



NSW DEPARTMENT OF PRIMARY INDUSTRIES

**LUCERNE: Maintenance (Flood Irrigated - Border Check)
Irrigated Winter - 2009**

**Murray Valley &
Murrumbidgee Valley**

1. GROSS MARGIN BUDGET:

INCOME:

9.00 t/ha @	\$350.00 /tonne ON FARM
6.00 t/ha @	\$250.00 /tonne ON FARM
15.00 t/ha @	\$310.00 /tonne ON FARM *

(5 cuts @ 3 t/ha/cut)

Standard Budget \$/ha	Your Budget \$/ha
\$3,150.00	
\$1,500.00	

A. TOTAL INCOME \$/ha:

\$4,650.00	
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VARIABLE COSTS:

See following page for detail

Cultivation.....	\$0.00
Sowing.....	\$0.00
Fertiliser.....	\$358.23
Fungicide.....	\$0.00
Herbicide.....	\$51.76
Insecticide.....	\$11.25
Contract hay mowing, raking.....	\$1,200.00
Cartage & stacking.....	\$720.00
Irrigation.....	\$478.08
B. TOTAL VARIABLE COSTS \$/ha:	\$2,819.32

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

\$1,830.68	
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D. GROSS MARGIN \$/ML:

\$140.82	
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* Note. The method of calculation of gross margin per ML for the Murrumbidgee budgets varies because of the difficulty of identifying an alternative dryland alternative on specialist flood irrigated land. It is recommended where farmers can identify a dryland alternative that they subtract the gross margin of the dryland alternative from the gross margin of the irrigated crop and then divide by the number of ML. This will give a better indication of the contribution the irrigation water has made to increasing returns.

SENSITIVITY TABLES

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)					Gross Margin (\$/ha)
	\$210 /t	\$260 /t	\$310 /t	\$410 /t	\$510 /t	
10.50	-\$38	\$487	\$1012	\$2062	\$3112	
12.00	\$85	\$685	\$1285	\$2485	\$3685	
13.50	\$208	\$883	\$1558	\$2908	\$4258	
15.00	\$331	\$1081	\$1831	\$3331	\$4831	←
16.50	\$454	\$1279	\$2104	\$3754	\$5404	
18.00	\$577	\$1477	\$2377	\$4177	\$5977	
19.50	\$700	\$1675	\$2650	\$4600	\$6550	

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)					Gross Margin (\$/ML)
	\$210 /t	\$260 /t	\$310 /t	\$410 /t	\$510 /t	
10.50	-\$3	\$37	\$78	\$159	\$239	
12.00	\$7	\$53	\$99	\$191	\$283	
13.50	\$16	\$68	\$120	\$224	\$328	
15.00	\$25	\$83	\$141	\$256	\$372	←
16.50	\$35	\$98	\$162	\$289	\$416	
18.00	\$44	\$114	\$183	\$321	\$460	
19.50	\$54	\$129	\$204	\$354	\$504	

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Irrigated Winter - 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs/ha	Cost	Total	Rate/ha	Cost	Total	Total Cost \$/ha
			\$/hour	\$/ha		\$	\$/ha	
Broadleaf & grass weed spray (<i>eg. Sprayseed</i>) and <i>diuron</i>	Jun/Jul	contract with above		\$10.00	2.40 L/ha 1.50 L/ha	\$12.15/L \$8.40/L	\$29.16 \$12.60	\$39.16 \$12.60
Topdress phosphorus fertiliser (<i>eg. single super</i>)	Aug	0.05	\$41.38	\$2.23	400kg/ha	\$0.890/kg	\$356.00	\$358.23
Insect & mite spray (<i>eg. dimethoate</i>)	Sep	contract	\$10.00		0.15 L/ha	\$8.35/L	\$1.25	\$11.25
Mowing, raking and baling	contract	Sep-Apr	600	bales/ha @	2.00	\$/bale		\$1,200.00
Cartage & stacking	contract	Sep-Apr	600	bales/ha @	1.20	\$/bale		\$720.00
Irrigation*	Sep-Mar				13.0ML/ha	\$36.78/ML	\$478.08	\$478.08

AGRONOMIC NOTES:	<p>See NSW DPI publications: "Lucerne for Pasture and Fodder", "Irrigated Lucerne" and "Weed Control in Lucerne and Pastures"</p> <p>MANAGE STAND WELL FOR BEST PRODUCTION AND PERSISTENCE</p>
Prices	<ul style="list-style-type: none"> - Prices are estimated and GST-exclusive. - prices based on small bales - Prices should be \$6-8/bale for this price per tonne.
Rotation	<ul style="list-style-type: none"> - Expected productive stand life 3 - 4 years. - Terminate stand when no longer economically viable (ie less than 50 plants/m²) or weedy or thin patches. Rotate with cereals to reduce disease and insect problems.
Weed Control	<ul style="list-style-type: none"> - Apply herbicides to dormant lucerne in winter after cutting or grazing to control broadleaf and grass weeds, consult <i>Weed control in Lucerne and Pastures</i>.
Insect Control	<ul style="list-style-type: none"> - Regularly monitor for insects. Cut, graze or spray when necessary. (See "Insect and mite control in field crops")
Irrigation	<ul style="list-style-type: none"> - Good irrigation management is critical for high yields and persistent. Fast irrigation essential on flood layouts. Water use depends upon the soil type and weather (10 - 16 ML per season). - Irrigation scheduling allows more efficient water use and helps to avoid waterlogging. - *The budget uses MIA total water costs based on 50% allocation. - Irrigation cost includes the variable cost and fixed water costs of \$19.18/ML. - Water costs used in the MIA budgets are based on 2008-09 prices. - For prices in other areas and districts, refer to the water prices section.
Fertiliser	<ul style="list-style-type: none"> - High inputs of phosphorus fertiliser are needed to replace nutrients removed by highly productive hay stands.
Production	<ul style="list-style-type: none"> - Five cuts are made during the season (6-7 possible). Assume 1 tonne=40 small square bales. - Assume 9 t is good quality and 6 t is downgraded by weather, weeds, etc.
Cutting Management	<ul style="list-style-type: none"> - For stand persistence under flood irrigation allow 2 cm regrowth before watering again to avoid scald. To avoid damage to crown buds, do not cut too short (<7cm).
Risk	<ul style="list-style-type: none"> - The production of good quality lucerne hay involves significant risk (mainly weather) which potential growers should take into account. Hay prices are highly sensitive to supply and demand. Higher quality can improve returns.
Machinery	<ul style="list-style-type: none"> - Machinery costs include variable costs only for the tractor, implements and header. - Baling and mowing prices are based on contract small bale prices. - Two tractors: of 57 kW (76 HP) PTO and 63 kW (86 HP) engine; and of 130 kW (175 HP) PTO and 146 kW (196 HP) engine are assumed. - Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical.
Economics	<ul style="list-style-type: none"> - Input and crop prices are correct at the time of writing (March 2009). Market uncertainty makes estimation of future pricing impractical. - Cost of establishment should be spread over life of the stand