



## SPRAY IRRIGATED AZUKI BEANS (no-till)

Farm Enterprise Budget Series - Central and Southern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

<b>Total Yield</b>	2.40 tonnes/ha	
2.00 tonnes/ha at	\$1,200 /tonne (clean seed, 1st grade).....	\$2,400.00
0.26 tonnes/ha at	\$700 /tonne (2nd grade).....	\$182.00
0.07 tonnes/ha at	\$160 /tonne (stock feed).....	\$11.20
0.07 tonnes/ha at	waste	\$0.00

Sample Budget \$/ha	Your Budget \$/ha

Gradings (percentage 2nd grade or lower) amount will vary according to crop and harvest conditions.

**A. TOTAL INCOME \$/ha:**

**\$2,593.20**

#### VARIABLE COSTS:

see following page for details

Sowing.....	\$275.00	
Fertiliser & application.....	\$126.00	
Herbicide & application.....	\$123.37	
Insecticide & application.....	\$153.22	
Fungicide & application.....	\$128.75	
Irrigation.....	\$609.70	
Consultant.....	\$40.00	
Harvesting.....	\$101.24	
Grading & bagging.....	\$216.00	
Cartage.....	\$52.80	

**B. TOTAL VARIABLE COSTS \$/ha:**

**\$1,826.08**

**C. GROSS MARGIN (A-B) \$/ha:**

**\$767.12**

**D. GROSS MARGIN \$/ML:**

**\$109.59**

### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

TOTAL YIELD t/ha.	\$/tonne					Gross Margin (\$/ha)
	\$700 /t	\$950 /t	\$1,200 /t	\$1,450 /t	\$1,700 /t	
1.20	-\$935	-\$665	-\$395	-\$125	\$145	
1.60	-\$728	-\$368	-\$8	\$352	\$713	
2.00	-\$521	-\$70	\$380	\$830	\$1,280	
<b>2.40</b>	-\$313	\$227	<b>\$767</b>	\$1,307	\$1,848	
2.80	-\$106	\$524	\$1,155	\$1,785	\$2,415	
3.20	\$101	\$822	\$1,542	\$2,262	\$2,983	
3.60	\$309	\$1,119	\$1,929	\$2,740	\$3,550	

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

TOTAL YIELD t/ha.	\$/tonne					Gross Margin (\$/ML)
	\$700 /t	\$950 /t	\$1,200 /t	\$1,450 /t	\$1,700 /t	
1.20	-\$134	-\$95	-\$56	-\$18	\$21	
1.60	-\$104	-\$53	-\$1	\$50	\$102	
2.00	-\$74	-\$10	\$54	\$119	\$183	
<b>2.40</b>	-\$45	\$32	<b>\$110</b>	\$187	\$264	
2.80	-\$15	\$75	\$165	\$255	\$345	
3.20	\$14	\$117	\$220	\$323	\$426	
3.60	\$44	\$160	\$276	\$391	\$507	

# SPRAY IRRIGATED AZUKI BEANS (no-till)

Farm Enterprise Budget Series - Central and Southern Zone

Summer 2012-2013

(Overhead spray irrigated from river-regulated)

CALENDAR OF OPERATIONS:	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost	Total	Rate/ha	Cost	Total	
			\$/hour	\$/ha		\$	\$/ha	
Pre-irrigation *	Dec				0.8 MI	86.00	68.80	<b>68.80</b>
Herbicide - ground spray	Jan	contract rate		10.00				<b>10.00</b>
Herbicide - ground spray, 450 g/L glyphosate	Jan	with above			1.6 L	4.50	7.20	<b>7.20</b>
Herbicide - Triflur X ®	Jan	with above			1.7 L	6.02	10.23	<b>10.23</b>
Seed + inoculum	Jan	contract rate		25.00	100 kg	2.50	250.00	<b>275.00</b>
Fertiliser- Single Super	Jan	with above			300 kg	0.42	126.00	<b>126.00</b>
Herbicide - Verdict® (PER11405)	Jan	contract rate		10.00	0.1 L	57.07	5.71	<b>15.71</b>
Uptake® crop oil	Jan	with above			0.5 L	6.97	3.49	<b>3.49</b>
Irrigation *	Jan				1.50 ML	86.00	129.00	<b>129.00</b>
Herbicide - ground spray	Jan	contract rate		10.00				<b>10.00</b>
Herbicide - Spinnaker®700 (PER13607)	Jan	with above			140 g/Ha	0.28	39.20	<b>39.20</b>
Hasten® crop oil	Jan	with above			0.5 L	6.97	3.49	<b>3.49</b>
Irrigation *	Feb				1.50 ML	86.00	129.00	<b>129.00</b>
Insecticide - dimethoate	Feb	contract rate		10.00	0.500 L	10.49	5.25	<b>15.25</b>
Insecticide - NPV eg Gemstar LC	Mar	contract rate		10.00	0.375 L	145.64	54.62	<b>64.62</b>
Irrigation *	Mar				1.50 ML	86.00	129.00	<b>129.00</b>
Irrigation equip. repairs and maintenance at				\$1.10/MI				<b>7.70</b>
Insecticide - DiPel®SC	Mar	contract rate		10.00	2.0 L	12.85	25.70	<b>35.70</b>
Fungicide - Fortress® (PER12236)	Mar	contract rate		10.00	1.5 L	43.50	65.25	<b>75.25</b>
Irrigation *	Mar				1.00 ML	86.00	86.00	<b>86.00</b>
Insecticide - Steward®	Mar	contract rate		10.00	0.4 L	69.15	27.66	<b>37.66</b>
Fungicide - Fortress® (PER12236)	Mar	contract rate		10.00	1.0 L	43.50	43.50	<b>53.50</b>
Irrigation *	Apr				0.70 ML	86.00	60.20	<b>60.20</b>
Desiccant - Roundup PowerMAX®	Apr	contract rate		10.00	1.8 L	7.81	14.06	<b>24.06</b>
Harvest	Mar	contract		101.24	per ha incl fuel			<b>101.24</b>
Grading & bagging	May	contract		\$90 /t.				<b>216.00</b>
Cartage				\$22 /t.				<b>52.80</b>
Consultant agronomist								<b>40.00</b>

## AGRONOMIC NOTES:

Yield and price inputs are based on performances of the crop over the last 5 years.

Azuki needs well drained soil types. It is suggested that azuki beans should not be grown in situations where 2.4 t/ha is thought to be an unrealistic yield target.

**Pests:** Inputs assume moderate to high insect pressure as well as sclerotinia disease pressure.

Azuki profitability hinges on getting good yields, high grade grain and double cropping with good wheat crops.

*To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.*

Always read chemical labels and follow directions, as it is your legal responsibility to do so.

**Fertiliser:** If applying phosphate fertiliser, use a fertiliser that contains good levels of sulphur as well, e.g. single superphosphate.

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

**Price:** Prices can fluctuate widely. This is because the azuki market size is regulated by a quota administered by the Japanese Government. Quota size is largely based on Japanese production. Quota size sets the market and price for Australian azuki beans. Quota markets are subject to wide price fluctuations. Growers should be aware of Japanese quota size and market prospects before sowing azuki beans.

**Harvest:** This crop is moderately susceptible to weather damage at harvest, which can impact on grades achieved.

The Japanese market requires high quality grain to achieve first grade azuki beans.

The sensitivity tables show a range of yield and price outcomes.

For further information, refer to the NSW DPI publication, "Azuki Beans: Irrigated Planting Guide 2004-2005"

**LABOUR REQUIREMENTS:** - Labour is not costed in this budget.

## MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well.

**IRRIGATION:** Water usage charge of \$15.78/ ML assumed, your charges may be different.

\* Irrigation quantity is an approximate value and can vary between years in response to rainfall

Good irrigation management has emerged as a critical aspect for good azuki yields in recent years.

Water pumping costs are calculated using a spray system with diesel powered pumping from surface supply.

Water requirements 7.00 ML is sufficient to adequately irrigate azuki beans 4 out of 5 years.



## SURFACE IRRIGATED COTTON (Roundup Ready Flex® Bollgard II®)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

Lint -	9.00 bales/ha at	\$400 /bale (at gin)....
Seed -	3.24 tonnes/ha at	\$190 /tonne (at gin)...
Refuge 10% cotton		

**A. TOTAL INCOME \$/ha:**

Sample Budget \$/ha	Your Budget \$/ha
\$3,600.00	
\$615.60	
\$421.56	
<b>\$4,637.16</b>	

### VARIABLE COSTS:

see following page(s) for details

	RR Bollgard II®	Your budget
Cultivation.....	\$98.38	
Sowing.....	\$113.05	
Crop insurance.....	\$55.00	
Fertiliser & application.....	\$383.15	
Herbicide & application.....	\$157.06	
Insecticide & application.....	\$119.99	
Irrigation.....	\$311.64	
Contract harvesting.....	\$379.43	
Cartage to gin.....	\$152.14	
Ginning charges.....	\$540.00	
Levies.....	\$40.50	
Licence fees.....	\$370.00	
Other (eg consultant).....	\$60.00	
Cotton refuge crop, 10% of Bt cotton area.....	\$276.42	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>3,056.76</b>	

**C. GROSS MARGIN (A-B) \$/ha:**

**\$1,580.40**

**D. GROSS MARGIN (A-B) \$/ML:**

**\$225.77**

### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

Lint bales/ha	Seed t/ha	\$340 /bale \$150 /t	\$370 /bale \$170 /t	<b>\$400 /bale \$190 /t</b>	\$430 /bale \$200 /t	\$460 /bale \$210 /t	Lint price Seed price
7.00	2.52	\$148	\$434	\$721	\$980	\$1,238	<b>Gross Margin (\$/ha)</b>
8.00	2.88	\$496	\$823	\$1,151	\$1,446	\$1,742	
<b>9.00</b>	<b>3.24</b>	\$844	\$1,212	<b>\$1,580</b>	\$1,913	\$2,246	
10.00	3.60	\$1,192	\$1,601	\$2,010	\$2,380	\$2,749	
11.00	3.96	\$1,540	\$1,990	\$2,440	\$2,847	\$3,253	
12.00	4.32	\$1,888	\$2,379	\$2,870	\$3,313	\$3,757	
13.00	4.68	\$2,236	\$2,768	\$3,300	\$3,780	\$4,261	

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

Lint bales/ha	Seed t/ha	\$340 /bale \$150 /t	\$370 /bale \$170 /t	\$400 /bale \$190 /t	\$430 /bale \$200 /t	\$460 /bale \$210 /t	Gross Margin (\$/ML)
7.00	2.52	\$21	\$62	\$103	\$140	\$177	<b>Gross Margin (\$/ML)</b>
8.00	2.88	\$71	\$118	\$164	\$207	\$249	
<b>9.00</b>	<b>3.24</b>	\$121	\$173	<b>\$226</b>	\$273	\$321	
10.00	3.60	\$170	\$229	\$287	\$340	\$393	
11.00	3.96	\$220	\$284	\$349	\$407	\$465	
12.00	4.32	\$270	\$340	\$410	\$473	\$537	
13.00	4.68	\$319	\$395	\$471	\$540	\$609	

# SURFACE IRRIGATED COTTON (Roundup Ready Flex<sup>®</sup> Bollgard II<sup>®</sup>)

Farm Enterprise Budget Series - Northern Zone

(diesel pump from river-regulated)

Summer 2012-2013

CALENDAR OF OPERATIONS:		Machinery			Inputs				Total
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Band Width	Cost \$	Total \$/ha	Total Cost \$/ha
Stalk pull and mulch	May	contract						100%	<b>75.00</b>
Middlebusting	Jul	0.23	61.13	14.06				100%	<b>14.06</b>
Fertiliser - anhydrous ammonia	Jul	with above		100kg N	122 kg	100%	0.90	109.76	<b>109.76</b>
Herbicide - ground spray, 450 g/L glyphosate	Jul	0.03	56.38	1.69	1.6 L	100%	4.50	7.20	<b>8.89</b>
Wetter - non-ionic surfactant	Jul	with above			0.2 L	100%	6.72	1.34	<b>1.34</b>
Herbicide - trifluralin ground spray	Aug	0.03	56.38	1.69	2.8 L	100%	6.02	16.86	<b>18.55</b>
Plus incorporation	Aug	0.15	62.13	9.32		100%			<b>9.32</b>
Pre irrigate	Sep				1.4 ML	100%	44.52	62.33	<b>62.33</b>
Fertiliser - MAP plus potassium blend	Sep	0.14	64.62	9.05	100 Kg	100%	0.96	96.00	<b>96.00</b>
Planting - precision planter	Oct	0.14	64.62	9.05		100%			<b>9.05</b>
Planting- seed Roundup Ready Flex <sup>®</sup> Bollgard II <sup>®</sup>	Oct	with above			13 kg	100%	8.00	104.00	<b>104.00</b>
Insecticide - imidacloprid	Oct	with above			seed treatment				
Herbicide - Roundup Ready <sup>®</sup>	Nov	0.03	56.38	1.69	1.2 kg	100%	8.00	9.60	<b>11.29</b>
Irrigate	Nov				1.0 ML	100%	44.52	44.52	<b>44.52</b>
Insecticide - fipronil (200 g/L)	Nov	0.03	56.38	1.69	0.06 L	60%	349.35	13.21	<b>14.90</b>
Fertiliser - urea	Dec	with above		120kg N	261 Kg	100%	0.68	177.39	<b>177.39</b>
Herbicide - Roundup Ready <sup>®</sup>	Dec	0.03	56.38	1.69	1.2 kg	100%	8.00	9.60	<b>11.29</b>
Irrigate	Dec				1.0 ML	100%	44.52	44.52	<b>44.52</b>
Insecticide - fipronil (200 g/L)	Dec	0.03	56.38	1.69	0.06 L	60%	349.35	13.21	<b>14.90</b>
Irrigate	Jan				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Roundup Ready <sup>®</sup> (shielded sprayer)	Jan	0.09	65.13	5.86	1.0 kg	60%	8.00	4.80	<b>10.66</b>
Insecticide - indoxacarb (150 g/L)	Jan	aerial spray		20.00	0.65 L	100%	69.15	44.95	<b>64.95</b>
Irrigate	Jan				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Crop insurance	Jan	Premium depends on various factors						55.00	<b>55.00</b>
Irrigate	Feb				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Insecticide - dimethoate (400 g/L)	Feb	aerial spray		20.00	0.5 L	100%	10.49	5.25	<b>25.25</b>
Bollgard II stacked with Roundup Ready Flex <sup>®</sup>									
Licence fee *	Feb							370.00	<b>370.00</b>
Defoliant - thidiazuron	Mar	aerial spray		20.00	0.25 L	100%	58.25	14.56	<b>34.56</b>
Defoliant - crop oil	Mar	with above			2.0 L	100%	3.91	7.82	<b>7.82</b>
Defoliant - ethepon (720 g/L)	Mar	with above			1.5 L	100%	9.33	14.00	<b>14.00</b>
Defoliant - ethepon (720 g/L)	Mar	aerial spray		20.00	2.0 L	100%	9.33	18.66	<b>38.66</b>
Contract picking	May	contract		\$343/ha					<b>343.00</b>
Contract lifting	May	contract		\$85.00	/load @ 21 bales per load				<b>36.43</b>
Contract cartage to gin	May	contract		\$355.00	/load @ 60 km from gin				<b>152.14</b>
Ginning charges	May	contract		\$60.00	/bale				<b>540.00</b>
Levies	May	contract		\$4.50	/bale				<b>40.50</b>
Consultant	May	contract							<b>60.00</b>
Refuge crop - cotton @ 10%									<b>276.42</b>
<b>TOTAL COSTS:</b>									<b>3,057</b>

This budget should be used as a GUIDE ONLY and should be changed by the grower to take account of movements in crop and input prices, changes in seasonal conditions and individual farm characteristics. Estimated prices are GST exclusive.

**NOTES:**

**MANAGEMENT:-** Each grower is required to grow a refuge crop as part of preventative resistance management. Since the refuge crop is an integrated part of growing Roundup Ready Flex® Bollgard II® cotton, refuge crop costs have been included as part of the gross margin budget. For the purposes of this example, we have used irrigated cotton at 10% of the Bt cotton area. Please refer to the Monsanto Roundup Ready Flex® Bollgard II® Resistance Management Plan for more information on refuge crops and minimum requirements.

**For more detailed information, see the Cotton CRC "Cotton Pest Management Guide 2012-13" at [www.cottoncrc.org.au](http://www.cottoncrc.org.au)**

**SEED:** Seed costs per kg will vary with the time of ordering and the seed treatment chosen.

**HERBICIDES:** Fallow herbicides have been substituted for cultivation during the winter to avoid soil compaction. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

*Use of a particular formulation does NOT imply recommendation of that formulation by NSW DPI*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**LICENCE FEES:** \* The technology licence fee for Bollgard II® stacked with Roundup Ready Flex® for 2012-13 is \$370 per green hectare (GST-exclusive). This example uses Monsanto Cotton Choices™ Option 1 which provides a discount on the technology licence fees for 2012-13. However you should choose the option which best suits your operation, <http://www.cottonchoices.com.au>

**DEFOLIANT:** Good conditions are required to get the best performance. The choice of defoliant and rate used depends on the moisture status of the plant and seasonal conditions.

**LABOUR REQUIREMENTS:**

- labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$25.23, reducing the gross margin to \$1,555.00 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

**MACHINERY ASSUMPTIONS:**

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:**

Water pumping costs:

Estimated water usage charge of \$31.75 per ML assumed, your charges may be different. calculated using a flood/furrow system with diesel powered pumping from surface supply.

Water requirements

7.00 ML/ha is sufficient to adequately irrigate cotton 4 out of 5 years. This assumes little useful rainfall during the growing season.



## SURFACE IRRIGATED COTTON (Roundup Ready Flex®)

Grown as refuge crop for RR Flex® Bollgard II® crop

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

				Sample Budget \$/ha	Your Budget \$/ha
<b>INCOME:</b>					
Lint -	9.00	bales/ha at	\$400.00 /bale (at gin).....	\$3,600.00	
Seed -	3.24	tonnes/ha at	\$190.00 /tonne (at gin).....	\$615.60	
<b>A. TOTAL INCOME \$/ha:</b>				<b>\$4,215.60</b>	

### VARIABLE COSTS:

see following page(s) for details

Cultivation.....	\$98.38	
Sowing.....	\$113.05	
Crop insurance.....	\$55.00	
Fertiliser & application.....	\$263.98	
Herbicide & application.....	\$158.33	
Insecticide & application.....	\$472.40	
Irrigation.....	\$311.64	
Contract harvesting.....	\$388.00	
Cartage to gin.....	\$187.94	
Ginning charges.....	\$540.00	
Licence fees.....	\$75.00	
Levies.....	\$40.50	
Other.....	\$60.00	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$2,764.21</b>	

**C. GROSS MARGIN (A-B) \$/ha:**

**\$1,451**

**D. GROSS MARGIN (A-B) \$/ML:**

**\$207**

### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

Lint Yield bales/ha	Seed Yield t/ha	\$340 /bale \$150/t	\$370 /bale \$170/t	<b>\$400 /bale \$190/t</b>	\$430 /bale \$200/t	\$460 /bale \$210/t	Lint price Seed price
7.00	2.52	\$175	\$435	\$695	\$931	\$1,166	<b>Gross Margin (\$/ha)</b>
8.00	2.88	\$478	\$776	\$1,073	\$1,342	\$1,611	
<b>9.00</b>	<b>3.24</b>	\$782	\$1,117	<b>\$1,451</b>	\$1,754	\$2,056	
10.00	3.60	\$1,085	\$1,457	\$1,829	\$2,165	\$2,501	
11.00	3.96	\$1,389	\$1,798	\$2,207	\$2,577	\$2,947	
12.00	4.32	\$1,693	\$2,139	\$2,585	\$2,989	\$3,392	
13.00	4.68	\$1,996	\$2,480	\$2,963	\$3,400	\$3,837	

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

Lint Yield bales/ha	Seed Yield t/ha	\$340 /bale \$150 /bale	\$370 /bale \$170 /bale	\$400 /bale \$190 /bale	\$430 /bale \$200 /bale	\$460 /bale \$210 /bale
7.00	2.52	\$25	\$62	\$99	\$133	\$167
8.00	2.88	\$68	\$111	\$153	\$192	\$230
<b>9.00</b>	<b>3.24</b>	\$112	\$160	<b>\$207</b>	\$251	\$294
10.00	3.60	\$155	\$208	\$261	\$309	\$357
11.00	3.96	\$198	\$257	\$315	\$368	\$421
12.00	4.32	\$242	\$306	\$369	\$427	\$485
13.00	4.68	\$285	\$354	\$423	\$486	\$548

# SURFACE IRRIGATED COTTON (Roundup Ready Flex®)

Farm Enterprise Budget Series - Northern Zone

(diesel pump from river-regulated)

Summer 2012-2013

CALENDAR OF OPERATIONS:			Machinery			Inputs			Total
Operation	Month				Rate/ha	Band Width	Cost \$	Total \$/ha	Total Cost \$/ha
		hrs /ha	\$/hour	\$/ha					
Stalk pull and mulch	May	contract							<b>75.00</b>
Middlebusting	Jul	0.23	61.13	14.06		100%			<b>14.06</b>
Fertiliser - anhydrous ammonia	Jul	with above		140KgN	171 Kg	100%	0.90	153.66	<b>153.66</b>
Herbicide - ground spray, 450 g/L glyphosate	Jul	0.03	56.38	1.69	1.6 L	100%	4.50	7.20	<b>8.89</b>
Wetter - non-ionic surfactant	Jul	with above			0.2 L	100%	6.72	1.34	<b>1.34</b>
Herbicide - trifluralin (480 g/L)	Aug	0.03	56.38	1.69	3.2 L	100%	6.02	19.26	<b>20.96</b>
Plus incorporation	Aug	0.15	62.13	9.32		100%			<b>9.32</b>
Pre irrigate	Sep				1.4 ML	100%	44.52	62.33	<b>62.33</b>
Fertiliser - MAP plus potassium blend	Sep	0.15	62.13	9.32	100 Kg	100%	1.01	101.00	<b>110.32</b>
Planting - precision planter	Oct	0.14	64.62	9.05		100%			<b>9.05</b>
Planting- seed Roundup Ready®	Oct	with above			13 kg	100%	8.00	104.00	<b>104.00</b>
Insecticide - imidacloprid	Oct	with above			seed treatment				
Roundup Ready® Roundup	Nov	0.03	56.38	1.69	1.2 kg	100%	8.00	9.60	<b>11.29</b>
Irrigate	Nov				1.0 ML	100%	44.52	44.52	<b>44.52</b>
Insecticide - endosulfan (350 g/L) (mirids)	Nov	0.03	56.38	1.69	2.1 L	40%	8.88	7.46	<b>9.15</b>
Herbicide - shielded sprayer	Dec	0.09	65.13	5.86					<b>5.86</b>
Herbicide - glyphosate (450 g/L)	Dec	with above			2.0 L	40%	4.50	3.60	<b>3.60</b>
Insecticide - emamectin (17 g/L)	Dec	0.03	56.38	1.69	0.7 L	30%	69.90	14.68	<b>16.37</b>
Roundup Ready® Roundup	Dec	0.03	56.38	1.69	1.2 kg	100%	8.00	9.60	<b>11.29</b>
Irrigate	Dec				1.0 ML	100%	44.52	44.52	<b>44.52</b>
Insecticide - spinosad 480 g/L	Jan	aerial spray		20.00	0.2 L	100%	428.00	85.60	<b>105.60</b>
Irrigate	Jan				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Roundup Ready® Roundup (shielded sprayer)	Jan	0.09	65.13	5.86	1.0 kg	60%	8.00	4.80	<b>10.66</b>
Insecticide - indoxacarb (200 g/L)	Jan	aerial spray		20.00	0.85 L	100%	69.15	58.78	<b>78.78</b>
Insecticide - spinosad (480 g/L)	Jan	aerial spray		20.00	0.2 L	100%	428.00	85.60	<b>105.60</b>
Irrigate	Jan				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Crop insurance	Jan	Premium depends on various factors						55.00	<b>55.00</b>
Roundup Ready Flex® Licence fee *	Jan							75.00	<b>75.00</b>
Insecticide - indoxacarb (200 g/L)	Feb	aerial spray		20.00	0.85 L	100%	69.15	58.78	<b>78.78</b>
Insecticide - beta-cyfluthrin (25 g/L)	Feb	0.03	56.38	1.69	0.8 L	100%	7.35	5.88	<b>7.57</b>
Insecticide - amitraz (200 g/L)	Feb	with above			2.0 L	100%	10.53	21.06	<b>21.06</b>
Irrigate	Feb				1.2 ML	100%	44.52	53.42	<b>53.42</b>
Insecticide - chlorpyrifos (300 g/L)	Mar	aerial spray		20.00	3.0 L	100%	9.83	29.49	<b>49.49</b>
Defoliant - thidiazuron (500 g/L)	Apr	aerial spray		20.00	0.10 L	100%	58.25	5.83	<b>25.83</b>
Defoliant - crop oil	Apr	with above			2.0 L	100%	3.91	7.82	<b>7.82</b>
Defoliant - ethepon (720 g/L)	Apr	with above			1.3 L	100%	9.33	12.13	<b>12.13</b>
Defoliant - ethepon (720 g/L)	Apr	aerial spray		20.00	2.0 L	100%	9.33	18.66	<b>38.66</b>
Contract picking & module building	May	contract		\$343/ha					<b>343.00</b>
Contract Module lifting	May	contract		\$85.00	/module @ 17 bales per module				<b>45.00</b>
Contract cartage to gin	May	contract		\$355.00	/module @ 50km from gin				<b>187.94</b>
Ginning charges	May	contract		\$60.00	/bale				<b>540.00</b>
Consultant	May	contract							<b>60.00</b>
Levies	May	contract		\$4.50	/bale				<b>40.50</b>
<b>TOTAL COSTS:</b>								<b>2,764</b>	

This budget should be used as a GUIDE ONLY and should be changed by the grower to take account of movements in crop and input prices, changes in seasonal conditions and individual farm characteristics. Estimated prices are GST exclusive.

**NOTES:** ® = registered Trade Mark

**INSECTS:** The selection of insecticides is highly dependent on the insect spectrum, growers should be aware this is a generic selection of products. growers should be mindful of IPM strategies when making product selections. Always refer to the Insecticide Resistance Management Strategy for Cotton when selecting insecticide products.

**For more detailed information, see the Cotton CRC "Cotton Pest Management Guide 2012-13" at [www.cottoncrc.org.au](http://www.cottoncrc.org.au)**

**HERBICIDES:-** fallow herbicides have been substituted for cultivation during the winter to avoid compaction and conserve moisture. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

**WEED MANAGEMENT:** When a refuge needs cultivation, the Bollgard II® crop should be cultivated at the same time.

*Use of a particular formulation name does NOT imply recommendation of that formulation by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**MANAGEMENT:-** this budget is typical of "back to back" cotton assuming the cotton crop is in a 2 year cotton - 1 year wheat rotation.

**DEFOLIANT:** Good condition are required to get the best performance. The choice of defoliant and rate used depends on the moisture status of the plant and seasonal conditions.

**LABOUR REQUIREMENTS:** - labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$25.50/ha, reducing the gross margin to \$1,426 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

**MACHINERY ASSUMPTIONS:** Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** # Estimated water usage charge of \$31.75 per ML assumed, your charges may be different.  
Water pumping costs: calculated using a flood/furrow system with diesel powered pumping from surface supply.

Water requirements 7.00 ML is sufficient to adequately irrigate cotton 4 out of 5 years. This assumes no useful rainfall during the growing season.





## SURFACE IRRIGATED MAIZE (diesel pump from bore)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

10.00 tonnes/ha at \$240.00 /tonne (on farm, feed)

Crop prices were correct at the time of writing (Aug 2012), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$2,400.00	

#### A. TOTAL INCOME \$/ha:

<b>\$2,400.00</b>	
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#### VARIABLE COSTS:

see following page(s) for details

Cultivation.....	\$9.32	
Sowing.....	\$344.41	
Fertiliser.....	\$361.20	
Herbicide.....	\$89.36	
Insecticide.....	\$0.00	
Irrigation.....	\$476.55	
Harvest.....	\$141.24	
Levies and insurance.....	\$118.32	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$1,540.39</b>	

#### C. GROSS MARGIN (A-B) \$/ha:

<b>\$859.61</b>	
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#### D. GROSS MARGIN \$/ML:

<b>\$120.23</b>	
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### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	On Farm Price					
	\$200 /t	\$220 /t	\$240 /t	\$270 /t	\$320 /t	\$370 /t
7.00	-\$103	\$36	\$175	\$383	\$731	\$1,078
8.00	\$85	\$244	\$403	\$641	\$1,038	\$1,436
9.00	\$274	\$453	\$631	\$899	\$1,346	\$1,793
<b>10.00</b>	\$462	\$661	<b>\$860</b>	\$1,157	\$1,654	\$2,150
11.00	\$651	\$869	\$1,088	\$1,416	\$1,962	\$2,508
12.00	\$840	\$1,078	\$1,316	\$1,674	\$2,269	\$2,865
13.00	\$1,028	\$1,286	\$1,544	\$1,932	\$2,577	\$3,222

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

YIELD tonnes/ha	On Farm Price					
	\$200 /t	\$220 /t	\$240 /t	\$270 /t	\$320 /t	\$370 /t
7.00	-\$14	\$5	\$24	\$54	\$102	\$151
8.00	\$12	\$34	\$56	\$90	\$145	\$201
9.00	\$38	\$63	\$88	\$126	\$188	\$251
<b>10.00</b>	\$65	\$92	<b>\$120</b>	\$162	\$231	\$301
11.00	\$91	\$122	\$152	\$198	\$274	\$351
12.00	\$117	\$151	\$184	\$234	\$317	\$401
13.00	\$144	\$180	\$216	\$270	\$360	\$451

# SURFACE IRRIGATED MAIZE (diesel pump from bore)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

250

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs/ha	Cost	Total	Rate/ha	Cost	Total	Cost \$/ha
			\$/hour	\$/ha		\$	\$/ha	
Herbicide - ground spray, 450 g/L glyphosate	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Herbicide - triclopyr	Mar	with above			0.08 L	19.46	1.56	<b>1.56</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	May	0.05	51.87	2.59	1.0 L	4.50	4.50	<b>7.09</b>
Wetter - non-ionic surfactant	May	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	Aug	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Aug	with above			0.2 L	6.72	1.34	<b>1.34</b>
Fertiliser -Bulk Urea	Sep	0.12	74.99	9.00	435 kg	0.68	295.80	<b>304.80</b>
Pre-Irrigate	Sep				1.4 ML	66.65	93.31	<b>93.31</b>
Sowing - thiamethoxam treated seed	Oct	0.12	78.38	9.41	25 kg	13.40	335.00	<b>344.41</b>
Fertiliser-* Granulock SuPreme Z	Oct	with above			60 kg	0.94	56.40	<b>56.40</b>
Herbicide - S-metolachlor+atrazine	Oct	0.03	56.38	1.69	3.20 L	14.09	45.09	<b>46.78</b>
Inter-row cultivate	Nov	0.15	62.13	9.32				<b>9.32</b>
Irrigate	Dec				1.00 ML	66.65	66.65	<b>66.65</b>
Irrigate	Dec				1.25 ML	66.65	83.31	<b>83.31</b>
Irrigate	Jan				1.25 ML	66.65	83.31	<b>83.31</b>
Irrigate	Jan				1.25 ML	66.65	83.31	<b>83.31</b>
Crop insurance **	Jan			4.21%				<b>101.04</b>
Irrigate	Feb				1.0 ML	66.65	66.65	<b>66.65</b>
Harvest #	Apr	contract		141.24	per ha incl fuel			<b>141.24</b>
Grains Research Levy				0.72%	of farm gate value			<b>17.28</b>

## AGRONOMIC NOTES:

### Sowing Time:

Maize can be sown from October onwards.

### Weeds:

s-metolachlor+atrazine used for grass and broadleaf weed control.

To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

\* Maize is sensitive to zinc deficiency. Zinc amended fertiliser or treatment should be included where necessary.

**Insurance:** \*\* Varies with local government area and postcode, check with your insurer.

# Harvest costs based on \$39.50/ha for a crop up to 2.5 t/ha with estimated increment of \$1.58 per extra

100 kg/ha above 2.5 t/ha.

For further information see the NSW DPI "Summer Crop Production Guide 2012-13"

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

### LABOUR REQUIREMENTS:

- labour is not costed in this budget. If labour costs \$21.70/hr, total

labour cost would be \$16.82, reducing the gross margin to \$843 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

### MACHINERY ASSUMPTIONS:

Tractor:

170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

Maize harvesting requires a corn front. Ownership or running costs are not included in this budget.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** Water usage charge of \$9.20 per ML assumed, your charges may be different.

Water pumping costs:

calculated using a flood/furrow system with diesel powered pumping from groundwater.

Water requirements

7.15 ML is sufficient to adequately irrigate maize 4 out of 5 years.



## SPRAY IRRIGATED MUNGBEANS (no-till)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

<b>Yield</b>	1.50 tonnes/ha	
1.32 tonnes/ha at	\$850.00 /tonne (clean seed, processing grade).....	\$1,122.00
0.18 tonnes/ha at	\$160.00 /tonne (gradings).....	\$28.80

Sample Budget \$/ha	Your Budget \$/ha
\$1,122.00	
\$28.80	

A grading percentage of 12% is assumed, but it will vary according to crop and harvest conditions.

#### A. TOTAL INCOME \$/ha:

**\$1,150.80**

#### VARIABLE COSTS: see following page(s) for details

Sowing.....	\$61.91
Fertiliser & application.....	\$53.80
Herbicide & application.....	\$62.27
Insecticide & application.....	\$26.43
Irrigation.....	\$152.96
Harvesting.....	\$76.24
Levies and insurance.....	\$61.68
Grading & bagging.....	\$135.00

#### B. TOTAL VARIABLE COSTS \$/ha:

**\$630.28**

#### C. GROSS MARGIN (A-B) \$/ha:

**\$520.52**

#### D. GROSS MARGIN \$/ML:

**\$347.01**

### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD t/ha.		\$140 /t	\$150 /t	\$160 /t	\$165 /t	\$170 /t	\$175 /t
gradings	clean seed	\$710 /t	\$780 /t	<b>\$850 /t</b>	\$890 /t	\$930 /t	\$970 /t
0.14	1.06	\$171	\$245	\$320	\$362	\$405	\$447
0.16	1.14	\$225	\$306	\$387	\$433	\$479	\$525
0.17	1.23	\$280	\$367	\$454	\$503	\$553	\$602
<b>0.18</b>	<b>1.32</b>	\$334	\$427	<b>\$521</b>	\$574	\$627	\$680
0.20	1.45	\$416	\$518	\$621	\$679	\$738	\$796
0.22	1.58	\$498	\$609	\$721	\$785	\$849	\$913
0.24	1.76	\$607	\$731	\$855	\$926	\$997	\$1,068

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

YIELD t/ha.		\$140 /t	\$150 /t	\$160 /t	\$165 /t	\$170 /t	\$175 /t
gradings	clean seed	\$710 /t	\$780 /t	<b>\$850 /t</b>	\$890 /t	\$930 /t	\$970 /t
0.14	1.06	\$114	\$163	\$213	\$241	\$270	\$298
0.16	1.14	\$150	\$204	\$258	\$288	\$319	\$350
0.17	1.23	\$186	\$244	\$302	\$335	\$369	\$402
<b>0.18</b>	<b>1.32</b>	\$223	\$285	<b>\$347</b>	\$382	\$418	\$453
0.20	1.45	\$277	\$346	\$414	\$453	\$492	\$531
0.22	1.58	\$332	\$406	\$481	\$523	\$566	\$608
0.24	1.76	\$404	\$487	\$570	\$617	\$665	\$712

# SPRAY IRRIGATED MUNGBEANS (no-till)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

(spray irrigated from river-regulated)

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs /ha	Cost	Total	Rate/ha	Cost	Total	Total Cost \$/ha
			\$/hour	\$/ha		\$	\$/ha	
Herbicide - ground spray, 450 g/L glyphc	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphc	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphc	May	0.05	51.87	2.59	1.0 L	4.50	4.50	<b>7.09</b>
Wetter - non-ionic surfactant	May	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphc	Sep	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Sep	with above			0.2 L	6.72	1.34	<b>1.34</b>
Fertiliser - single super (+ Mo)	Nov	0.12	74.99	9.00	80 kg	0.56	44.80	<b>53.80</b>
Herbicide - glyphosate CT	Nov	0.03	56.38	1.69	1.5 L		0.00	<b>1.69</b>
Wetter - non-ionic surfactant	Nov	with above			0.2 L	6.72	1.34	<b>1.34</b>
Sowing: Seed + inoculum	Dec	0.12	78.38	9.41	25 kg	2.10	52.50	<b>61.91</b>
Irrigation	Jan				0.5 ML	101.97	50.99	<b>50.99</b>
Crop insurance **	Jan			4.34%				<b>49.94</b>
Irrigation	Feb				0.5 ML	101.97	50.99	<b>50.99</b>
Irrigation	Feb				0.5 ML	101.97	50.99	<b>50.99</b>
Insecticide - deltamethrin 27.5 g/L	Feb	aerial spray		20.00	0.5 L	12.85	6.43	<b>26.43</b>
Desiccant- <i>check current permits</i>	Mar	0.05	51.87	2.59	2.0 L	7.81	15.62	<b>18.21</b>
Harvest	Mar	contract		76.24	per ha incl fuel			<b>76.24</b>
Grains Research Levy				1.02%	of farm gate value			<b>11.74</b>
Grading & bagging	May	contract		\$90 /t.				<b>135.00</b>

## AGRONOMIC NOTES:

A good way to grow irrigated mungbeans is to no-till after harvesting winter cereal crops. In this case, weed control is achieved with post-emergent herbicide applications. Good weed control is essential.

To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

Winter crop stubble should be left intact if possible.

**Pests:** Closely monitor crops for thrips and mirids at budding and flowering.

Heliothis (*H. armigera*) are now resistant to many insecticides. Consult an agronomist to find out resistance levels in your area. Deltamethrin is used for green vegetable bug control in this budget.

**Fertiliser:** If applying phosphate fertiliser, use a fertiliser that contains good levels of sulfur as well, e.g. single superphosphate.

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**Insurance:** \*\* Varies with Local Government Area and postcode, check with your insurer.

**PRICE:** - The price given is for processing grade mungbeans at the time of writing.

**Consult marketing sources for more up to date price information.**

**Marketing:** Mungbeans sown in spring and harvested in February are more likely to achieve good prices.

The Asian harvest starts in March/April and this can cause downward pressure on prices.

Consult your local trader or Bean Growers Australia Phone 07-4162 1100

**Harvest:** use air assist headers to reduce losses at harvest

For further information, refer to the NSW DPI "Summer Crop Production Guide 2012-13"

**LABOUR REQUIREMENTS:** - labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$14.11, reducing the gross margin to \$506 /ha. This does not include labour required to irrigate.

## MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** Estimated water usage charge of \$31.75/ ML assumed, your charges may be different.

Water pumping costs are calculated using a spray system with diesel powered pumping from surface supply.

Water requirements 1.50 ML is sufficient to adequately irrigate mungbeans 4 out of 5 years.



## SPRAY IRRIGATED NAVY BEANS

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

**Yield** 1.70 tonnes/ha

Clean seed 1.50 tonnes/ha at \$1,000.00 /tonne .....

Gradings 0.20 tonnes/ha

A grading percentage of 12% is assumed. The price listed is net of grading costs.

Crop prices were correct at the time of writing **A. TOTAL INCOME \$/ha:**

pricing impractical.

#### VARIABLE COSTS:

see following page(s) for details

Sowing.....	\$109.41	
Fertiliser & application.....	\$240.39	
Herbicide & application.....	\$55.36	
Insecticide & application.....	\$109.57	
Irrigation.....	\$305.91	
Harvesting.....	\$119.94	
Levies.....	\$15.26	
Insurance.....	\$64.93	

**B. TOTAL VARIABLE COSTS \$/ha:**

Sample Budget \$/ha	Your Budget \$/ha
\$1,496.00	

**\$1,496.00**

**C. GROSS MARGIN (A-B) \$/ha:**

**\$475.25**

**D. GROSS MARGIN \$/ML:**

**\$158.42**

### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

Total Yield t/ha	Yield t/ha clean seed	Price (clean seed)					Gross Margin (\$/ha)
		\$950 /t	\$975 /t	\$1,000 /t	\$1,025 /t	\$1,050 /t	
0.80	0.70	-\$334	-\$316	-\$299	-\$281	-\$264	
1.10	0.97	-\$89	-\$65	-\$41	-\$17	\$7	
1.40	1.23	\$156	\$187	\$217	\$248	\$278	
<b>1.70</b>	<b>1.50</b>	\$401	\$438	<b>\$475</b>	\$512	\$549	
2.30	2.02	\$891	\$941	\$991	\$1,041	\$1,091	
2.65	2.33	\$1,177	\$1,235	\$1,292	\$1,350	\$1,408	
3.00	2.64	\$1,463	\$1,528	\$1,593	\$1,659	\$1,724	

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

Total Yield t/ha	Yield t/ha clean seed	Price (clean seed)				
		\$950 /t	\$975 /t	\$1,000 /t	\$1,025 /t	\$1,050 /t
0.80	0.70	-\$111	-\$105	-\$100	-\$94	-\$88
1.10	0.97	-\$30	-\$22	-\$14	-\$6	\$2
1.40	1.23	\$52	\$62	\$72	\$83	\$93
1.70	1.50	\$134	\$146	<b>\$158</b>	\$171	\$183
2.30	2.02	\$297	\$314	\$330	\$347	\$364
2.65	2.33	\$392	\$412	\$431	\$450	\$469
3.00	2.64	\$488	\$509	\$531	\$553	\$575

# SPRAY IRRIGATED NAVY BEANS

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

(spray irrigated from river -regulated)

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Herbicide - ground spray, 450 g/L glyph	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyph	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyph	May	0.05	51.87	2.59	1.0 L	4.50	4.50	<b>7.09</b>
Wetter - non-ionic surfactant	May	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyph	Sep	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Sep	with above			0.2 L	6.72	1.34	<b>1.34</b>
Fertiliser - Urea	Nov	with above		74kg of N	161 kg	0.68	109.39	<b>183.39</b>
Herbicide - ground spray	Nov	0.03	56.38	1.69				<b>1.69</b>
Herbicide - trifluralin (480 g/L)	Nov	with above			2.1 L	6.02	12.64	<b>12.64</b>
Sowing: Seed + inoculum	Dec	0.12	78.38	9.41	50 kg	2.00	100.00	<b>109.41</b>
Fertiliser - Single Super	Dec	with above			100 kg	0.57	57.00	<b>57.00</b>
Irrigate	Jan				0.50 ML	101.97	50.99	<b>50.99</b>
Insecticide - aerial spray	Jan	aerial spray		20.00				<b>20.00</b>
Insecticide - deltamethrin ULV	Jan	with above			2.5 L	11.18	27.95	<b>27.95</b>
Irrigate	Jan				0.50 ML	101.97	50.99	<b>50.99</b>
Crop insurance **	Jan			4.34%				<b>64.93</b>
Irrigate	Feb				0.5 ML	101.97	50.99	<b>50.99</b>
Insecticide - dimethoate	Feb	0.03	56.38	1.69	0.8 L	10.49	8.39	<b>10.08</b>
Irrigate	Feb				0.5 ML	101.97	50.99	<b>50.99</b>
Insecticide - aerial spray	Feb	aerial spray		20.00				<b>20.00</b>
Insecticide - thiodicarb 375 g/L	Feb	with above			0.75 ML	28.60	21.45	<b>21.45</b>
Irrigate	Feb				0.50 ML	101.97	50.99	<b>50.99</b>
Irrigate	Mar				0.50 ML	101.97	50.99	<b>50.99</b>
Insecticide - dimethoate	Mar	0.03	56.38	1.69	0.8 L	10.49	8.39	<b>10.08</b>
Harvest #	Apr	contract		101.24	per ha incl fuel			<b>101.24</b>
Drying (if above 15% moisture)	Apr			\$11 /t				<b>18.70</b>
Research Levy	Apr			1.02%	of farm gate value			<b>15.26</b>

## AGRONOMIC NOTES:

**Management:** Yields of up to 3 t/ha can be achieved with a high standard of management.

Not recommended in the west, yields with current varieties will probably plateau around 1.5-1.9 t/ha.

**Sowing:** Sowing in late December-early January is advisable to avoid heat stress at flowering.

**Weeds:** To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

**Irrigation:** It is important to avoid waterlogging with navy beans.

Depending on the season, pre-irrigation may be required, at about 0.3 ML/ha

**Fertiliser:** The rate used for Single Super is for a moderate phosphorus deficiency. In very deficient situations up to 200 kg/ha could be used. Navy beans may need extra nitrogen fertiliser to achieve yield potential.

**Insurance:** \*\* Varies with local government area and postcode, check with your insurer.

# Harvest costs based on \$99.94/ha for crop up to 2.5 t/ha with estimated increment of \$1.00 per extra 100kg.

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**Marketing:** Payment is usually on the basis of clean seed yield.

For further details contact: Bean Growers Australia: phone 07 4162 1100 fax: 07 41 624 706

Website <http://www.beangrowers.com.au/> or email [info@beangrowers.com.au](mailto:info@beangrowers.com.au)

**LABOUR REQUIREMENTS:** - labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$11.12, reducing the gross margin to \$464 /ha. This does not include labour required to irrigate.

**MACHINERY ASSUMPTIONS:** Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** Estimated water usage charge of \$31.75 per ML assumed, your costs may be different.

Water pumping costs: calculated using a spray system with diesel powered pumping from surface supply

Water requirements 3.00 ML is sufficient to adequately irrigate navy beans 4 out of 5 years.



## SURFACE IRRIGATED SORGHUM (diesel pump from bore)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

### 1. GROSS MARGIN BUDGET:

#### INCOME:

8.00 tonnes/ha at \$210.00 /tonne (on farm)

Crop prices were correct at the time of writing (Aug 2012), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,680.00	

**A. TOTAL INCOME \$/ha:**

<b>\$1,680.00</b>	
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#### VARIABLE COSTS:

see following page(s) for details

Cultivation.....	\$9.32	
Sowing.....	\$46.55	
Fertiliser.....	\$267.60	
Herbicide.....	\$108.89	
Insecticide.....	\$32.08	
Irrigation.....	\$253.27	
Harvest.....	\$121.24	
Levies and insurance.....	\$99.86	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$938.81</b>	

**C. GROSS MARGIN (A-B) \$/ha:**

<b>\$741.19</b>	
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**D. GROSS MARGIN \$/ML:**

<b>\$195.05</b>	
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### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	On Farm Price						
	\$170 /t	\$190 /t	\$210 /t	\$230 /t	\$250 /t	\$270 /t	\$290 /t
5.00	-\$46	\$53	\$152	\$251	\$350	\$449	\$548
6.00	\$111	\$230	\$348	\$467	\$586	\$705	\$824
7.00	\$268	\$406	\$545	\$683	\$822	\$961	\$1,099
<b>8.00</b>	\$424	\$583	<b>\$741</b>	\$900	\$1,058	\$1,216	\$1,375
9.00	\$581	\$759	\$938	\$1,116	\$1,294	\$1,472	\$1,650
10.00	\$738	\$936	\$1,134	\$1,332	\$1,530	\$1,728	\$1,926
11.00	\$895	\$1,113	\$1,330	\$1,548	\$1,766	\$1,984	\$2,201

### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

YIELD tonnes/ha	On Farm Price						
	\$170 /t	\$190 /t	\$210 /t	\$230 /t	\$250 /t	\$270 /t	\$290 /t
5.00	-\$12	\$14	\$40	\$66	\$92	\$118	\$144
6.00	\$29	\$60	\$92	\$123	\$154	\$185	\$217
7.00	\$70	\$107	\$143	\$180	\$216	\$253	\$289
<b>8.00</b>	\$112	\$153	<b>\$195</b>	\$237	\$278	\$320	\$362
9.00	\$153	\$200	\$247	\$294	\$340	\$387	\$434
10.00	\$194	\$246	\$298	\$350	\$403	\$455	\$507
11.00	\$235	\$293	\$350	\$407	\$465	\$522	\$579

# SURFACE IRRIGATED SORGHUM (diesel pump from bore)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs/ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	Total Cost \$/ha
Herbicide - ground spray, 450 g/L glyphos	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphos	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Herbicide - triclopyr	Mar	with above			0.08 L	19.46	1.56	<b>1.56</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphos	May	0.05	51.87	2.59	1.0 L	4.50	4.50	<b>7.09</b>
Wetter - non-ionic surfactant	May	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphos	Aug	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Aug	with above			0.2 L	6.72	1.34	<b>1.34</b>
Fertiliser -Bulk Urea	Sep	0.12	74.99	9.00	325 kg	0.68	221.00	<b>230.00</b>
Pre-Irrigate #	Oct				1.4 ML	66.65	93.31	<b>93.31</b>
Sowing - thiamethoxam + Concep II treated seed	Oct	0.12	78.38	9.41	3 kg	12.38	37.14	<b>46.55</b>
Fertiliser - Granulock SuPreme Z	Oct	with above			40 kg	0.94	37.60	<b>37.60</b>
Herbicide - metolachlor, PSPE	Oct	0.03	56.38	1.69	2.0 L	6.91	13.82	<b>15.51</b>
Herbicide - atrazine 600 g/L	Oct	with above			3.0 L	6.97	20.91	<b>20.91</b>
Wetter - non-ionic surfactant	Oct	with above			0.2 L	6.72	1.34	<b>1.34</b>
Inter-row cultivate	Nov	0.15	62.13	9.32				<b>9.32</b>
Irrigate	Dec				1.2 ML	66.65	79.98	<b>79.98</b>
Irrigate	Jan				1.2 ML	66.65	79.98	<b>79.98</b>
Insecticide -Nuclear polyhedrosis virus	Jan	aerial spray		20.00	0.25 L	48.33	12.08	<b>32.08</b>
Crop insurance *	Jan			4.21%				<b>70.73</b>
Desiccant - aerial spray, 450 g/L glyphosat	Mar			20.00	1.6 L	4.50	7.20	<b>27.20</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Harvest **	Mar	contract		121.24	per ha incl fuel			<b>121.24</b>
Grains Research Levy				1.020%	of farm gate value			<b>17.14</b>
GrainCorp Levy \$/t				\$1.50	/tonne			<b>12.00</b>

## AGRONOMIC NOTES:

\*Sorghum is sensitive to zinc deficiency. Zinc treatment should be included where necessary, in this example zinc is applied 1 year in 5.

**Planting time:** Planting sorghum after the end of December significantly increases the chances of sorghum ergot, which can cause a substantial decline in yields and unsaleable grain.

**Insects:** Heliothis control may be required.

**Weeds:** To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

**Insurance:** \* Varies with Local Government Area and postcode, check with your insurer.

\*\* Harvest costs based on \$66/ha for a crop up to 2.5 t/ha with estimated increment of \$1.00 per extra 100 kg/ha above 2.5 t/ha. Includes estimate of harvester fuel cost.

For further information see the NSW DPI "Summer Crop Production Guide 2012-13"

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

## LABOUR REQUIREMENTS:

- labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$16.82, reducing the gross margin to \$724 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

## MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** # Water usage charge of \$9.20 per ML assumed, your charges may be different.

Water pumping costs: calculated using a flood/furrow system with diesel powered pumping from a bore.

Water requirements 3.80 ML/ha is sufficient to adequately irrigate sorghum 4 out of 5 years.

This budget should be used as a GUIDE ONLY and should be changed by the grower to take account of movements in crop and input prices, changes in seasonal conditions and individual farm characteristics. Estimated prices are GST exclusive.





## SURFACE IRRIGATED SOYBEANS (diesel pump from bore)

### Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

#### 1. GROSS MARGIN BUDGET:

##### INCOME:

3.00 tonnes/ha at \$475.00 /tonne (on farm)

Crop prices were correct at the time of writing (Aug 2012), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,425.00	
<b>\$1,425.00</b>	

##### A. TOTAL INCOME \$/ha:

##### VARIABLE COSTS:

see following page(s) for details

Cultivation.....	\$31.03	
Sowing.....	\$123.16	
Fertiliser.....	\$94.00	
Herbicide.....	\$48.54	
Insecticide.....	\$26.43	
Irrigation.....	\$399.90	
Levies and insurance.....	\$76.38	
Harvest.....	\$81.24	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$880.67</b>	

##### C. GROSS MARGIN (A-B) \$/ha:

**\$544.33**

##### D. GROSS MARGIN \$/ML:

**\$90.72**

#### SENSITIVITY TABLES

#### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	On Farm Price				
	\$425 /t	\$450 /t	<b>\$475 /t</b>	\$500 /t	\$525 /t
1.50	-\$230	-\$193	-\$156	-\$119	-\$82
2.00	-\$20	\$30	\$79	\$129	\$178
2.50	\$191	\$252	\$314	\$376	\$438
<b>3.00</b>	\$396	\$470	<b>\$544</b>	\$619	\$693
3.50	\$601	\$688	\$774	\$861	\$948
4.00	\$807	\$906	\$1,004	\$1,103	\$1,202
4.50	\$1,012	\$1,123	\$1,235	\$1,346	\$1,457

#### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

YIELD tonnes/ha	On Farm Price				
	\$425 /t	\$450 /t	<b>\$475 /t</b>	\$500 /t	\$525 /t
1.50	-\$38	-\$32	-\$26	-\$20	-\$14
2.00	-\$3	\$5	\$13	\$21	\$30
2.50	\$32	\$42	\$52	\$63	\$73
<b>3.00</b>	\$66	\$78	<b>\$91</b>	\$103	\$115
3.50	\$100	\$115	\$129	\$144	\$158
4.00	\$134	\$151	\$167	\$184	\$200
4.50	\$169	\$187	\$206	\$224	\$243

# SURFACE IRRIGATED SOYBEANS (diesel pump from bore)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs/ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	Total Cost \$/ha
Herbicide - ground spray, 450 g/L glyphosate	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	May	0.05	51.87	2.59	1.0 L	4.50	4.50	<b>7.09</b>
Wetter - non-ionic surfactant	May	with above			0.2 L	6.72	1.34	<b>1.34</b>
Hill-Up (or Bed)	Aug	0.22	56.32	12.39				<b>12.39</b>
Fertiliser - Granulock SuPreme Z	Aug	with above			100 kg	0.94	94.00	<b>94.00</b>
Spray and incorporate	Nov	0.15	62.13	9.32				<b>9.32</b>
Herbicide - trifluralin (480 g/L)	Nov	with above			2.8 L	6.02	16.86	<b>16.86</b>
Pre-Irrigate	Nov				1.40 ML	66.65	93.31	<b>93.31</b>
Sowing: Seed + inoculum	Dec	0.12	78.38	9.41	65 kg	1.75	113.75	<b>123.16</b>
Inter-row cultivate	Jan	0.15	62.13	9.32				<b>9.32</b>
Irrigate	Jan				1.20 ML	66.65	79.98	<b>79.98</b>
Crop insurance **	Jan			4.34%				<b>61.85</b>
Irrigate	Feb				1.20 ML	66.65	79.98	<b>79.98</b>
Irrigate	Feb				1.20 ML	66.65	79.98	<b>79.98</b>
Insecticide - deltamethrin 27.5 g/L	Mar	aerial spray		20.00	0.5 L	12.85	6.43	<b>26.43</b>
Irrigate	Mar				1.00 ML	66.65	66.65	<b>66.65</b>
Harvest #	Apr	contract		81.24	per ha incl fuel			<b>81.24</b>
Research Levy				1.02%	of farm gate value			<b>14.54</b>

## AGRONOMIC NOTES:

**Insects:** Closely monitor for green vegetable bug, heliothis and mites. Deltamethrin is applied to control green vegetable bugs or heliothis.

**Fertiliser:** Soybean is sensitive to zinc deficiency. Zinc treatment should be included when necessary in this example zinc is applied 1 year in 5.

**Weeds:** To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

**Insurance:** \*\* Varies with local government area and postcode, check with your insurer.

# Harvest costs based on \$74.94 (including \$4.94/ha fuel) /ha for a crop up to 2.5 t/ha with estimated increment of \$1.00 per extra 100 kg/ha above 2.5 t/ha.

For further information, refer to the NSW DPI Agfact, "Soybeans" P5.2.6 and the NSW DPI "Summer Crop Production Guide 2012-13".

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**LABOUR REQUIREMENTS:** - labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$18.17, reducing the gross margin to \$526 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

## MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)  
Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** # Water usage charge of \$9.20 per ML assumed, your charges may be different.

Water pumping costs: calculated using a flood/furrow system with diesel powered pumping from surface supply.

Water requirements 6.0 ML/Ha is sufficient to adequately irrigate soybeans 4 out of 5 years.



## SPRAY IRRIGATED LUCERNE - Established stand

### Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

#### 1. GROSS MARGIN BUDGET:

##### INCOME:

7 cuts per season @ 2.20 t/ha per cut  
Total Yield = **15.40** tonnes per hectare  
@ 40 bales per tonne (25 kg bales)

60% AFIA Grade A1	370 bales/ha at	\$8.00 / bale
20% AFIA Grade B2	123 bales/ha at	\$6.00 / bale
20% AFIA Grade C3	123 bales/ha at	\$4.00 / bale

See [http://www.afia.org.au/quality/national\\_grades/](http://www.afia.org.au/quality/national_grades/) for more details on hay grades used.

##### A. TOTAL INCOME \$/ha:

Sample Budget \$/ha	Your Budget \$/ha
\$2,957	
\$739	
\$493	
<b>\$4,189</b>	

##### VARIABLE COSTS:

see following page(s) for details

Depreciation of establishment cost.....	\$105.68
Fertiliser.....	\$108.93
Herbicide.....	\$35.48
Insecticide.....	\$0.00
Irrigation.....	\$713.79
Mow, rake & bale (contract).....	\$1,958.60
Twine @ \$0.113/bale.....	\$69.81
Cart and stack 100% of hay (\$10.68/t).....	\$164.47

##### B. TOTAL VARIABLE COSTS \$/ha:

##### C. GROSS MARGIN (A-B) \$/ha:

##### D. GROSS MARGIN \$/ML:

<b>\$3,156.77</b>
<b>\$1,032.03</b>
<b>#REF!</b>

#### SENSITIVITY TABLES

##### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

Yield	Price per bale		Grade A1 \$6.00	Grade A1 \$7.00	Grade A1 \$8.00	Grade A1 \$10.00	Grade A1 \$12.00
	Cuts	tonnes/ha	Grade B2 \$4.00	Grade B2 \$5.00	Grade B2 \$6.00	Grade B2 \$8.00	Grade B2 \$10.00
			Grade C3 \$2.00	Grade C3 \$3.00	Grade C3 \$4.00	Grade C3 \$5.00	Grade C3 \$6.00
			\$192 /tonne	\$232 /tonne	<b>\$272 /tonne</b>	\$344 /tonne	\$416 /tonne
4 cuts	8.8		-\$527	-\$175	\$177	\$810	\$1,444
5 cuts	11.0		-\$418	\$22	\$462	\$1,254	\$2,046
6 cuts	13.2		-\$309	\$219	\$747	\$1,697	\$2,648
7 cuts	<b>15.4</b>		-\$200	\$416	<b>\$1,032</b>	\$2,141	\$3,250
8 cuts	17.6		-\$91	\$613	\$1,317	\$2,584	\$3,852
9 cuts	19.8		\$18	\$810	\$1,602	\$3,028	\$4,453
10 cuts	22.0		\$127	\$1,007	\$1,887	\$3,471	\$5,055

##### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

Yield	Price per bale		Grade A1 \$6.00	Grade A1 \$7.00	Grade A1 \$8.00	Grade A1 \$10.00	Grade A1 \$12.00
	Cuts	tonnes/ha	Grade B2 \$4.00	Grade B2 \$5.00	Grade B2 \$6.00	Grade B2 \$8.00	Grade B2 \$10.00
			Grade C3 \$2.00	Grade C3 \$3.00	Grade C3 \$4.00	Grade C3 \$5.00	Grade C3 \$6.00
			\$192 /tonne	\$232 /tonne	<b>\$272 /tonne</b>	\$344 /tonne	\$416 /tonne
4 cuts	8.8		#REF!	#REF!	#REF!	#REF!	#REF!
5 cuts	11.0		#REF!	#REF!	#REF!	#REF!	#REF!
6 cuts	13.2		#REF!	#REF!	#REF!	#REF!	#REF!
7 cuts	15.4		#REF!	#REF!	<b>#REF!</b>	#REF!	#REF!
8 cuts	17.6		#REF!	#REF!	#REF!	#REF!	#REF!
9 cuts	19.8		#REF!	#REF!	#REF!	#REF!	#REF!
10 cuts	22.0		#REF!	#REF!	#REF!	#REF!	#REF!

# SPRAY IRRIGATED LUCERNE - Established stand

Farm Enterprise Budget Series - Northern Zone

(diesel pump from river-regulated\*)

Summer 2012-2013

CALENDAR OF OPERATIONS:		Machinery*			Inputs			Total
Operation	Month	hrs/ha	Cost \$/hr	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	Cost \$/ha
Apply Single Super	Jul	0.42	21.78	9.15	125kg	0.42	52.50	<b>61.65</b>
Spray - paraquat + diquat	Jul	0.10	24.74	2.47	2.5 L	9.93	24.83	<b>27.30</b>
Fertiliser- <sup>#</sup> Muriate of Potash, 1 yr in 4	Aug	0.42	21.78	9.15	250kg	0.72	180.00	<b>47.29</b>
Irrigate	Sep				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Sep/Oct	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Sep/Oct	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Oct				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Nov	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Nov	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Nov				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Dec	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Dec	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Dec				1.00 ML	101.97	101.97	<b>101.97</b>
Herbicide (haloxyfop-R)	Dec	0.10	24.74	2.47	0.1 L	57.07	5.71	<b>8.18</b>
Mow, rake, bale & accumulator	Jan	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Jan	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Jan				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Feb	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Feb	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Feb				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Mar	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Mar	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>
Irrigate	Mar				1.00 ML	101.97	101.97	<b>101.97</b>
Mow, rake, bale & accumulator	Apr	contract		279.80				<b>279.80</b>
Cart & stack in shed (tractor + FEL)	Apr	contract	0.27	per bale @ 88 bales/ha per cut				<b>23.50</b>

## AGRONOMIC NOTES:

**Herbicides:** Paraquat+diquat applied in July to established stands to clean up weeds. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

**Fertilisers:** <sup>#</sup> In areas of long term irrigated hay production, there is a possibility that higher rates of potash may be required to correct chronic potassium deficiency.

**Hay storage:** The assumption is made that all of the hay is stored on farm prior to selling.

**Hay Grades:** The Australian Fodder Industry Association (AFIA) has developed a national grading system for legume and cereal hays. It is based on digestible dry matter, crude protein content and metabolisable energy.

AFIA (Incorporated in 1996) is the peak body for the hay and silage industries. Further information and a fodder vendor declaration form is available from AFIA. Phone: 03 9890 6855 Website: [www.afia.org.au](http://www.afia.org.au)

*Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.*

*Always read chemical labels and follow directions, as it is your legal responsibility to do so.*

**LABOUR REQUIREMENTS:** Labour to apply fertiliser or spray is not costed. If we assume a labour cost of \$22/hr the total labour cost would be \$28.21/ha, reducing the gross margin to \$1,004/ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

## MACHINERY ASSUMPTIONS:

**Tractor:** pto power: 57 KW (76 HP) FEL = front end loader  
Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

**Mow, Rake, Bale costs:** Assumes raking is done twice. Use your own costs if you use your own machinery.

**Irrigation Costs:** Estimated water usage charge of \$31.75 per ML assumed, your charges may be different.  
Estimated water pumping cost of \$70.22 per ML assumed, your costs may be different.

**Water use assumed:** <sup>#</sup>REF! ML/ha  
calculated using a spray system with diesel powered pumping from surface supply



**SURFACE IRRIGATED SUNFLOWERS (mono-unsaturated)**  
**Farm Enterprise Budget Series - Northern Zone**  
**Summer 2012-2013** (diesel pump from bore)

**1. GROSS MARGIN BUDGET:**

**INCOME:**

3.00 tonnes/ha at \$520.00 /tonne (on farm)

Crop prices were correct at the time of writing (Aug 2012), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,560.00	
<b>\$1,560.00</b>	

**A. TOTAL INCOME \$/ha:**

**VARIABLE COSTS:**

see following page(s) for details

Cultivation.....	\$21.71	
Sowing.....	\$66.89	
Fertiliser.....	\$223.40	
Herbicide.....	\$70.03	
Insecticide.....	\$57.01	
Irrigation.....	\$259.94	
Levies and insurance.....	\$81.59	
Harvest.....	\$71.24	
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$851.79</b>	

**C. GROSS MARGIN (A-B) \$/ha:**

<b>\$708.21</b>	
<b>\$181.59</b>	

**D. GROSS MARGIN \$/ML:**

**2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:**

**(A) SENSITIVITY TABLE**

YIELD tonnes/ha	On Farm Price				
	\$470 /t	\$495 /t	\$520 /t	\$545 /t	\$570 /t
1.50	-\$133	-\$96	-\$59	-\$22	\$15
2.00	\$100	\$149	\$199	\$248	\$297
2.50	\$332	\$394	\$456	\$518	\$580
<b>3.00</b>	\$560	\$634	<b>\$708</b>	\$782	\$857
3.50	\$787	\$874	\$961	\$1,047	\$1,134
4.00	\$1,015	\$1,114	\$1,213	\$1,312	\$1,411
4.50	\$1,243	\$1,354	\$1,465	\$1,577	\$1,688

**3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:**

YIELD tonnes/ha	On Farm Price				
	\$470 /t	\$495 /t	\$520 /t	\$545 /t	\$570 /t
1.50	-\$34	-\$25	-\$15	-\$6	\$4
2.00	\$26	\$38	\$51	\$64	\$76
2.50	\$85	\$101	\$117	\$133	\$149
<b>3.00</b>	\$144	\$163	<b>\$182</b>	\$201	\$220
3.50	\$202	\$224	\$246	\$269	\$291
4.00	\$260	\$286	\$311	\$336	\$362
4.50	\$319	\$347	\$376	\$404	\$433

# SURFACE IRRIGATED SUNFLOWERS (mono-unsaturated)

Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

(diesel pump from bore)

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs/ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	Total \$/ha
Herbicide - ground spray, 450 g/L glyphosate	Jan	0.05	51.87	2.59	1.6 L	4.50	7.20	<b>9.79</b>
Herbicide - 2,4-D i.p.a. 300 g/L	Jan	with above			0.66 L	4.20	2.77	<b>2.77</b>
Wetter - non-ionic surfactant	Jan	with above			0.2 L	6.72	1.34	<b>1.34</b>
Herbicide - ground spray, 450 g/L glyphosate	Mar	0.05	51.87	2.59	1.2 L	4.50	5.40	<b>7.99</b>
Herbicide - triclopyr	Mar	with above			0.08 L	19.46	1.56	<b>1.56</b>
Wetter - non-ionic surfactant	Mar	with above			0.2 L	6.72	1.34	<b>1.34</b>
Hill-Up (or bed)	May	0.22	56.32	12.39				<b>12.39</b>
Fertilise -Bulk Urea	May	with above			260 kg	0.68	176.80	<b>176.80</b>
Herbicide - Stomp Xtra	Aug	0.03	56.38	1.69	3.3 L	11.42	37.69	<b>39.38</b>
Herbicide - ground spray, 450 g/L glyphosate	Aug	with above			1.0 L	4.50	4.50	<b>4.50</b>
Wetter - non-ionic surfactant	Aug	with above			0.2 L	6.72	1.34	<b>1.34</b>
Fertiliser - Granulock SuPreme Z	Aug	0.12	74.99	9.00	40 kg	0.94	37.60	<b>46.60</b>
Pre-Irrigate	Aug				1.50 ML	66.65	99.98	<b>99.98</b>
Sow with planter	Sept	0.12	78.38	9.41				<b>9.41</b>
Seed	Sept	with above			3 kg	19.16	57.48	<b>57.48</b>
Insecticide - chlorpyrifos EC	Sept	with above			0.75 L	14.64	10.98	<b>10.98</b>
Inter-row cultivate	Oct	0.15	62.13	9.32				<b>9.32</b>
Irrigate	Nov				1.20 ML	66.65	79.98	<b>79.98</b>
Insecticide - alpha-cypermethrin 100 g/L	Dec	aerial spray		20.00	0.4 L	7.54	3.02	<b>23.02</b>
Irrigate	Dec				1.20 ML	66.65	79.98	<b>79.98</b>
Insecticide - alpha-cypermethrin 100 g/L	Jan	aerial spray		20.00	0.4 L	7.54	3.02	<b>23.02</b>
Crop insurance **	Jan			4.21%				<b>65.68</b>
Harvest (contract) #	Feb	contract		71.24	per ha incl fuel			<b>71.24</b>
Grains Research Levy				1.02%	of farm gate value			<b>15.91</b>

## AGRONOMIC NOTES:

Spring sown sunflowers are likely to have higher water requirements, up to 7.5 ML/ha.

Do not sow poly-unsaturated sunflowers in spring as low quality oil is unacceptable to margarine manufacturers.

To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

Insects: \*Deltamethrin assumed to be required to control Rutherglen bug or heliothis.

For further information see the NSW DPI "Summer Crop Production Guide 2012-13"

# Harvest costs based on \$64.94 (including \$4.94/ha fuel) /ha for a crop up to 2.5 t/ha with estimated increment of \$1.00 per extra 100 kg/ha above 2.5 t/ha.

Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.

Always read chemical labels and follow directions, as it is your legal responsibility to do so.

**Insurance:** \*\* Varies with local government area and postcode, check with your insurer.

**LABOUR REQUIREMENTS:** - labour is not costed in this budget. If labour costs \$21.70 /hr, total labour cost would be \$20.07, reducing the gross margin to \$688 /ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

## MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

You may need to add overhead costs as well, please refer to the Tractor and Implement Costs Guide

**IRRIGATION:** # Water usage charge of \$9.20 per ML assumed, your charges may be different.

Water pumping costs: calculated using a flood/furrow system with diesel powered pumping from groundwater.

Water requirements 3.90 ML is sufficient to adequately irrigate sunflowers 4 out of 5 years.



## SURFACE IRRIGATED LUCERNE - Established stand

### Farm Enterprise Budget Series - Northern Zone

Summer 2012-2013

#### 1. GROSS MARGIN BUDGET:

##### INCOME:

7 cuts per season @ 1.90 t/ha per cut

Total Yield = **13.30** tonnes per hectare

@ 40 bales per tonne (25 kg bales)

60% AFIA Grade A1	320 bales/ha at	\$8.00 / bale
20% AFIA Grade B2	106 bales/ha at	\$6.00 / bale
20% AFIA Grade C3	106 bales/ha at	\$4.00 / bale

See [http://www.afia.org.au/quality/national\\_grades/](http://www.afia.org.au/quality/national_grades/) for more details on hay grades used.

##### A. TOTAL INCOME \$/ha:

Sample Budget	Your Budget
\$/ha	\$/ha
\$2,560.00	
\$636.00	
\$424.00	
<b>\$3,620.00</b>	

##### VARIABLE COSTS:

see following page(s) for details

Depreciation of establishment cost.....	\$105.68
Fertiliser.....	\$108.93
Herbicide.....	\$35.48
Insecticide.....	\$3.42
Irrigation.....	\$389.55
Mow, rake & bale (contract).....	\$1,773.80
Twine @ \$0.113/bale.....	\$60.29
Cart and stack 100% of hay (\$10.68/t).....	\$142.04
<b>B. TOTAL VARIABLE COSTS \$/ha:</b>	<b>\$2,619.20</b>

##### C. GROSS MARGIN (A-B) \$/ha:

<b>\$1,000.80</b>
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##### D. GROSS MARGIN \$/ML:

<b>\$114.38</b>
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#### SENSITIVITY TABLES

##### 2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

Yield Cuts	tonnes/ha	Grade A1 \$6.00	Grade A1 \$7.00	Grade A1 \$8.00	Grade A1 \$10.00	Grade A1 \$12.00
		Grade B2 \$4.00	Grade B2 \$5.00	Grade B2 \$6.00	Grade B2 \$8.00	Grade B2 \$10.00
		Grade C3 \$2.00	Grade C3 \$3.00	Grade C3 \$4.00	Grade C3 \$5.00	Grade C3 \$6.00
		\$192 /tonne	\$232 /tonne	\$272 /tonne	\$344 /tonne	\$416 /tonne
4 cuts	5.8	-\$629	-\$397	-\$165	\$253	\$671
5 cuts	8.3	-\$440	-\$108	\$224	\$822	\$1,420
6 cuts	10.8	-\$252	\$180	\$612	\$1,390	\$2,168
<b>7 cuts</b>	<b>13.3</b>	-\$63	\$469	<b>\$1,001</b>	\$1,959	\$2,917
8 cuts	15.8	\$125	\$757	\$1,389	\$2,527	\$3,665
9 cuts	18.3	\$314	\$1,046	\$1,778	\$3,096	\$4,414
10 cuts	20.8	\$503	\$1,335	\$2,167	\$3,665	\$5,163

##### 3. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER MEGALITRE:

Yield Cuts	tonnes/ha	Grade A1 \$6.00	Grade A1 \$7.00	Grade A1 \$8.00	Grade A1 \$10.00	Grade A1 \$12.00
		Grade B2 \$4.00	Grade B2 \$5.00	Grade B2 \$6.00	Grade B2 \$8.00	Grade B2 \$10.00
		Grade C3 \$2.00	Grade C3 \$3.00	Grade C3 \$4.00	Grade C3 \$5.00	Grade C3 \$6.00
		\$192 /tonne	\$232 /tonne	\$272 /tonne	\$344 /tonne	\$416 /tonne
4 cuts	5.8	-\$72	-\$45	-\$19	\$29	\$77
5 cuts	8.3	-\$50	-\$12	\$26	\$94	\$162
6 cuts	10.8	-\$29	\$21	\$70	\$159	\$248
7 cuts	13.3	-\$7	\$54	<b>\$114</b>	\$224	\$333
8 cuts	15.8	\$14	\$87	\$159	\$289	\$419
9 cuts	18.3	\$36	\$120	\$203	\$354	\$504
10 cuts	20.8	\$57	\$153	\$248	\$419	\$590

# SURFACE IRRIGATED LUCERNE - Established stand

Farm Enterprise Budget Series - Northern Zone

(diesel pump from river-regulated)

Summer 2012-2013

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs/ha	Cost \$/hr	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Spray - paraquat + diquat	Jul	0.10	24.74	2.47	2.5 L	9.93	24.83	<b>27.30</b>
Apply Single Super	Aug	0.42	21.78	9.15	125kg	0.42	52.50	<b>61.65</b>
Spray aphids -dimethoate	Aug	0.10	24.74	2.47	0.09 L	10.49	0.94	<b>3.42</b>
Fertiliser- #Muriate of Potash, 1 yr in 4	Aug	0.42	21.78	9.15	250kg	0.72	180.00	<b>47.29</b>
Mow, rake, bale & accumulator	Sep/Oct	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Sep/Oct	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Herbicide (haloxyfop-R)	Oct	0.10	24.74	2.47	0.1 L	57.07	5.71	<b>8.18</b>
Irrigate	Oct				1.25 ML	44.52	55.65	<b>55.65</b>
Irrigate	Nov				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake, bale & accumulator	Nov	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Nov	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Irrigate	Nov				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake, bale & accumulator	Dec	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Dec	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Irrigate	Dec				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake, bale & accumulator	Dec	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Dec	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Irrigate	Feb				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake, bale & accumulator	Feb	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Feb	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Irrigate	Mar				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake & bale + accumulator	Mar	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Mar	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>
Irrigate	Apr				1.25 ML	44.52	55.65	<b>55.65</b>
Mow, rake, bale & accumulator	Apr	contract		253.40				<b>253.40</b>
Cart & stack in shed (tractor + FEL)	Apr	contract	0.27	per bale @ 76 bales/ha per cut				<b>20.29</b>

## AGRONOMIC NOTES:

### Herbicides:

Paraquat+diquat applied in July to established stands to clean up weeds.

To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

### Fertilisers:

# In areas of long term irrigated hay production, there is a possibility that higher rates of potash may be required to correct chronic potassium deficiency.

### Hay storage:

The assumption is made that all of the hay is stored on farm prior to selling.

### Hay Grades:

The Australian Fodder Industry Association (AFIA) has developed a national grading system for legume and cereal hays. It is based on digestible dry matter, crude protein content and metabolisable energy.

AFIA (Incorporated in 1996) is the peak body for the hay and silage industries. Further information and a fodder vendor declaration form is available from AFIA. Phone: 03 9890 6855 Website: [www.afia.org.au](http://www.afia.org.au)

Use of a particular brand name does NOT imply recommendation of that brand by NSW DPI.

Always read chemical labels and follow directions, as it is your legal responsibility to do so.

### LABOUR REQUIREMENTS:

Labour to apply fertiliser or spray is not costed. If we assume a labour cost of \$22/hr the total labour cost would be \$30.92/hectare, reducing the gross margin to \$970/ha.

This does not include labour required to irrigate since this is more likely to be an overhead cost.

### MACHINERY ASSUMPTIONS:

Tractor: pto power: 57 KW (76 HP) FEL = front end loader

Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.

Mow, Rake, Bale costs: Assumes raking is done twice. Use your own costs if you use your own machinery.

### Irrigation Costs:

Estimated water usage charge of \$31.75 per ML assumed, your charges may be different.

Estimated water pumping cost of \$12.77 per ML assumed, your costs may be different.

### Water use assumed:

8.8 ML/Ha

Costs calculated using a flood/furrow system with diesel powered pumping from surface supply.