



# Flood Irrigated Wheat Central Zone

## Winter 2009

### 1. GROSS MARGIN BUDGET:

#### INCOME:

5.00 tonnes/ha @ \$244.00 /tonne (on farm) (AH)

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

#### VARIABLE COSTS:

See opposite page for detail

Cultivation.....	\$38.03
Sowing.....	\$93.44
Fertiliser.....	\$290.00
Herbicide.....	\$54.22
Insecticide.....	\$0.00
Irrigation.....	\$78.97
Contract-harvesting.....	\$78.00
Levies.....	\$12.44
Crop Insurance.....	\$25.01
Cartage, grading & bagging.....	\$0.00

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

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

#### D. GROSS MARGIN FOR ALTERNATIVE DRYLAND CROP (SF WHEAT)

#### E. EXTRA GROSS MARGIN DUE TO IRRIGATION (C-D)

#### F. GROSS MARGIN/ML (E÷ML WATER APPLIED)

\* See agronomic notes on irrigation

Standard Budget \$/Ha	Your Budget \$/Ha
\$1,220.00	
<b>\$1,220.00</b>	
\$38.03	
\$93.44	
\$290.00	
\$54.22	
\$0.00	
\$78.97	
\$78.00	
\$12.44	
\$25.01	
\$0.00	
<b>\$670.11</b>	
<b>\$549.89</b>	
<b>\$285.73</b>	
<b>\$264.16</b>	
<b>\$66.04</b>	

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)					Gross Margin (\$/ha)
	\$204 /t	\$224 /t	<b>\$244 /t</b>	\$264 /t	\$284 /t	
3.50	\$77	\$145	\$213	\$281	\$349	
4.00	\$170	\$248	\$325	\$403	\$480	
4.50	\$263	\$350	\$438	\$525	\$612	
<b>5.00</b>	\$356	\$453	<b>\$550</b>	\$647	\$744	
5.50	\$449	\$556	\$662	\$769	\$875	
6.00	\$542	\$658	\$774	\$891	\$1,007	
6.50	\$635	\$761	\$887	\$1,013	\$1,139	

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)					Gross Margin (\$/ML)
	\$204 /t	\$224 /t	<b>\$244 /t</b>	\$264 /t	\$284 /t	
3.50	-\$52	-\$35	-\$18	-\$1	\$16	
4.00	-\$29	-\$9	\$10	\$29	\$49	
4.50	-\$6	\$16	\$38	\$60	\$82	
<b>5.00</b>	\$18	\$42	<b>\$66</b>	\$90	\$115	
5.50	\$41	\$67	\$94	\$121	\$147	
6.00	\$64	\$93	\$122	\$151	\$180	
6.50	\$87	\$119	\$150	\$182	\$213	

#### PRODUCT TRADE NAMES

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by NSW Department of Primary Industries over any other equivalent product from another manufacturer.

# Flood Irrigated Wheat Central Zone

## Winter 2009

### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Off-set	Jan	0.35	50.78	<b>\$17.63</b>				<b>\$17.63</b>
Chisel Plough	Feb	0.22	44.83	<b>\$10.01</b>				<b>\$10.01</b>
Land plane	Mar	0.05	43.36	<b>\$2.34</b>				<b>\$2.34</b>
Light Cultivation	Mar	0.17	47.03	<b>\$8.05</b>				<b>\$8.05</b>
Pre-irrigation	Mar				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Pre-sowing weed control eg: Glyphosate 540 (eg: Roundup PowerMax®)	Apr	0.05	43.36	<b>\$2.34</b>	1.00 L	\$10.67/L	<b>\$10.67</b>	<b>\$13.00</b>
Nitrogen fertiliser eg: Urea	May	0.17	47.03	<b>\$8.05</b>	217 kg	\$0.85/kg	<b>\$184.45</b>	<b>\$192.50</b>
Sowing	May	0.17	64.36	<b>\$10.82</b>	90 kg	\$0.92/kg	<b>\$82.62</b>	<b>\$93.44</b>
Starter fertiliser eg: MAP	May	with above			100 kg	\$0.98/kg	<b>\$97.50</b>	<b>\$97.50</b>
Weed control eg: Chlorsulfuron (Glean)	May	0.05	43.36	<b>\$2.34</b>	15 g	\$0.12 /g	<b>\$1.76</b>	<b>\$4.10</b>
Grass weed control eg:Diclofop-methyl + Fenoxaprop (Tristar®)	Jun	0.05	43.36	<b>\$2.34</b>	1.50 L	\$23.19/L	<b>\$34.78</b>	<b>\$37.12</b>
Irrigation	Aug/Sept				1.25 ML	\$19.74/ML	<b>\$24.68</b>	<b>\$24.68</b>
Irrigation	Sept/Oct				1.25 ML	\$19.74/ML	<b>\$24.68</b>	<b>\$24.68</b>
Contract-harvest	Nov	contract		<b>\$78.00</b>				<b>\$78.00</b>
Crop Levies					1.02%	of on-farm value		<b>\$12.44</b>
Crop Insurance					2.05%	of on-farm value		<b>\$25.01</b>

\* Irrigation water price is an average price. Use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

### NOTES:

#### Sowing time:

- Sowing at the optimum time for the selected variety is critical for maximum yield, regardless of irrigation.
- There is a 4 to 7% yield loss for every weeks delay past the optimum sowing time.
- Seed price used above is for purchased seed; if using retained seed adjust budget accordingly.

#### Weed control:

- Weed control, if required, should be implemented either pre-emergent or within 6 to 8 weeks after sowing time to avoid yield loss.
- Glyphosate for fallow knockdown weed control.
- A wide range of herbicides can be used, including chlorsulfuron for early weed control and fenoxaprop for in-crop grass control.
- As an alternative, Triasulfuron can be used for wild oat/ryegrass control.

#### Fertiliser:

- Adequate phosphorus is essential before applying extra nitrogen fertiliser. Nitrogen is essential to maintain protein levels and can be applied either at sowing or top-dressed in-crop.
- Rotate herbicide groups and use other non-chemical methods to avoid herbicide resistance developing.

#### Irrigation:

- Pre-irrigation may be optional, dependent on stored moisture following summer rainfall
- In-crop irrigation: timing and amount dependent on in-crop winter rainfall: generally spring two irrigations (2.5 ML/ha) is sufficient.
- This budget is applicable for the Central Zone east, a higher water requirement is needed for the central zone/west than the figures used in this budget.
- Some of the yield response for irrigated crops is due to stored soil moisture and growing season rainfall which can be sufficient to grow a dryland crop. Thus the Gross Margin per ML is obtained by (GM/Ha of irrigated crop – GM/Ha alternative dryland crop)=ML of irrigation water applied.

#### Machinery:

- A tractor with 149 kW (200 HP) pto power and 177 kW (240 HP) engine power is assumed.
- Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.

#### Labour:

- Contract-harvesting does not include the cost of fuel.
- The labour required for machinery operations is 1.95 hrs/ha
- Using a labour cost of \$14/hr, an additional \$27.35 can be deducted from the budget

#### Important notes:

- These gross margins are only a guide. They do not include overhead costs.
- **Use your own figures and price assumptions to estimate your own gross margin.**
- Use of a particular brand name does NOT imply a recommendation of that brand by NSW Department of Primary Industries.



# Flood Irrigated Conventional Canola Central Zone

## Winter 2009

### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Off-set disc	Jan	0.35	50.78	<b>\$17.63</b>				<b>\$17.63</b>
Chisel plough	Feb	0.22	44.83	<b>\$10.01</b>				<b>\$10.01</b>
Gypsum (Sulfur)	Mar	contract		<b>\$7.50</b>	0.3 t	\$110.00 /t	<b>\$33.00</b>	<b>\$40.50</b>
Light Cultivation	Mar	0.17	47.03	<b>\$8.05</b>				<b>\$8.05</b>
Pre- irrigation	Mar				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Pre-sowing weed control eg: Glyphosate 540 (Roundup PowerMax®)	Apr	0.05	43.36	<b>\$2.34</b>	1.00 L	\$10.67/L	<b>\$10.67</b>	<b>\$13.00</b>
Nitrogen fertiliser eg: Urea	May	0.17	47.03	<b>\$8.05</b>	150 kg	\$0.85/kg	<b>\$127.50</b>	<b>\$135.55</b>
Pre-emergent weed control eg: trifluralin 480 g/L	May	0.05	43.36	<b>\$2.34</b>	1.60 L	\$8.05/L	<b>\$12.88</b>	<b>\$15.21</b>
Sowing	May	0.17	64.36	<b>\$10.82</b>	3.00 kg	\$9.00/kg	<b>\$27.00</b>	<b>\$37.82</b>
Starter fertiliser eg: MAP	May	with above			100 kg	\$0.98/kg	<b>\$97.50</b>	<b>\$97.50</b>
Insecticide eg: Omethoate (Lemat®)	May	with above			0.10 L	\$33.67/L	<b>\$3.37</b>	<b>\$3.37</b>
Broadleaf weed control eg: Clopyralid (Lontrel®)	Jun	0.05	43.36	<b>\$2.34</b>	0.30 L	\$44.67/L	<b>\$13.40</b>	<b>\$15.74</b>
Grass weed control eg:haloxyfop-R (Verdict®520)	Jun	with above	0.00	<b>\$0.00</b>	0.10 L	\$96.88/L	<b>\$9.69</b>	<b>\$9.69</b>
Irrigation	Aug				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Heliothis control eg: alpha- cypermethrin (Fastac Duo)	Sept			<b>\$18.15</b>	0.30 L	\$10.50/L	<b>\$3.15</b>	<b>\$21.30</b>
Contract Windrow		contract		<b>\$75.00</b>				<b>\$75.00</b>
Contract-harvest		contract		<b>\$60.00</b>				<b>\$60.00</b>
Crop Levies						\$1.50/tonne + 1.03% of on-farm value		<b>\$15.93</b>
Crop Insurance					3.59%	of on-farm value		<b>\$43.05</b>

\* Irrigation water price is an average price. You should use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

### NOTES:

<b>Soil type:</b>	<ul style="list-style-type: none"> <li>- Suitable for all good fertility wheat soils. Avoid acid soils containing high exchangeable aluminium.</li> <li>- Seedbed should be fine and firm. Trifluralin can be incorporated by sowing.</li> </ul>
<b>Fertiliser:</b>	<ul style="list-style-type: none"> <li>- Adequate phosphorus is essential for canola.</li> <li>- Canola requires more nitrogen than wheat and also has high sulfur requirement. This can be applied as either two separate products (eg gypsum pre-sowing, urea at sowing or top dressed in-crop, or as a combined product at sowing or in-crop eg, sulfate of ammonia).</li> <li>- For maximum yield response both nitrogen and sulfur should be applied prior to early budding.</li> </ul>
<b>Sowing time:</b>	<ul style="list-style-type: none"> <li>- Sow canola as early as possible to maximise yield potential, either after pre-irrigation or after the first autumn rains from mid-April.</li> <li>- There is a 10% yield loss for every weeks delay in sowing after early May.</li> <li>- Seed price used above is for purchased seed open pollinated variety. Do not use retained canola seed.</li> </ul>
<b>Weed control:</b>	<ul style="list-style-type: none"> <li>- Trifluralin for grass weed and wireweed/fumitory control.</li> <li>- Can use wide range of herbicides for grass control.</li> <li>- Clopyralid for capeweed and saffron thistle control.</li> <li>- Rotate herbicide groups and use other non-chemical methods to avoid herbicide resistance developing.</li> </ul>
<b>Insect control:</b>	<ul style="list-style-type: none"> <li>- Earhthmite control is essential at establishment.</li> <li>- Check for insect pests at flowering time.</li> <li>- Aphids need to be monitored from early budding, when colonies begin to spread control may be needed.</li> <li>- Monitor for heliothis from flowering onwards.</li> </ul>
<b>Windrowing:</b>	<ul style="list-style-type: none"> <li>- Windrowing is strongly recommended to reduce shattering losses and allow earlier harvest.</li> </ul>
<b>Irrigation:</b>	<ul style="list-style-type: none"> <li>- Pre-irrigation is optional, dependent on stored moisture levels following summer rainfall.</li> <li>- This budget is applicable for the Central Zone east, a higher water requirement may be required for the central zone/west.</li> <li>- In-crop irrigation: timing and amount dependent on in-crop winter rainfall; generally one spring irrigation (1.5 ML/ha) is sufficient but must be timed to ensure that there is adequate moisture over the critical flowering period.</li> <li>- Some of the yield response for irrigated crops is due to stored soil moisture and growing season rainfall which can be sufficient to grow a dryland crop. Thus the gross margin per ML is obtained by (GM/Ha irrigated crop – GM/Ha dryland crop)÷ML of irrigation water applied.</li> </ul>
<b>Machinery:</b>	<ul style="list-style-type: none"> <li>- A tractor with 149 kW (200 HP) pot power and 177kW (240 HP) engine power is assumed.</li> <li>- Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries &amp; repairs.</li> <li>- Contract-harvesting does not include the cost of fuel.</li> <li>- The labour required for machinery operations is 1.75 hrs/ha</li> </ul>
<b>Labour:</b>	<ul style="list-style-type: none"> <li>- Using a labour cost of \$14/hr, an additional \$24.55 can be deducted from the budget</li> <li>- These gross margins are only a guide. They do not include overhead costs.</li> </ul>
<b>Important notes:</b>	<ul style="list-style-type: none"> <li>- <b>Use your own figures and price assumptions to estimate your own gross margin.</b></li> <li>- Use of a particular brand name does NOT imply a recommendation of that brand by NSW Department of Primary Industries.</li> </ul>



# Flood Irrigated Lucerne: Establishment Central Zone

## Winter 2009

### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Mite control eg: Omethoate (Le-mat®)	June	0.10	29.92	<b>\$2.88</b>	0.10 L	\$33.67/L	<b>\$3.37</b>	<b>\$6.25</b>
Plough	Jan	0.58	27.08	<b>\$15.67</b>				<b>\$15.67</b>
Cultivation	Mar	0.42	24.98	<b>\$10.55</b>				<b>\$10.55</b>
Cultivation	Mar	0.42	24.98	<b>\$10.55</b>				<b>\$10.55</b>
Pre-sowing weed control eg: Glyphosate 540 (Roundup PowerMax®)	Apr	0.10	29.92	<b>\$2.88</b>	1.00 L	\$10.67/L	<b>\$10.67</b>	<b>\$13.55</b>
Pre-emergent weed control eg: Trifluralin 480g/L	May	0.10	29.92	<b>\$2.88</b>	1.40 L	\$8.05/L	<b>\$11.27</b>	<b>\$14.15</b>
Cultivation - incorporation	May	0.42	24.98	<b>\$10.55</b>				<b>\$10.55</b>
Sowing	May	0.29	33.25	<b>\$9.67</b>	12 kg	\$9.22/kg	<b>\$110.64</b>	<b>\$120.31</b>
Phosphorus fertiliser eg: Single Super	May	with above			250 kg	\$0.59/kg	<b>\$146.25</b>	<b>\$146.25</b>
Irrigation	May				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>

\* Irrigation water price is an average price. Use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

### NOTES:

- Sowing time:**
- Winter establishment is preferable to spring to maximise root development before summer.
  - Seed price used above assumes cost of pre-treatment required (eg insect protection) and inoculation.
- Fertiliser:**
- Adequate phosphorus is critical for successful establishment.
  - Can be applied via a range of products including single super or starter fertiliser.
- Irrigation:**
- This budget is applicable for the Central Zone east, a higher water requirement may be required for the central zone/west than the figures used in this budget.
- Weed control:**
- Incorporation of trifluralin by cultivation may be optional dependent on seedbed preparation method (eg: No-till).
- Insect control:**
- Insect control at establishment included in maintenance budget.
- Machinery:**
- A tractor with 57 kW (77 HP) pto power and 66kW (90 HP) engine power is assumed.
  - Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.
- Labour:**
- The labour required for machinery operations is 3.11 hrs/ha
  - Using a labour cost of \$14/hr, an additional \$43.56 can be deducted from the budget
  - The Lucerne stand is assumed to last 4 years.
- Important notes:**
- These gross margins are only a guide. They do not include overhead costs.
  - **Use your own figures and price assumptions to estimate your own gross margin.**
  - Use of a particular brand name does NOT imply recommendation of that brand by NSW Department of Primary Industries.



# NSW DEPARTMENT OF PRIMARY INDUSTRIES

## Flood Irrigated Lucerne: Maintenance Central Zone

### Winter 2009

#### 1. GROSS MARGIN BUDGET:

##### INCOME:

5 cuts	per season	@ 2.0 t	per cut
8.00 tonnes/ha @		\$220.00	/tonne (on farm)
2.00 tonnes/ha @		\$165.00	/tonne (on farm)

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

##### VARIABLE COSTS:

See opposite page for detail

Depreciation of establishment cost.....	\$94.36
Fertiliser.....	\$156.80
Herbicide.....	\$56.07
Insecticide.....	\$4.28
Irrigation.....	\$157.94
Mow, rake & bale.....	\$191.14
Cart and stack 100% of hay.....	\$160.00

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

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

##### D. GROSS MARGIN /ML (C÷ML WATER APPLIED)\*

Standard Budget \$/Ha	Your Budget \$/Ha
\$1,760.00	
\$330.00	
<b>\$2,090.00</b>	
\$94.36	
\$156.80	
\$56.07	
\$4.28	
\$157.94	
\$191.14	
\$160.00	
<b>\$820.60</b>	
<b>\$1,269.40</b>	
<b>\$158.68</b>	

\* Note method of calculation of GM/ML different to other crops. See agronomic notes on irrigation for explanation.

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

YIELD CUTS	YIELD CUTS	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	Prime
							Medium
2.00	4.00	\$66	\$146	\$226	\$306	\$386	
3.00	6.00	\$334	\$454	\$574	\$694	\$814	
4.00	8.00	\$602	\$762	\$922	\$1,082	\$1,242	
<b>5.00</b>	<b>10.00</b>	\$869	\$1,069	<b>\$1,269</b>	\$1,469	\$1,669	Gross Margin (\$/ha)
6.00	12.00	\$1,137	\$1,377	\$1,617	\$1,857	\$2,097	
7.00	14.00	\$1,405	\$1,685	\$1,965	\$2,245	\$2,525	
8.00	16.00	\$1,629	\$1,949	\$2,269	\$2,589	\$2,909	

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

YIELD CUTS	tonnes/ha	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	Prime
							Medium
2.00	4.00	\$8	\$18	\$28	\$38	\$48	
3.00	6.00	\$42	\$57	\$72	\$87	\$102	
4.00	8.00	\$75	\$95	\$115	\$135	\$155	
<b>5.00</b>	<b>10.00</b>	\$109	\$134	<b>\$159</b>	\$184	\$209	Gross Margin (\$/ML)
6.00	12.00	\$142	\$172	\$202	\$232	\$262	
7.00	14.00	\$176	\$211	\$246	\$281	\$316	
8.00	16.00	\$204	\$244	\$284	\$324	\$364	

#### PRODUCT TRADE NAMES

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by NSW Department of Primary Industries over any other equivalent product from another manufacturer.

# Flood Irrigated Lucerne: Maintenance

## Central Zone

### Winter 2009

#### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Broadleaf weed control eg: diuron 900g/kg (Diurex®)	Jun/Jul	0.10	29.92	<b>\$2.88</b>	1.90kg	\$14.12/kg	<b>\$26.82</b>	<b>\$29.70</b>
Weed control eg: Paraquat+Diquat	Jun/Jul	with above			2.00 L	\$13.19/L	<b>\$26.37</b>	<b>\$26.37</b>
Phosphorus fertiliser eg: Single Super	Aug	0.42	24.98	<b>\$10.55</b>	250 kg	\$0.59/kg	<b>\$146.25</b>	<b>\$156.80</b>
Aphid control eg: Dimethoate (Rogor®)	Aug	0.10	29.92	<b>\$2.88</b>	0.15 L	\$9.33/L	<b>\$1.40</b>	<b>\$4.28</b>
Irrigate	Sept				1.00 ML	\$19.74/ML	<b>\$19.74</b>	<b>\$19.74</b>
Irrigate	Oct				1.00 ML	\$19.74/ML	<b>\$19.74</b>	<b>\$19.74</b>
Mow	Nov	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Nov	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Nov	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Jan				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Mow	Jan	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Jan	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Jan	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Feb				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Mow		0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake		0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Feb	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Mar				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Mow	Mar	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Mar	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Mar	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Apr				1.50 ML	\$19.74/ML	<b>\$29.61</b>	<b>\$29.61</b>
Mow	Apr	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Apr	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Apr	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Cart and stack 100% of production	contract		\$0.40 /bale	<b>\$160.00</b>	(=400bales)			<b>\$160.00</b>

\* Irrigation water price is an average price. Use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

#### NOTES:

**Bale size:** - Bales are assumed to be 25 kg small square bales.

**Insecticide** - Earthmite control at establishment is essential.

- Aphid control in early spring is essential.

**Weed control:** - Paraquat+diquat and Diuron applied in June to early August to established stands to clean up weeds. Paraquat and diquat should be the last herbicides added to the spray tank.

- Rotate herbicide groups and use other non-chemical methods to avoid herbicide resistance developing.

**Fertiliser:** - Alternative fertilisers are available, and need to supply equivalent rates of phosphorus and sulfur.

**Irrigation:** - This budget is applicable for the Central Zone east, a higher water requirement

may be required for the central zone/west than the figures used in this budget.

- The method used to calculate gross margin per ML is gross margin per hectare less the gross margin

from an alternative dryland enterprise divided by the ML of irrigation water applied. However,

irrigated Lucerne does not have clear alternative in the Central West/west because soils and climate dictate land use

Therefore, the method used here is gross margin per hectare divided by the ML of irrigation water applied.

Producers who are attempting to decide on the best use of their water it is recommended they decide on

the dryland alternative and recalculate the gross margin per ML as done for other budgets.

**Machinery:** - A tractor with 57 kW (77 HP) pto power and 66kW (90 HP) engine power is assumed.

- Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.

- Contract-harvesting does not include the cost of fuel.

**Labour:** - The labour required for machinery operations is 3.37 hrs/ha

**Important notes:** - These gross margins are only a guide. They do not include overhead costs.

- **Use your own figures and price assumptions to estimate your own gross margin.**

- Use of a particular brand name does NOT imply recommendation of that brand by NSW Department of Primary Industries.



# Spray Irrigated Lucerne: Maintenance Central Zone

## Winter 2009

### 1. GROSS MARGIN BUDGET:

#### INCOME:

5 cuts	per season	@ 2.5 t	per cut
10.00 tonnes/ha @		\$220.00	/tonne (on farm)
2.50 tonnes/ha @		\$165.00	/tonne (on farm)

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

#### VARIABLE COSTS:

See opposite page for detail

Depreciation of establishment cost.....	\$103.27
Fertiliser.....	\$156.15
Herbicide.....	\$56.07
Insecticide.....	\$4.28
Irrigation.....	\$521.97
Mow, rake & bale.....	\$191.14
Cart and stack 100% of hay.....	\$200.00

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

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

#### D. GROSS MARGIN /ML (C÷ML WATER APPLIED)\*

Standard Budget \$/Ha	Your Budget \$/Ha
\$2,200.00	
\$412.50	
<b>\$2,612.50</b>	
\$103.27	
\$156.15	
\$56.07	
\$4.28	
\$521.97	
\$191.14	
\$200.00	
<b>\$1,232.89</b>	
<b>\$1,379.61</b>	
<b>\$172.45</b>	

\* Note method of calculation of GM/ML different to other crops. See agronomic notes on irrigation for explanation.

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

YIELD CUTS	tonnes/ha	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					Prime Medium Gross Margin (\$/ha)
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	
2.00	5.00	-\$153	-\$53	\$47	\$147	\$247	
3.00	7.50	\$191	\$341	\$491	\$641	\$791	
4.00	10.00	\$535	\$735	\$935	\$1,135	\$1,335	
<b>5.00</b>	<b>12.50</b>	\$880	\$1,130	<b>\$1,380</b>	\$1,630	\$1,880	
6.00	15.00	\$1,224	\$1,524	\$1,824	\$2,124	\$2,424	
7.00	17.50	\$1,568	\$1,918	\$2,268	\$2,618	\$2,968	
8.00	20.00	\$1,912	\$2,312	\$2,712	\$3,112	\$3,512	

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

YIELD CUTS	tonnes/ha	ON FARM PRICE (\$/tonne) - Prime 80%, Medium 20%					Prime Medium Gross Margin (\$/ML)
		\$180	\$200	<b>\$220</b>	\$240	\$260	
		\$125	\$145	<b>\$165</b>	\$185	\$205	
2.00	5.00	-\$19	-\$7	\$6	\$18	\$31	
3.00	7.50	\$24	\$43	\$61	\$80	\$99	
4.00	10.00	\$67	\$92	\$117	\$142	\$167	
<b>5.00</b>	<b>12.50</b>	\$110	\$141	<b>\$172</b>	\$204	\$235	
6.00	15.00	\$153	\$190	\$228	\$265	\$303	
7.00	17.50	\$196	\$240	\$284	\$327	\$371	
8.00	20.00	\$239	\$289	\$339	\$389	\$439	

#### PRODUCT TRADE NAMES

The product trade names in this publication are supplied on the understanding that no preference between equivalent products is intended and that the inclusion of a product does not imply endorsement by NSW Department of Primary Industries over any other equivalent product from another manufacturer.

# Spray Irrigated Lucerne: Maintenance Central Zone

## Winter 2009

### CALENDAR OF OPERATIONS:

Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
Broadleaf weed control eg: Diuron 900g/kg	Jun/Jul	0.10	29.92	<b>\$2.88</b>	1.90kg	\$14.12/kg	<b>\$26.82</b>	<b>\$29.70</b>
Weed control eg: Paraquat+Diquat (Sprayseed®)	Jun/Jul	with above			2.00 L	\$13.19/L	<b>\$26.37</b>	<b>\$26.37</b>
Phosphorus fertiliser eg: Single Super	Aug	0.42	23.58	<b>\$9.90</b>	250 kg	\$0.59/kg	<b>\$146.25</b>	<b>\$156.15</b>
Aphid control eg: Dimethoate (Rogor®)	Aug	0.10	29.92	<b>\$2.88</b>	0.15 L	\$9.33/L	<b>\$1.40</b>	<b>\$4.28</b>
Irrigate	Oct				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Nov	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Nov	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Nov	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Dec				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Dec	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Dec	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Dec	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Jan				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Jan				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Jan	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Jan	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Jan	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Feb/Mar				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Feb/Mar				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Feb/Mar	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Feb/Mar	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Feb/Mar	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Irrigate	Apr				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Irrigate	Apr				1.00 ML	\$65.25/ML	<b>\$65.25</b>	<b>\$65.25</b>
Mow	Apr	0.42	\$31.08	<b>\$12.95</b>				<b>\$12.95</b>
Rake	Apr	0.42	\$24.08	<b>\$10.03</b>				<b>\$10.03</b>
Bale	Apr	0.42	\$36.58	<b>\$15.24</b>				<b>\$15.24</b>
Cart and stack 100% of production	contract		\$0.40 /bale	<b>\$200.00</b>	(=500 bales)			<b>\$200.00</b>

\* Irrigation water price is an average price. Use the variable cost of irrigation water applicable to your situation.

\*\*\* Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.

### NOTES:

- Bale size:** - Bales are assumed to be 25 kg small square bales. 12.5t/25kg = 500bales
- Insect control:** - Earthmite control at establishment is essential  
- Aphid control in early spring is essential
- Weed control:** - Paraquate + Diquat and Diuron applied in June to early August to established stand to clean up weeds. Paraquat and diquat should be the last herbicide added to the spary tank.  
- Rotate herbicide groups and use other non-chemical methods to avoid herbicide resistance developing.
- Fertiliser:** - Alternative fertilisers are available, and need to supply equivalent rates of phosphorus and Sulfur.
- Spray irrigation:** - Refers to a **travelling Irrigator** (high pressure system).  
- This budget is applicable for the Central Zone east, a higher water requirement may be required for the central zone west than the figures used in this budget.  
- The application efficiency of the travelling irrigator is assumed to be 70%.  
- The method used to calculate gross margin per ML is gross margin per hectare less the gross margin from an alternative dryland enterprise divided by the ML of irrigation water applied. However, irrigated Lucerne does not have clear alternative in the Central West/west because soils and climate dictate land use. Therefore, the method used here is gross margin per hectare divided by the ML of irrigation water applied. Producers who are attempting to decide on the best use of their water it is recommended they decide on the dryland alternative and recalculate the gross margin per ML as done for other budgets.
- Machinery:** - A tractor with 57 kW (77 HP) pto power and 66kW (90 HP) engine power is assumed.  
- Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.  
- Contract-harvesting does not include the cost of fuel.
- Labour:** - The labour required for machinery operations is 3.89 hrs/ha  
- Using a labour cost of \$14/hr, an additional \$120.1 can be deducted from the budget
- Important notes:** - These gross margins are only a guide. They do not include overhead costs.  
- **Use your own figures and price assumptions to estimate your own gross margin.**  
- Use of a particular brand name does NOT imply recommendation of that brand by NSW Department of Primary Industries.