yield and Price on Gross Margin per ML (assuming 2.0ML/ha is used).

Broccoli Yield (8 kg/styro)	\$12.80/styro	\$14.40/styro	\$16.00/styro	\$17.60/styro	\$19.20/styro
1,011.50	-\$5,706	-\$5,041	-\$4,394	-\$3,763	-\$3,149
1,156.00	-\$4,948	-\$4,212	-\$3,498	-\$2,806	-\$2,136
1,300.50	-\$4,212	-\$3,410	-\$2,636	-\$1,891	-\$1,174
1,445.00	-\$3,498	-\$2,636	-\$1,810	-\$1,018	-\$261
1,589.50	-\$2,806	-\$1,891	-\$1,018	-\$187	\$602
1,734.00	-\$2,136	-\$1,174	-\$261	\$602	\$1,415
1,878.50	-\$1,489	-\$484	\$462	\$1,349	\$2,178

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# Maranoa: Cabbage (drumhead for processing)



Cabbage (Drumhead for processing) - 500kg Bins (Contract) - Plant 2016 (Maranoa)



Commodities

	YIELD	PRICE	TOTAL
<b>Cabbage (Drumhead for processing)</b>			<b>\$22,125/ha</b>
Cabbage	295 Bins/Ha	75.00 \$/bin	\$22,125 /ha
<b>Total Income: \$22,125 /ha</b>			

Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.02 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.71 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 ha/hr	29.71 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming+ FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.44 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$4,387/ha</b>
Seedlings: Cabbage	1 application	40000 plants/ha	0.07 \$/plant	\$2,600 /ha
Contract: Plant seedlings	1 application	45 hr/ha	30.00 \$/hr	\$1,350 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	116.48 \$/hr	\$437 /ha
<b>Nutrition</b>				<b>\$634/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.85 \$/hr	\$425 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.60 \$/hr	\$120 /ha
Nutrient: Urea (fertigate) - Farm Gate		100 kg/ha	0.89 \$/hr	\$89 /ha
<b>Irrigation</b>				<b>\$420/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		2 hr/ha	30.00 \$/hr	\$60 /ha
<b>Crop Protection</b>				<b>\$462/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.85 \$/hr	\$92 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	2 application	0.1 L/ha	870.72 \$/L	\$174 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	1 application	1.8 L/ha	64.79 \$/L	\$117 /ha
<b>Harvesting</b>				<b>\$6,794/ha</b>
Operation: Tractor / Trailer		5 hr/ha	31.47	\$157 /ha
Contract: Labour Picking	295 Bins/Ha	0.5 hrs/bin	30.00 \$/hr	\$4,425 /ha
Packaging: Bin Hire	295 Bins/Ha	0.5 Bins hired/Bin	5.00 \$/bin	\$738 /ha
Operation: Cooling Hort \$/kg	295 Bins/Ha	500 kg/bin	0.01 \$/kg	\$1,475 /ha
<b>Cartage</b>				<b>\$13,275/ha</b>
Transportation: Refo pallet	295 Bins/Ha	3 bins/pallet	135.00 \$/pallet	\$13,275 /ha
<b>Levies</b>				<b>\$553/ha</b>

Levies	2.5 %	[INCOME]	\$553 /ha
Commission & Levies			
<b>Total Variable Costs: \$26,817 /ha</b>			
<b>Gross Margin: -\$4,692 /ha</b>			

Effect of Yield and Price on Gross Margin (\$/ha)

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
206.50	-\$14,048	-\$12,545	-\$11,048	-\$9,556	-\$8,070
236.00	-\$12,331	-\$10,621	-\$8,918	-\$7,223	-\$5,534
265.50	-\$10,621	-\$8,706	-\$6,800	-\$4,903	-\$3,014
295.00	-\$8,918	-\$6,800	-\$4,692	-\$2,596	-\$511
324.50	-\$7,223	-\$4,903	-\$2,596	-\$303	\$1,977
354.00	-\$5,534	-\$3,014	-\$511	\$1,977	\$4,449
383.50	-\$3,853	-\$1,135	\$1,563	\$4,243	\$6,905

Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cabbage Yield (Bins/Ha)	\$60.00/bin	\$67.50/bin	\$75.00/bin	\$82.50/bin	\$90.00/bin
206.50	-\$3,512	-\$3,136	-\$2,762	-\$2,389	-\$2,017
236.00	-\$3,083	-\$2,655	-\$2,230	-\$1,806	-\$1,384
265.50	-\$2,655	-\$2,176	-\$1,700	-\$1,226	-\$754
295.00	-\$2,230	-\$1,700	-\$1,173	-\$649	-\$128
324.50	-\$1,806	-\$1,226	-\$649	-\$76	\$494
354.00	-\$1,384	-\$754	-\$128	\$494	\$1,112
383.50	-\$963	-\$284	\$391	\$1,061	\$1,726

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# Maranoa: Carrots



## Carrots - Hand Shift Irrigation - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Carrots</b>			<b>\$12,826/ha</b>
Carrots 1st Grade	1283 (20kg) ctn/ha	8.00 \$/ctn	\$10,264 /ha
Carrots 2nd Grade	427 (20kg) bags/ha	6.00 \$/bag	\$2,562 /ha
<b>Total Income: \$12,826 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$290/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.02 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.71 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.71 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	5 ha/hr	32.44 \$/hr	\$6 /ha
<b>Planting</b>				<b>\$2,816/ha</b>
Seed: Carrot	1 application	3 kg/ha	900.00 \$/kg	\$2,700 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 ha/hr	116.48 \$/hr	\$116 /ha
<b>Nutrition</b>				<b>\$587/ha</b>
Nutrient: CK55 - Farm Gate	1 application	500 kg/ha	0.85 \$/kg	\$425 /ha
Nutrient: Urea (fertigate) - Farm Gate	1 application	125 kg/ha	0.89 \$/kg	\$111 /ha
Nutrient: Solubor (Iolar) - Farm Gate	2 application	10 kg/ha	2.55 \$/kg	\$51 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Contract: Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$621/ha</b>
Operation: Shielded Sprayer + FWA Light FORM	6 operation	6 ha/hr	33.71 \$/hr	\$34 /ha
Herbicide: Glyphosate (e.g. ERICO 450)	1 application	3 kg/ha	6.05 \$/L	\$18 /ha
Herbicide: LoroX (Linuron)	2 application	2.3 L/ha	45.65 \$/L	\$210 /ha
Insecticide: Chlorpyrifos 500 EC	1 application	0.6 kg/ha	20.00 \$/L	\$12 /ha
Insecticide: Dimethoate + hydrocarbons (e.g. Dimethoate Nufam)	2 application	0.75 L/ha	11.00 \$/L	\$17 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Vapam	1 application	225 L/ha	1.30 \$/kg	\$293 /ha
<b>Harvesting</b>				<b>\$4,547/ha</b>
Operation: Lifting FORM		10 hr/ha	83.21 \$/hr	\$832 /ha
Contract: Labour Picking	1900 (20kg) units	250 (20kg) units/hr	30.00 \$/hr	\$228 /ha
Operation: Tractor / Trailer	1900 (20kg) units	500 (20kg) units/hr	31.47 \$/hr	\$120 /ha
Operation: Washing Carrots	1900 (20kg) units	100 (20kg) units/hr	30.25 \$/hr	\$575 /ha
Contract: Labour grading	1900 (20kg) units	500 (20kg) units/hr	30.00 \$/hr	\$114 /ha
Contract: Labour packing	1900 (20kg) units	200 (20kg) units/hr	30.00 \$/hr	\$285 /ha

Packaging: Bin Hire	1900 (20kg) units	500 (20kg) units/bin	5.00 \$/bin	\$19 /ha
Packaging: (20kg) Carton	1425 (20kg) ctn/ha		1.50 \$/hr	\$2,138 /ha
Packaging: (20kg) Bag	475 (20kg) ctn/ha		0.50 \$/hr	\$238 /ha
<b>Cartage</b>				<b>\$2,565/ha</b>
Transportation: Refo pallet	1900 (20kg) ctn/ha	100 (20kg) ctn/pallet	135.00 \$/pallet	\$2,565 /ha
<b>Levies</b>				<b>\$1,540/ha</b>
Commission & Levies	15 %		[INCOME]	\$1,540 /ha

**Total Variable Costs: \$13,447 /ha**  
**Gross Margin: -\$621 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
898.10	298.90	-\$5,207	-\$4,438	-\$3,683	-\$2,944	-\$2,220
1,026.40	341.60	-\$4,329	-\$3,470	-\$2,632	-\$1,812	-\$1,013
1,154.70	384.30	-\$3,470	-\$2,528	-\$1,611	-\$718	\$149
1,283.00	427.00	-\$2,632	-\$1,611	-\$621	\$339	\$1,267
1,411.30	469.70	-\$1,812	-\$718	\$339	\$1,358	\$2,341
1,539.60	512.40	-\$1,013	\$149	\$1,267	\$2,341	\$3,370
1,667.90	555.10	-\$233	\$992	\$2,165	\$3,286	\$4,355

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Carrots 1st Grade Yield ((20kg) ctn/ha)	Carrots 2nd Grade Yield ((20kg) bags/ha)	\$6.40/ctn \$4.80/bag	\$7.20/ctn \$5.40/bag	\$8.00/ctn \$6.00/bag	\$8.80/ctn \$6.60/bag	\$9.60/ctn \$7.20/bag
898.10	298.90	-\$1,302	-\$1,109	-\$921	-\$736	-\$555
1,026.40	341.60	-\$1,082	-\$868	-\$658	-\$453	-\$253
1,154.70	384.30	-\$868	-\$632	-\$403	-\$180	\$37
1,283.00	427.00	-\$658	-\$403	-\$155	\$85	\$317
1,411.30	469.70	-\$453	-\$180	\$85	\$340	\$585
1,539.60	512.40	-\$253	\$37	\$317	\$585	\$842
1,667.90	555.10	-\$58	\$248	\$541	\$821	\$1,089

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# Maranoa: Cauliflower



## Cauliflower - Hand Shift Irrigation - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Cauliflower</b>			<b>\$32,400/ha</b>
Cauliflower Domestic	2400 (72L) ctn/ha	13.50 \$/ctn	\$32,400 /ha
<b>Total Income: \$32,400 /ha</b>			

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.02 \$/hr	\$34 /ha
Operation: Discing	0 application	2 ha/hr	27.00 \$/hr	\$0 /ha
Operation: Cultivation	0 application	1 hr/ha	29.71 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.44 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$7,147/ha</b>
Seedlings: Cauliflower	1 application	40000 plants/ha	0.13 \$/plant	\$5,360 /ha
Contract: Plant seedlings	1 application	45 hr/ha	30.00 \$/hr	\$1,350 /ha
Operation: Planting + FWA Light FORM		3.75 hr/ha	116.48 \$/hr	\$437 /ha
<b>Nutrition</b>				<b>\$634/ha</b>
Nutrient: CK55 - Farm Gate		500 kg/ha	0.85 \$/kg	\$425 /ha
Nutrient: Calcium Nitrate - Farm Gate		200 kg/ha	0.60 \$/kg	\$120 /ha
Nutrient: Urea (ferigate) - Farm Gate		100 kg/ha	0.89 \$/kg	\$89 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)		4 ML/ha	70.00 \$/ML	\$280 /ha
Consumable: Water		4 ML/ha	20.00 \$/ML	\$80 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		4 hr/ha	30.00 \$/hr	\$120 /ha
<b>Crop Protection</b>				<b>\$724/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	6 ha/hr	91.85 \$/hr	\$92 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 L/ha	27.50 \$/L	\$11 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	2 L/ha	10.73 \$/L	\$21 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	6 application	0.75 kg/ha	67.76 \$/kg	\$305 /ha
Insecticide: Flubendiamide (e.g. Belt 480 SC)	1 application	0.1 L/ha	870.72 \$/L	\$87 /ha
Insecticide: Imidacloprid (e.g. Confidor 200 SC)	2 application	1.6 L/ha	64.79 \$/L	\$207 /ha
<b>Harvesting</b>				<b>\$12,626/ha</b>
Tractor: FWA Light FORM	2400 (72L) ctn/ha	500 (36L) ctn/hr	29.71 \$/hr	\$143 /ha
Contract: Labour Picking	2400 (72L) ctn/ha	15 (72kg) ctn/hr	30.00 \$/hr	\$4,800 /ha
Operation: Pallet hire	2400 (72L) ctn/ha	36 crts/pallet	0.06 \$/pallet	\$4 /ha
Packaging: 72L Styros	2400 (72L) ctn/ha		3.00 \$/carton	\$7,200 /ha
Processing: Cooling	2400 (72L) ctn/ha		0.20 \$/(72L) ctn	\$480 /ha
<b>Cartage</b>				<b>\$9,000/ha</b>
Transportation: Refn pallet	2400 (72L) ctn/ha	36 (72L) ctn/pallet	135.00 \$/pallet	\$9,000 /ha

Levies			\$/ha
Commission & Levies	15 %	[INCOME]	\$4,860 /ha
<b>Total Variable Costs: \$35,762 /ha</b>			
<b>Gross Margin: -\$3,362 /ha</b>			

### Effect of Yield and Price on Gross Margin (\$/ha)

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,680.00	-\$14,282	-\$12,419	-\$10,604	-\$8,836	-\$7,115
1,920.00	-\$12,157	-\$10,094	-\$8,093	-\$6,154	-\$4,277
2,160.00	-\$10,094	-\$7,847	-\$5,679	-\$3,589	-\$1,579
2,400.00	-\$8,093	-\$5,679	-\$3,362	-\$1,143	\$979
2,640.00	-\$6,154	-\$3,589	-\$1,143	\$1,186	\$3,398
2,880.00	-\$4,277	-\$1,579	\$979	\$3,398	\$5,676
3,120.00	-\$2,463	\$353	\$3,004	\$5,492	\$7,815

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Cauliflower Domestic Yield ((72L) ctn/ha)	\$10.80/ctn	\$12.15/ctn	\$13.50/ctn	\$14.85/ctn	\$16.20/ctn
1,680.00	-\$3,571	-\$3,105	-\$2,651	-\$2,209	-\$1,779
1,920.00	-\$3,039	-\$2,523	-\$2,023	-\$1,538	-\$1,069
2,160.00	-\$2,523	-\$1,962	-\$1,420	-\$897	-\$395
2,400.00	-\$2,023	-\$1,420	-\$841	-\$286	\$245
2,640.00	-\$1,538	-\$897	-\$286	\$297	\$849
2,880.00	-\$1,069	-\$395	\$245	\$849	\$1,419
3,120.00	-\$616	\$88	\$751	\$1,373	\$1,954

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# Maranoa: Garlic



## Garlic - Hand Shift Irrigation - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Garlic</b>			<b>\$26,136/ha</b>
1st grade (large)	2664 kg/ha	6.00 \$/kg	\$15,984 /ha
2nd grade (medium)	2538 kg/ha	4.00 \$/kg	\$10,152 /ha
<b>Total Income:</b>			<b>\$26,136 /ha</b>

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$284/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.02 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
<b>Planting</b>				<b>\$9,130/ha</b>
Seed: Garlic large bulbs (10 cloves/bulb)		928 kg/ha	8.00 \$/kg	\$7,424 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	116.48 \$/hr	\$116 /ha
Contract: Labour for planting		3 hr/ha	30.00 \$/hr	\$90 /ha
Contract: Labour for clove separation		50 hr/ha	30.00 \$/hr	\$1,500 /ha
<b>Nutrition</b>				<b>\$690/ha</b>
Nutrient: CK88 - Farm Gate		125 kg/ha	0.85 \$/kg	\$106 /ha
Nutrient: Urea (fertigate) - Farm Gate		60 kg/ha	0.89 \$/kg	\$53 /ha
Nutrient: Single Superphosphate - Farm Gate		400 kg/ha	0.45 \$/kg	\$180 /ha
Nutrient: Calcium Nitrate - Farm Gate		175 kg/ha	0.60 \$/kg	\$105 /ha
Nutrient: Potassium Nitrate - Farm Gate		175 kg/ha	1.40 \$/kg	\$245 /ha
<b>Irrigation</b>				<b>\$690/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	30.00 \$/hr	\$240 /ha
<b>Crop Protection</b>				<b>\$2,659/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	91.85 \$/hr	\$153 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	30.00 \$/hr	\$480 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
Contract: Labour for weed chipping		40 hr/ha	30.00 \$/hr	\$1,200 /ha

	YIELD	PRICE	TOTAL	
<b>Harvesting</b>			<b>\$12,488/ha</b>	
Operation: FWA Light FORM	20 hr/ha	31.47 \$/hr	\$629 /ha	
Contract: Labour harvesting	128 hr/ha	30.00 \$/hr	\$3,840 /ha	
Contract: Labour for grading, topping, tailing & packing	215 hr/ha	30.00 \$/hr	\$6,449 /ha	
Packaging: Bin Hire	20 Bins/ha	5.00 \$/bin	\$100 /ha	
Consumable: Electricity Drying	5494 kg/ha	0.25 kw/hr/kg	0.25 \$/kw/hr	\$343 /ha
Packaging: Cartons 10kg	5494 kg/ha	10.20 kg/ctn	2.05 \$/ctn	\$1,126 /ha
<b>Cartage</b>			<b>\$843/ha</b>	
Transportation: Refo pallet	5494 kg/ha	880 kg/pallet	135.00 \$/pallet	\$843 /ha
<b>Levies</b>			<b>\$2,398/ha</b>	
Commission & Levies	15 %	[INCOME]	\$2,398 /ha	
<b>Total Variable Costs:</b>			<b>\$29,181 /ha</b>	
<b>Gross Margin:</b>			<b>-\$3,045 /ha</b>	

### Effect of Yield and Price on Gross Margin (\$/ha)

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
1,864.80	1,776.60	-\$12,900	-\$11,270	-\$9,664	-\$8,081	-\$6,521
2,131.20	2,030.40	-\$11,039	-\$9,209	-\$7,410	-\$5,641	-\$3,903
2,397.60	2,284.20	-\$9,209	-\$7,187	-\$5,204	-\$3,259	-\$1,354
2,664.00	2,538.00	-\$7,410	-\$5,204	-\$3,045	-\$935	\$1,127
2,930.40	2,791.80	-\$5,641	-\$3,259	-\$935	\$1,330	\$3,538
3,196.80	3,045.60	-\$3,903	-\$1,354	\$1,127	\$3,538	\$5,880
3,463.20	3,299.40	-\$2,196	\$513	\$3,141	\$5,688	\$8,153

### Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).

1st grade (large) Yield (kg/ha)	2nd grade (medium) Yield (kg/ha)	\$4.80/kg	\$5.40/kg	\$6.00/kg	\$6.60/kg	\$7.20/kg
		\$3.20/kg	\$3.60/kg	\$4.00/kg	\$4.40/kg	\$4.80/kg
1,864.80	1,776.60	-\$2,580	-\$2,254	-\$1,933	-\$1,616	-\$1,304
2,131.20	2,030.40	-\$2,208	-\$1,842	-\$1,482	-\$1,128	-\$781
2,397.60	2,284.20	-\$1,842	-\$1,437	-\$1,041	-\$652	-\$271
2,664.00	2,538.00	-\$1,482	-\$1,041	-\$609	-\$187	\$225
2,930.40	2,791.80	-\$1,128	-\$652	-\$187	\$266	\$708
3,196.80	3,045.60	-\$781	-\$271	\$225	\$708	\$1,176
3,463.20	3,299.40	-\$439	\$103	\$628	\$1,138	\$1,631

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# Maranoa: Lettuce



## Lettuce - Hand Shift Irrigation - Plant 2016 (Maranoa)



### Commodities

	YIELD	PRICE	TOTAL
<b>Lettuce</b>			\$34,500/ha
Lettuce Domestic	3000 (62L)ctn/ha	11.50 \$/ctn	\$34,500 /ha
			<b>Total Income: \$34,500 /ha</b>

### Variable Costs

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$292/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 ha/hr	34.02 \$/hr	\$34 /ha
Operation: Discing + FWA Light FORM	0 application	1 ha/hr	56.71 \$/hr	\$0 /ha
Operation: Cultivation + FWA Light FORM	0 application	1 ha/hr	29.71 \$/hr	\$0 /ha
Operation: Rotary Hoeing & Bed Forming + FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
Operation: Spreader + FWA Light FORM	1 application	4 ha/hr	32.44 \$/hr	\$8 /ha
<b>Planting</b>				<b>\$6,487/ha</b>
Seedlings: lettuce	50000 seeds/ha	0.09 \$/seedling		\$4,550 /ha
Contract: plant seedlings	50 hr/ha	30.00 \$/hr		\$1,500 /ha
Operation: Planting + FWA Light FORM	3.75 hr/ha	116.48 \$/hr		\$437 /ha
<b>Nutrition</b>				<b>\$1,310/ha</b>
Nutrient: CK55 - Farm Gate	600 kg/ha	0.85 \$/kg		\$510 /ha
Nutrient: Calcium Nitrate - Farm Gate	400 kg/ha	0.60 \$/kg		\$240 /ha
Nutrient: Potassium Nitrate - Farm Gate	400 kg/ha	1.40 \$/kg		\$560 /ha
<b>Irrigation</b>				<b>\$480/ha</b>
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/ML		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/ML		\$0 /ha
Contract: Labour (hours)	4 hr/ha	30.00 \$/hr		\$120 /ha
<b>Crop Protection</b>				<b>\$640/ha</b>
Operation: Self-propelled sprayer FORM	6 operation	4 ha/hr	91.85 \$/hr	\$138 /ha
Fungicide: Mancozeb (e.g. Dithane)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	1 application	2.5 kg/ha	38.50 \$/kg	\$96 /ha
Fungicide: Iprodione (e.g. Rovral)	2 application	1 L/ha	34.10 \$/L	\$68 /ha
Herbicide: Pendimethalin + Hydrocarbon (e.g. Stomp 440)	1 application	3 L/ha	10.73 \$/L	\$32 /ha
Insecticide: Permethrin + Hydrocarbons (e.g. Ambush)	2 application	0.02 L/ha	82.50 \$/L	\$3 /ha
Insecticide: Chlorantraniliprole (e.g. Coragen)	2 application	0.15 L/ha	880.04 \$/L	\$264 /ha
<b>Harvesting</b>				<b>\$14,178/ha</b>
Tractor: FWA Light FORM	3000 (62L)ctn/ha	500 (62L) ctn/hr	29.71 \$/hr	\$178 /ha
Contract: Picking labour	3000 (62L)ctn/ha	18 (62L)ctn/hr	30.00 \$/hr	\$4,999 /ha
Packaging: 62L Waxed box	3000 (62L)ctn/ha		2.80 \$/box	\$8,400 /ha
Processing: Cooling	3000 (62L)ctn/ha	1 application	0.20 \$/ctn	\$600 /ha
<b>Cartage</b>				<b>\$9,643/ha</b>

Category	Quantity	Unit Price	Total
Transportation: Refo pallet	3000 (62L)ctn/ha	42 (62L)ctn/pallet	135.00 \$/pallet
Levies			\$9,643 /ha
Commission & Levies	15 %	[INCOME]	\$5,175 /ha

**Total Variable Costs: \$38,204 /ha**  
**Gross Margin: -\$3,704 /ha**

### Effect of Yield and Price on Gross Margin (\$/ha)

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,100.00	-\$15,332	-\$13,348	-\$11,415	-\$9,532	-\$7,700
2,400.00	-\$13,068	-\$10,871	-\$8,741	-\$6,676	-\$4,678
2,700.00	-\$10,871	-\$8,479	-\$6,171	-\$3,946	-\$1,805
3,000.00	-\$8,741	-\$6,171	-\$3,704	-\$1,341	\$919
3,300.00	-\$6,676	-\$3,946	-\$1,341	\$1,140	\$3,494
3,600.00	-\$4,678	-\$1,805	\$919	\$3,494	\$5,920
3,900.00	-\$2,746	\$252	\$3,075	\$5,724	\$8,197

### Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).

Lettuce Domestic Yield ((62L)ctn/ha)	\$9.20/ctn	\$10.35/ctn	\$11.50/ctn	\$12.65/ctn	\$13.80/ctn
2,100.00	-\$3,833	-\$3,337	-\$2,854	-\$2,383	-\$1,925
2,400.00	-\$3,267	-\$2,718	-\$2,185	-\$1,669	-\$1,170
2,700.00	-\$2,718	-\$2,120	-\$1,543	-\$986	-\$451
3,000.00	-\$2,185	-\$1,543	-\$926	-\$335	\$230
3,300.00	-\$1,669	-\$986	-\$335	\$285	\$874
3,600.00	-\$1,170	-\$451	\$230	\$874	\$1,480
3,900.00	-\$687	\$63	\$769	\$1,431	\$2,049

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# Maranoa: Onion- brown



Onions - Brown - Hand Shift Irrigation - Plant 2016 (Maranoa)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Onions - Brown</b>			<b>\$29,450/ha</b>
Onions 1st and 2nd grade	1900 20 kg/bag	15.50 \$/bag	\$29,450 /ha
<b>Total Income: \$29,450 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				<b>\$284/ha</b>
Operation: Ripper + FWA Light FORM	1 application	1 hr/ha	34.02 \$/hr	\$34 /ha
Operation: Rotary Hoeing & bed Forming + FWA Light FORM	1 application	3 hr/ha	83.21 \$/hr	\$250 /ha
<b>Planting</b>				<b>\$2,220/ha</b>
Seed: Onions	1 application	1.9 kg/ha	1060.00 \$/kg	\$2,014 /ha
Operation: Precision Planting + FWA Light FORM	1 application	1 hr/ha	116.48 \$/hr	\$116 /ha
Contract: Labour (hours)		3 hr/ha	30.00 \$/hr	\$90 /ha
<b>Nutrition</b>				<b>\$1,334/ha</b>
Nutrient: CK88 - Farm Gate		800 kg/ha	0.85 \$/kg	\$680 /ha
Nutrient: Urea (fertigate) - Farm Gate		600 kg/ha	0.89 \$/kg	\$534 /ha
Nutrient: Zinc Chelate (fertigate) - Farm Gate		10 kg/ha	12.00 \$/kg	\$120 /ha
<b>Irrigation</b>				<b>\$690/ha</b>
Irrigation: Hand Shift (FORM)		5 ML/ha	70.00 \$/ML	\$350 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
Contract: Labour (hours)		8 hr/ha	30.00 \$/hr	\$240 /ha
<b>Crop Protection</b>				<b>\$1,460/ha</b>
Operation: Self-propelled sprayer FORM	10 operation	6 ha/hr	91.85 \$/hr	\$153 /ha
Contract: Labour weed chipping	1 operation	16 hr/ha	30.00 \$/hr	\$480 /ha
Fungicide: Copper Oxchloride (e.g. Coppox WG)	5 application	0.2 kg/ha	27.50 \$/kg	\$28 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	4 application	3 kg/ha	9.50 \$/kg	\$114 /ha
Fungicide: Mancozeb+Metahaxyl-M (e.g. Ridomil Gold MZ WZ)	2 application	2.5 kg/ha	38.50 \$/kg	\$193 /ha
Fungicide: Polyram DF	2 application	3 kg/ha	13.20 \$/kg	\$79 /ha
Herbicide: Ioxynil + Hydrocarbon (e.g. Totril)	2 application	2.5 L/ha	56.10 \$/L	\$281 /ha
Insecticide: Lambda-Cyhalothrin (e.g. Karate Zeon)	2 application	0.04 L/ha	148.50 \$/L	\$12 /ha
Insecticide: Spirotetramat (e.g. Movento 240 SC)	2 application	0.2 L/ha	231.04 \$/L	\$92 /ha
Contract: Consultant Horticulture	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
<b>Harvesting</b>				<b>\$14,390/ha</b>
Operation: FWA Light FORM		20 hr/ha	31.47 \$/hr	\$629 /ha
Contract: Labour harvest		220 hr/ha	30.00 \$/hr	\$6,599 /ha
Contract: Labour grading & pack		150 hr/ha	30.00 \$/hr	\$4,500 /ha

Packaging: Bin Hire (RM)		100 Bins/ha	5.00 \$/bin	\$500 /ha
Consumable: Electricity Drying	1900 20 kg/bag	2.55 kWhr/bag	0.25 \$/kwhr	\$1,211 /ha
Packaging: Bag 20kg	1900 20 kg/bag		0.50 \$/bag	\$950 /ha
<b>Cartage</b>				<b>\$5,400/ha</b>
Transportation: Refo pallet		40 pallets/ha	135.00 \$/pallet	\$5,400 /ha
<b>Levies</b>				<b>\$4,418/ha</b>
Commission & Levies	15 %		[INCOME]	\$4,418 /ha
<b>Total Variable Costs: \$30,195 /ha</b>				
<b>Gross Margin: -\$745 /ha</b>				

**Effect of Yield and Price on Gross Margin (\$/ha)**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,330.00	-\$10,671	-\$8,977	-\$7,327	-\$5,720	-\$4,156
1,520.00	-\$8,739	-\$6,863	-\$5,044	-\$3,282	-\$1,576
1,710.00	-\$6,863	-\$4,821	-\$2,850	-\$951	\$876
1,900.00	-\$5,044	-\$2,850	-\$745	\$1,273	\$3,202
2,090.00	-\$3,282	-\$951	\$1,273	\$3,390	\$5,400
2,280.00	-\$1,576	\$876	\$3,202	\$5,400	\$7,471
2,470.00	\$73	\$2,632	\$5,042	\$7,303	\$9,414

**Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).**

Onions 1st and 2nd grade Yield (20 kg/bag)	\$12.40/bag	\$13.95/bag	\$15.50/bag	\$17.05/bag	\$18.60/bag
1,330.00	-\$2,134	-\$1,795	-\$1,465	-\$1,144	-\$831
1,520.00	-\$1,748	-\$1,373	-\$1,009	-\$656	-\$315
1,710.00	-\$1,373	-\$964	-\$570	-\$190	\$175
1,900.00	-\$1,009	-\$570	-\$149	\$255	\$640
2,090.00	-\$656	-\$190	\$255	\$678	\$1,080
2,280.00	-\$315	\$175	\$640	\$1,080	\$1,494
2,470.00	\$15	\$526	\$1,008	\$1,461	\$1,883

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# Maranoa: Pumpkin (Jap)



Pumpkin - Drip Irrigation - Plant 2016 (Maranoa)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Pumpkin</b>			\$11,400/ha
Pumpkin	28500 kg/ha	0.40 \$/kg	\$11,400 /ha
<b>Total Income: \$11,400 /ha</b>			

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Preparation</b>				\$120/ha
Operation: Ripper + FWA Light FORM	1 operation	0.75 hr/ha	34.02 \$/hr	\$26 /ha
Operation: Mulcher + FWA Light FORM	1 operation	1 hr/ha	33.04 \$/hr	\$33 /ha
Operation: Discing	1 operation	0.5 hr/ha	27.00 \$/hr	\$14 /ha
Operation: Rotary hoeing	1 operation	0.75 hr/ha	53.50 \$/hr	\$40 /ha
Operation: Spreader + FWA Light FORM	1 operation	4 ha/hr	32.44 \$/hr	\$8 /ha
<b>Planting</b>				\$467/ha
Seed: Pumpkin (Jap) seeds	1 operation	5000 seeds/ha	0.08 \$/seedling	\$400 /ha
Operation: planter (seed)	1 operation	2 ha/hr	133.63 \$/hr	\$67 /ha
<b>Nutrition</b>				\$944/ha
Nutrient: CK55	400 kg/ha	0.85 \$/kg		\$340 /ha
Nutrient: Potassium Nitrate	150 kg/ha	1.35 \$/kg		\$203 /ha
Nutrient: Calcium Nitrate	100 kg/ha	0.60 \$/kg		\$60 /ha
Nutrient: Urea (fertigate)	25 kg/ha	0.89 \$/kg		\$22 /ha
Nutrient: Boron & Calcium	2 kg/ha	5.86 \$/kg		\$12 /ha
Nutrient: Trace Elements	2 kg/ha	3.71 \$/kg		\$7 /ha
Labour (hours)	10 hr/ha	30.00 \$/hr		\$300 /ha
<b>Irrigation</b>				\$480/ha
Irrigation: Hand Shift (FORM)	4 ML/ha	70.00 \$/ML		\$280 /ha
Consumable: Water	4 ML/ha	20.00 \$/m		\$80 /ha
Irrigation: Water License	0 ML/ha	100.00 \$/m		\$0 /ha
Contract: Labour (hours)	4 hr/ha	30.00 \$/m		\$120 /ha
<b>Crop Protection</b>				\$588/ha
Operation: Self-propelled sprayer FORM	4 operation	6 ha/hr	91.85 \$/hr	\$61 /ha
Fungicide: Azoxystrobin (e.g. Amistar 250 SC)	1 application	1.2 L/ha	51.70 \$/L	\$62 /ha
Fungicide: Copper Oxychloride (e.g. Coppox WG)	2 application	0.2 kg/ha	27.50 \$/kg	\$11 /ha
Fungicide: Mancozeb (e.g. Dithane Rainshield)	2 application	2 kg/ha	9.50 \$/kg	\$38 /ha
Herbicide: Glyphosate (e.g. RICO 450)	1 application	2 L/ha	6.05 \$/L	\$12 /ha
Insecticide: Bifentrin + Hydrocarbon (e.g. Talstar 250 EC)	2 application	0.24 L/ha	30.80 \$/L	\$15 /ha
Contract: Crop agronomy/protection	4 ha/hr	113.99 \$/hr		\$28 /ha
Labour (hours) pollination	2 hr/ha	30.00 \$/hr		\$60 /ha
Labour (hours)	10 hr/ha	30.00 \$/hr		\$300 /ha
<b>Harvesting</b>				\$2,873/ha
Labour (hours) picking and packing	30 hr/ha	30.00 \$/hr		\$900 /ha

Labour (hours) mulch removal	5 hr/ha	30.00 \$/hr	\$150 /ha	
Packaging: Bulk octabin	28500 kg/ha	350 kg/bin	15.00 \$/bin	\$1,221 /ha
Operation: On farm cartage of octabin	28500 kg/ha		0.01 \$/kg	\$317 /ha
Operation: Cooling Hort \$/kg	28500 kg/ha		0.01 \$/kg	\$285 /ha
<b>Cartage</b>				\$4,275/ha
Transportation: Refo pallet	28500 kg/ha	900 kg/pallet	135.00 \$/pallet	\$4,275 /ha
<b>Levies</b>				\$1,710/ha
Commission & Levies	15 %		[INCOME]	\$1,710 /ha

**Total Variable Costs: \$11,457 /ha**  
**Gross Margin: -\$57 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
19,950.00	-\$3,899	-\$3,243	-\$2,604	-\$1,982	-\$1,377
22,800.00	-\$3,151	-\$2,425	-\$1,721	-\$1,039	-\$378
25,650.00	-\$2,425	-\$1,634	-\$872	-\$136	\$571
28,500.00	-\$1,721	-\$872	-\$57	\$724	\$1,471
31,350.00	-\$1,039	-\$136	\$724	\$1,544	\$2,322
34,200.00	-\$378	\$571	\$1,471	\$2,322	\$3,124
37,050.00	\$260	\$1,251	\$2,184	\$3,059	\$3,876

**Effects of Yield and Price on Gross Margin per ML (assuming 4.0ML/ha is used).**

Pumpkin Yield (kg/ha)	\$0.32/kg	\$0.36/kg	\$0.40/kg	\$0.44/kg	\$0.48/kg
19,950.00	-\$975	-\$811	-\$651	-\$496	-\$344
22,800.00	-\$788	-\$606	-\$430	-\$260	-\$95
25,650.00	-\$606	-\$409	-\$218	-\$34	\$143
28,500.00	-\$430	-\$218	-\$14	\$181	\$368
31,350.00	-\$260	-\$34	\$181	\$386	\$580
34,200.00	-\$95	\$143	\$368	\$580	\$781
37,050.00	\$65	\$313	\$546	\$765	\$969

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# Maranoa: Sweet Corn



## Sweet Corn - Drip Irrigation - Plant 2016 (Maranoa)



**Commodities**

	YIELD	PRICE	TOTAL
<b>Sweet Corn</b>			<b>\$14,850/ha</b>
Sweet Corn	990 (18L) ctn/ha	15.00 \$/ctn	\$14,850 /ha

**Total Income: \$14,850 /ha**

**Variable Costs**

	QTY	RATE	COST	TOTAL
<b>Fallow Management</b>				<b>\$222/ha</b>
Operation: Discing	2 operation	0.9 hr/ha	27.00 \$/hr	\$49 /ha
Operation: Rotary hoeing	1 operation	1 hr/ha	53.50 \$/hr	\$54 /ha
Labour (hours)	4 hrs	1 hr/ha	30.00 \$/hr	\$120 /ha
<b>Planting</b>				<b>\$617/ha</b>
Seed: Sweet corn	1 application	55000 seeds/ha	0.01 \$/seedling	\$550 /ha
Operation: planter (seed)	1 operation	2 ha/hr	133.63 \$/hr	\$67 /ha
<b>Nutrition</b>				<b>\$709/ha</b>
Nutrient: MAP - Farm Gate	1 application	200 kg/ha	0.83 \$/kg	\$166 /ha
Nutrient: Urea	2 application	50 kg/ha	0.54 \$/kg	\$54 /ha
Nutrient: Solubor (foliar)	2 application	1 kg/ha	2.55 \$/kg	\$5 /ha
Nutrient: Ammonium Sulphate	1 application	40 kg/ha	0.53 \$/kg	\$21 /ha
Operation: FWA Light + Spreader FORM	1 hrs	2 ha/hr	32.44 \$/hr	\$16 /ha
Operation: Self-propelled sprayer FORM	1 operation	2 ha/hr	91.85 \$/hr	\$46 /ha
Contract: Soil analysis		4 ha/test	100.00 \$/test	\$25 /ha
Labour (hours)	3 hrs	1 hr/ha	30.00 \$/hr	\$90 /ha
Nutrient: Urea - Farm Gate	1 application	200 kg/ha	0.59 \$/kg	\$118 /ha
Nutrient: Sulphate of Potash	1 application	100 kg/ha	1.68 \$/kg	\$168 /ha
<b>Irrigation</b>				<b>\$1,280/ha</b>
Labour: laying and removing drip tape	5 hrs	1 hr/ha	30.00 \$/hr	\$150 /ha
Irrigation: Layflat 100mm	0.2 application	75 m/ha	4.00 \$/m	\$60 /ha
Irrigation: Drip tape 10mm	1 application	6600 m/ha	0.10 \$/m	\$660 /ha
Labour: Irrigation and fertigation	2 hrs	1 hr/ha	30.00 \$/hr	\$60 /ha
Irrigation: Drip (FORM)		5 ML/ha	50.00 \$/ML	\$250 /ha
Consumable: Water		5 ML/ha	20.00 \$/ML	\$100 /ha
Irrigation: Water License		0 ML/ha	100.00 \$/ML	\$0 /ha
<b>Crop Protection</b>				<b>\$938/ha</b>
Operation: Self-propelled sprayer FORM	7 operation	2 ha/hr	91.85 \$/hr	\$321 /ha
Herbicide: Metolachlor (e.g. Dual Gold)	1 application	2 L/ha	15.40 \$/L	\$31 /ha
Insecticide: Bacillus Thuringiensis (BT) (e.g. XenTari WG)	2 application	0.75 L/ha	67.76 \$/L	\$102 /ha
Insecticide: Nucleopolyhedrovirus (NPV) (e.g. Vivus Max)	2 application	0.2 L/ha	129.80 \$/L	\$52 /ha
Insecticide: Spinetoram (e.g. Success Neo)	2 application	0.4 L/ha	391.64 \$/L	\$313 /ha
Labour (hours)	3 hrs	1 hr/ha	30.00 \$/hr	\$90 /ha
Contract: Crop agronomy/protection	1 application	4 ha/hr	113.99 \$/hr	\$28 /ha
<b>Harvesting</b>				<b>\$4,539/ha</b>
Harvester: Sweet corn (4 row)	990 (18l) ctn/ha	150 ctn/hr	151.52 \$/hr	\$1 000 /ha

Packaging: 18L Styros	990 (18l) ctn/ha		1.50 \$/(18L) ctn	\$1,485 /ha
Labour: packing	990 (18l) ctn/ha	22 (18L) ctn/hr	30.00 \$/hr	\$1,350 /ha
Processing: Cooling styros	990 (18l) ctn/ha		0.20 \$/(18L) ctn	\$198 /ha
Packing: machine labour	990 (18l) ctn/ha	75 (18L) ctn/hr	30.00 \$/hr	\$396 /ha
Operation: On farm cartage of styros	990 (18l) ctn/ha		0.11 \$/(18L) ctn	\$110 /ha
<b>Cartage</b>				<b>\$2,088/ha</b>
Freight (to Brisbane)	990 (18l) ctn/ha	64 (18L) ctn/pallet	135.00 \$/pallet	\$2,088 /ha
<b>Levies</b>				<b>\$2,228/ha</b>
Commission, Levies: sweet corn	15 %		[INCOME]	\$2,228 /ha

**Total Variable Costs: \$12,621 /ha**  
**Gross Margin: \$2,229 /ha**

**Effect of Yield and Price on Gross Margin (\$/ha)**

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
693.00	-\$2,776	-\$1,922	-\$1,090	-\$279	\$509
792.00	-\$1,801	-\$856	\$61	\$950	\$1,810
891.00	-\$856	\$174	\$1,168	\$2,125	\$3,047
990.00	\$61	\$1,168	\$2,229	\$3,247	\$4,219
1,089.00	\$950	\$2,125	\$3,247	\$4,314	\$5,328
1,188.00	\$1,810	\$3,047	\$4,219	\$5,328	\$6,372
1,287.00	\$2,642	\$3,932	\$5,147	\$6,287	\$7,352

**Effects of Yield and Price on Gross Margin per ML (assuming 5.0ML/ha is used).**

Sweet Corn Yield ((18L) ctn/ha)	\$12.00/ctn	\$13.50/ctn	\$15.00/ctn	\$16.50/ctn	\$18.00/ctn
693.00	-\$555	-\$384	-\$218	-\$56	\$102
792.00	-\$360	-\$171	\$12	\$190	\$362
891.00	-\$171	\$35	\$234	\$425	\$609
990.00	\$12	\$234	\$446	\$649	\$844
1,089.00	\$190	\$425	\$649	\$863	\$1,066
1,188.00	\$362	\$609	\$844	\$1,066	\$1,274
1,287.00	\$528	\$786	\$1,029	\$1,257	\$1,470

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