

## SPRAY IRRIGATED AZUKI BEANS (no-till)

Farm Enterprise Budget Series - Central and Southern Zone

Summer 2010-2011

### 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
Fertilizer & application.....	\$126.00
Herbicide & application.....	\$133.17
Insecticide & application.....	\$160.96
Fungicide & application.....	\$149.25
Irrigation.....	\$507.50
Consultant.....	\$40.00
Harvesting.....	\$99.94
Grading & bagging.....	\$216.00
Cartage.....	\$52.80

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

**\$1,760.61**

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

**\$832.59**

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

**\$118.94**

### 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	-\$870	-\$600	-\$330	-\$59	\$211	
1.60	-\$663	-\$302	\$58	\$418	\$778	
2.00	-\$455	-\$5	\$445	\$895	\$1,346	
<b>2.40</b>	-\$248	\$292	<b>\$833</b>	\$1,373	\$1,913	
2.80	-\$41	\$590	\$1,220	\$1,850	\$2,481	
3.20	\$167	\$887	\$1,607	\$2,328	\$3,048	
3.60	\$374	\$1,184	\$1,995	\$2,805	\$3,616	

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

TOTAL YIELD t/ha.	\$/tonne					Gross Margin (\$/MI)
	\$700 /t	\$950 /t	\$1,200 /t	\$1,450 /t	\$1,700 /t	
1.20	-\$124	-\$86	-\$47	-\$8	\$30	
1.60	-\$95	-\$43	\$8	\$60	\$111	
2.00	-\$65	-\$1	\$64	\$128	\$192	
<b>2.40</b>	-\$35	\$42	<b>\$119</b>	\$196	\$273	
2.80	-\$6	\$84	\$174	\$264	\$354	
3.20	\$24	\$127	\$230	\$333	\$435	
3.60	\$53	\$169	\$285	\$401	\$517	

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(Overhead spray irrigated from river-regulated)

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Pre-irrigation *	Dec				0.8 MI	71.40	57.12	<b>57.12</b>
Herbicide - ground spray	Jan	contract rate		10.00				<b>10.00</b>
Herbicide - glyphosate CT (450 g/L)	Jan	with above			1.2 L	4.51	5.41	<b>5.41</b>
Herbicide - Triflur X ®	Jan	with above			1.7 L	10.95	18.62	<b>18.62</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	78.68	7.87	<b>17.87</b>
Uptake® crop oil	Jan	with above			0.5 L	6.49	3.25	<b>3.25</b>
Irrigation *	Jan				1.5 MI	71.40	107.10	<b>107.10</b>
Herbicide - ground spray	Jan	contract rate		10.00				<b>10.00</b>
Herbicide - Spinnaker®700 (PER10172)	Jan	with above			140 g/Ha	0.30	42.00	<b>42.00</b>
Hasten® crop oil	Jan	with above			0.5 L	6.49	3.25	<b>3.25</b>
Irrigation *	Feb				1.5 MI	71.40	107.10	<b>107.10</b>
Insecticide - dimethoate	Feb	contract rate		10.00	0.500 L	8.87	4.44	<b>14.44</b>
Insecticide - Vivus® (PER8543)	Mar	contract rate		10.00	0.375 L	145.64	54.62	<b>64.62</b>
Irrigation *	Mar				1.5 MI	71.40	107.10	<b>107.10</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	18.81	37.62	<b>47.62</b>
Fungicide - Fortress® (PER11192)	Mar	contract rate		10.00	1.5 L	51.70	77.55	<b>87.55</b>
Irrigation *	Mar				1.0 MI	71.40	71.40	<b>71.40</b>
Insecticide - Steward®	Mar	contract rate		10.00	0.4 L	60.72	24.29	<b>34.29</b>
Fungicide - Fortress® (PER11192)	Mar	contract rate		10.00	1.0 L	51.70	51.70	<b>61.70</b>
Irrigation *	Apr				0.7 MI	71.40	49.98	<b>49.98</b>
Desiccant - Roundup PowerMAX®	Apr	contract rate		10.00	1.8 L	7.10	12.78	<b>22.78</b>
Harvest	Mar	contract		99.94	per ha incl fuel			<b>99.94</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 soils types. It is suggested that azuki should not be grown in situations where 2.4t/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 I&I NSW.*

**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 I&I NSW 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.