



DRYLAND WHEAT (No Till, Short Fallow)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

After previous crop: **INCOME:**

Wheat	1.70 tonnes/ha@	\$275.00 /tonne (PH on farm)
Chickpeas	2.00 tonnes/ha@	\$275.00 /tonne (PH on farm)
Canola	2.00 tonnes/ha@	\$275.00 /tonne (PH on farm)

A. TOTAL INCOME \$/ha:

Previous Crop

WHEAT Budget \$/ha	CHICKPEAS Budget \$/ha	CANOLA Budget \$/ha	Your Budget \$/ha
\$467.50			
	\$550.00		
		\$550.00	
\$467.50	\$550.00	\$550.00	

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

VARIABLE COSTS:

See next page for detail

Sowing.....	\$38.97	\$38.97	\$38.97	
Fertiliser.....	\$60.87	\$45.65	\$60.87	
Herbicide.....	\$58.41	\$56.99	\$58.41	
Fungicides.....	\$2.97	\$2.97	\$2.97	
Contract harvesting.....	\$61.24	\$61.24	\$61.24	
Levies.....	\$4.77	\$5.61	\$5.61	
Insurance.....	\$4.82	\$5.67	\$5.67	

B. TOTAL VARIABLE COSTS \$/ha:

\$232.05	\$217.10	\$233.74	
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C. GROSS MARGIN (A-B) \$/ha:

\$235.45	\$332.90	\$316.26	
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Water use efficiency example

Growing season rainfall (ie in-crop): mm	189	189	189	
Stored fallow moisture: mm (25% of rainfall in fallow period)	69	69	69	
Early crop water use: mm	110	110	110	
Total crop water use mm	148	148	148	
Gross margin per mm	\$1.59	\$2.24	\$2.13	
kg of grain per mm	11.5	13.5	13.5	

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
for more information on water use efficiency
assumptions used at right.

AGRONOMIC REQUIREMENTS:

Growers should assess soil moisture profiles and fertility levels to assist with yield targets. Stored soil moisture at sowing reduces the risk of crop failure due to variable in-crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, which can be roughly measured at sowing using a push probe.

Sowing Time: Sowing at the optimum time for the selected variety is critical for maximum yield. There is a 4% to 7% yield loss for each weeks delay past the optimum sowing time. See the NSW DPI *Winter crop variety sowing guide 2012*. Sowing time is a tradeoff between frost risk with early sowing and moisture/heat stress with later sowing.

Fertiliser: Nitrogen fertiliser should be assessed on an individual paddock basis considering the yield and protein levels of the previous crop and/or soil test. Other nutrient requirements (e.g. P and Zn) should be assessed with soil tests and previous strip trial results. An assumption of 40 kg/ha of N after wheat or canola and 30 kg/ha of N after chickpeas has been made for this budget.

Disease: Crop rotation is necessary to minimise loss of yield due to disease. Effective grass weed control is also essential to control diseases such as crown rot. Variety selection also plays a role in minimising the impact of disease on yield and quality. Stripe rust - If a seed dressing has not been applied, continuous monitoring of moderately susceptible/susceptible varieties will determine whether you consider foliar fungicide application to control stripe rust infection.

Weed Control: Weed control, if required, should be timely to be cost effective. Refer to the NSW DPI booklet *Weed control in winter crops 2012* for options, such as replacing a glyphosate spray with a paraquat/diquat.

Herbicides: Fenoxaprop-p-ethyl used for wild oat control 1 year in 4.

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

*Check with your agronomist before applying herbicides in unsuitable conditions where there are sensitive crops in the area.

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

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.22hrs/ha. Multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21.00/hr, the cost of labour is \$5.78/ha, reducing the gross margin to \$229.68/ha.

MACHINERY ASSUMPTIONS:

Tractor: 170 KW PTO (230 HP) and 200 KW engine (265 HP)
machinery costs refer only to variable costs (running costs), not overhead costs.

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

	YIELD tonnes/ha	On Farm Price				
		\$175 /tonne	\$225 /tonne	\$275 /tonne	\$325 /tonne	\$375 /tonne
After wheat	0.6	- \$120	- \$90	- \$61	- \$31	- \$2
	1.0	- \$57	- \$9	\$38	\$85	\$133
	1.3	\$6	\$71	\$137	\$202	\$267
	1.7	\$69	\$152	\$235	\$319	\$402
	2.3	\$172	\$284	\$397	\$510	\$622
	2.9	\$271	\$413	\$555	\$697	\$839
	3.5	\$367	\$539	\$710	\$882	\$1,053
	After chickpeas	0.7	- \$86	- \$52	- \$17	\$17
1.1		- \$12	\$44	\$99	\$155	\$210
1.6		\$63	\$139	\$216	\$293	\$370
2.0		\$137	\$235	\$333	\$431	\$529
2.7		\$250	\$380	\$511	\$641	\$772
3.3		\$357	\$520	\$684	\$847	\$1,010
4.0		\$465	\$661	\$857	\$1,053	\$1,248
After canola		0.7	- \$102	- \$68	- \$34	\$0
	1.1	- \$28	\$27	\$83	\$138	\$194
	1.6	\$46	\$123	\$200	\$276	\$353
	2.0	\$120	\$218	\$316	\$414	\$512
	2.7	\$233	\$364	\$494	\$625	\$755
	3.3	\$341	\$504	\$667	\$830	\$994
	4.0	\$448	\$644	\$840	\$1,036	\$1,232

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.

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
		Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
wetter - non-ionic surfactant	Feb	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Apr	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
wetter - non-ionic surfactant	Apr	with above			0.25 L	6.77/L	1.69	1.69
sowing	May	0.10	76.13	7.61				7.61
seed	May	with above			45 kg	0.90/kg	40.32	40.32
nitrogen fertiliser after cereal or canola eg. urea OR	May	with above			109 kg	0.70/kg	76.09	76.09
nitrogen fertiliser after chickpeas eg. urea	May	with above			65 kg	0.70/kg	45.65	45.65
wild oat control (1 year in 4)	Jun	0.03	56.21	1.69				0.42
eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	47.29/L	16.55	4.14
broadleaf weed control, ground spray eg 2,4-D amine 475 g/L	Jul	0.03	56.21	1.69	1.2 L	5.82/L	6.98	8.67
fungicide eg tebuconazole	Jul	with above			0.145 L	20.50/L	2.97	2.97
harvest (contract)	Nov			61.24				61.24
crop levies after wheat	Nov						1.020% of on-farm value	4.77
crop insurance after wheat OR							1.030% of on-farm value	4.82
crop levies after chickpeas or canola	Nov						1.020% of on-farm value	5.61
crop insurance after chickpeas or canola							1.030% of on-farm value	5.67

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.



DRYLAND FEED BARLEY (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.85 tonnes/ha@ \$150.00 /tonne (Feed barley, on farm)

Sample Budget \$/ha	Your Budget \$/ha
\$277.50	

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

A. TOTAL INCOME \$/ha:

\$277.50	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$49.27	
Herbicide.....	\$72.68	
Insecticide.....	\$0.00	
Contract harvesting.....	\$66.24	
Levies.....	\$2.83	
Insurance.....	\$2.86	

B. TOTAL VARIABLE COSTS \$/ha:

\$193.88	
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C. GROSS MARGIN (A-B) \$/ha:

\$83.62	
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Water use efficiency example

Growing season rainfall (ie in-crop): mm

Stored fallow moisture: mm (25% of rainfall in fallow period)

Early crop water use: mm

Total crop water use mm

Gross margin per mm

kg of grain per mm

189	
69	
90	
168	
\$0.50	
11.0	

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
for more information on water use efficiency
assumptions used at right.

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

YIELD tonnes/ha	On Farm Price				
	\$50 /tonne	\$100 /tonne	\$150 /tonne	\$200 /tonne	\$250 /tonne
0.50	- \$164	- \$139	- \$115	- \$90	- \$66
0.90	- \$144	- \$100	- \$56	- \$12	\$32
1.30	- \$125	- \$61	\$3	\$66	\$130
1.85	- \$98	- \$7	\$84	\$174	\$265
2.40	- \$71	\$47	\$164	\$282	\$399
3.00	- \$46	\$101	\$248	\$394	\$541
3.50	- \$27	\$145	\$316	\$487	\$659

Gross margin is zero when income is reduced by 30%
or variable costs are increased by 43%

DRYLAND FEED BARLEY (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
broadleaf weed control eg paraquat+diquat	May	0.03	56.21	1.69	2.0 L	10.93/L	21.86	23.55
sowing	Jun	0.12	78.21	9.39	40 kg	1.00/kg	39.88	49.27
broadleaf weed control eg MCPA LVE	Aug	0.03	56.21	1.69	1.0 L	10.32/L	10.32	12.01
harvest (contract)	Dec			66.24				66.24
crop levies	Dec			1.020%	of on-farm value			2.83
crop insurance				1.030%	of on-farm value			2.86

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Considerations: Most barley on the plains is feed quality. Growers should assess soil moisture profiles and fertility levels to assist with yield targets. Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, which can be roughly measured at sowing using a push probe.

Sowing Time: Ideally May/June. However, barley is more adapted to late sowings than wheat. Sowing time involves a tradeoff between frost risk with early sowing and moisture/heat stress with later sowing.

Fertiliser: Similar nitrogen rates to wheat can be applied to barley.

Disease: Crop rotation is essential to minimise yield loss due to diseases such as net blotch.

Barley is a good host for crown rot, so it is not advisable to plant wheat following barley.

Herbicides: Refer to the NSW DPI booklet *Weed control in winter crops 2012* for options. Black oat control is not included in budget. Barley is more competitive with weeds than wheat.

To reduce the risk 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.

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.27hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$7.09/ha, reducing the gross margin to \$76.53/ha.

MACHINERY ASSUMPTIONS:

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

machinery costs refer only to variable costs (running costs), not overhead costs.

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.



DRYLAND MALTING BARLEY (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.85 tonnes/ha@ \$180.00 /tonne (Malting barley, on farm)

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

Sample Budget \$/ha	Your Budget \$/ha
\$333.00	

A. TOTAL INCOME \$/ha:

\$333.00	
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VARIABLE COSTS:

See next page for detail

Cultivation.....	\$0.00	
Sowing.....	\$49.27	
Herbicide.....	\$72.68	
Contract harvesting.....	\$66.24	
Levies.....	\$3.40	
Insurance.....	\$3.43	

B. TOTAL VARIABLE COSTS \$/ha:

\$195.02	
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C. GROSS MARGIN (A-B) \$/ha:

\$137.98	
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Water use efficiency example

Growing season rainfall (ie in-crop): mm	189	
Stored fallow moisture: mm (25% of rainfall in fallow period)	69	
Early crop water use: mm	90	
Total crop water use mm	168	
Gross margin per mm	\$0.82	
kg of grain per mm	11.0	

Please refer to the NSW DPI webpage ["About gross margin budgets"](#) for more information on water use efficiency assumptions used at right.

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

YIELD tonnes/ha	On Farm Price				
	\$80 /tonne	\$130 /tonne	\$180 /tonne	\$230 /tonne	\$280 /tonne
0.50	- \$149	- \$125	- \$100	- \$76	- \$51
0.90	- \$118	- \$74	- \$30	\$15	\$59
1.30	- \$86	- \$23	\$41	\$105	\$168
1.85	- \$43	\$47	\$138	\$229	\$319
2.40	- \$0	\$117	\$235	\$352	\$470
3.00	\$42	\$189	\$336	\$483	\$630
3.50	\$76	\$247	\$419	\$590	\$762

Gross margin is zero when income is reduced by 41%

or variable costs are increased by 71%

DRYLAND MALTING BARLEY (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg paraquat+diquat	May	0.03	56.21	1.69	2.0 L	10.93/L	21.86	23.55
sowing	Jun	0.12	78.21	9.39	40 kg	1.00/kg	39.88	49.27
herbicide (application)	Aug	0.03	56.21	1.69				1.69
broadleaf weed control eg MCPA LVE	Aug	with above			1.0 L	10.32/L	10.32	10.32
harvest (contract)	Dec			66.24				66.24
crop levies	Dec			1.020%				3.40
crop insurance				1.030%	of on-farm value			3.43

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Rotation Considerations: Most barley on the plains is feed quality, however malt can be achieved with the right season and management. In some areas eg Walgett and Coonamble, significant in-crop rainfall will be needed to achieve these yield targets. Growers should assess soil moisture profiles and fertility levels to assist with yield estimates. Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, this can be roughly measured at sowing using a push probe.

Barley is a good host for crown rot, it is not advisable to plant wheat following barley.

Sowing Time: Ideally May/June. However, barley is more adapted to late plantings than wheat. Sowing time involves a tradeoff between frost risk with early sowing and moisture/heat stress with later sowing.

Fertiliser: Soil testing and nitrogen budgeting is crucial if malt grade is to be achieved.

Disease: Crop rotation is essential to minimise yield loss due to diseases such as net blotch.

Herbicides: Refer to the NSW DPI booklet *Weed control in winter crops 2012* for options.

Black oat control is not included in budget. Barley is more competitive with weeds than wheat and should be rotated away from wheat in the following season. *Check with your agronomist before applying herbicides in hot, dry conditions where there are sensitive crops in the area.

To reduce the risk 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.**

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.27hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$7.09/ha, reducing the gross margin to \$130.90/ha.

MACHINERY ASSUMPTIONS:

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

machinery costs refer only to variable costs (running costs), not overhead costs.

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.



DRYLAND WHEAT (LONG FALLOW, No Till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

2.40 tonnes/ha@ \$275.00 /tonne (PH13 on farm)

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

Sample Budget \$/ha	Your Budget \$/ha
\$660.00	

A. TOTAL INCOME \$/ha:

\$660.00	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$45.23	
Fertiliser.....	\$85.20	
Herbicide.....	\$95.26	
Insecticide.....	\$0.00	
Contract harvesting.....	\$61.24	
Levies.....	\$6.73	
Insurance.....	\$6.80	

B. TOTAL VARIABLE COSTS \$/ha:

\$300.45	
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C. GROSS MARGIN (A-B) \$/ha:

\$359.55	
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Water use efficiency example

Growing season rainfall (ie in-crop): mm
Stored fallow moisture: mm (25% of rainfall in fallow period)

Early crop water use: mm
Total crop water use mm
Gross margin per mm
kg of grain per mm

189	
122	
110	
201	
\$1.79	
12.0	

Please refer to the NSW DPI webpage "[About gross margin budgets](#)" for more information on water use efficiency assumptions used at right.

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

YIELD tonnes/ha	On Farm Price				
	\$175 /tonne	\$225 /tonne	\$275 /tonne	\$325 /tonne	\$375 /tonne
1.5	- \$30	\$44	\$117	\$191	\$264
1.8	\$22	\$110	\$198	\$286	\$374
2.1	\$73	\$176	\$279	\$382	\$484
2.4	\$124	\$242	\$360	\$477	\$595
3.3	\$265	\$425	\$585	\$745	\$905
4.1	\$405	\$608	\$810	\$1,013	\$1,215
5.0	\$545	\$790	\$1,035	\$1,280	\$1,525

Gross margin is zero when income is reduced by 54%
or variable costs are increased by 120%

DRYLAND WHEAT (LONG FALLOW, No Till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs /ha	Cost	Total	Rate/ha	Cost	Total	Cost \$/ha
			\$/hour	\$/ha		\$	\$/ha	
harvest summer crop	Mar							
broadleaf and grass weed control eg: glyphosate 450 g/L	Mar	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
wetter - non-ionic surfactant	Mar	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Aug	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Aug	with above			1.2 L	5.82/L	6.98	6.98
wetting agent	Aug	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: chlorsulfuron *	Apr	0.03	56.21	1.69	20 g	0.10/g	2.00	3.69
broadleaf and grass weed control eg paraquat+diquat	Apr	with above			2.0 L	10.93/L	21.86	21.86
sowing	May	0.12	78.21	9.39	40 kg	0.90/kg	35.84	45.23
fertiliser (Starter Z)	May	with above			40 kg	1.08/kg	43.20	43.20
nitrogen fertiliser eg. urea	Mar	with above			60 kg	0.70/kg	42.00	42.00
wild oat control (1 year in 4)	Jun	0.03	56.21	1.69				0.42
eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	47.29/L	16.55	4.14
broadleaf weed control eg MCPA LVE	Jul	0.03	56.21	1.69	0.5 L	10.32/L	5.16	6.85
harvest (contract)	Dec			61.24				61.24
crop levies	Nov			1.020%				6.73
crop insurance				1.030%	of on-farm value			6.80

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Considerations: In some areas eg Walgett and Coonamble, significant in-crop rainfall will be needed to achieve these yield targets. Growers should assess soil moisture profiles and fertility levels to assist with yield estimates. Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, which can be roughly measured at sowing using a push probe.

Sowing Time: Sowing at the optimum time for the selected variety is critical for maximum yield. There is a 4 to 7% yield loss for every weeks delay past the optimum sowing time. Sowing time is a tradeoff between frost risk with early sowing and moisture/heat stress with later sowing.

Fertiliser: Nitrogen fertiliser requirements are generally less following a long fallow, however they should be assessed on an individual paddock basis by soil testing. Other nutrient requirements (e.g. P and Zn) should be assessed with soil tests and previous strip trial results.

Fallowing: While long fallowing is less efficient at storing each mm of rainfall that falls, it can be a useful practice to spread risk, or to alternate between summer and winter crops.

* In this example, chlorsulfuron (e.g. Glean) is used for weed control, but this would reduce flexibility for the following crop due to plant back periods.

Disease: Crop rotation is necessary to minimise yield loss due to disease. Effective grass weed control is also essential to control diseases such as crown rot. Variety selection also plays a role in minimising the impact of disease on yield and quality.

Stripe rust: If a seed dressing has not been applied, continuous monitoring of moderately susceptible/susceptible varieties will determine whether you consider foliar fungicide application to control stripe rust infection.

Weed Control:

Weed control, if required, should be timely to be cost effective.

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

Refer to the NSW DPI booklet *Weed Control in winter crops 2012* for options.

*Check with your agronomist before applying herbicides in unsuitable conditions where there are sensitive crops in the area.

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

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.3hrs/ha. Multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21.00/hr, the cost of labour is \$7.88/ha, reducing the gross margin to \$351.67/ha.

MACHINERY ASSUMPTIONS: machinery costs refer only to variable costs (running costs), not overhead costs.

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



DRYLAND FIELD PEAS (No Till, after wheat)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.30 tonnes/ha@ \$290.00 /tonne (on farm)

Standard Budget \$/ha	Your Budget \$/ha
\$377.00	

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

VARIABLE COSTS:

See next page for detail

A. TOTAL INCOME \$/ha:

\$377.00

Sowing.....	\$74.86	
Fertiliser.....	\$37.60	
Herbicide.....	\$85.93	
Insecticide.....	\$15.60	
Contract harvesting.....	\$81.24	
Levies.....	\$3.85	
Crop Insurance.....	\$6.56	

B. TOTAL VARIABLE COSTS \$/ha:

\$305.63

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

\$71.37

Water use efficiency example

Growing season rainfall (ie in-crop): mm	189	
Stored fallow moisture: mm (25% of rainfall in fallow period)	69	
Early crop water use: mm	130	
Total crop water use mm	128	
Gross margin per mm	\$0.56	
kg of grain per mm	10.1	

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
for more information on water use efficiency
assumptions used at right.

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)				
	\$190 /t	\$240 /t	\$290 /t	\$340 /t	\$390 /t
0.70	-\$166	-\$132	-\$98	-\$64	-\$30
0.90	-\$129	-\$85	-\$41	\$2	\$46
1.10	-\$92	-\$39	\$15	\$68	\$122
1.30	-\$55	\$8	\$71	\$135	\$198
1.60	\$0	\$78	\$156	\$234	\$312
1.90	\$56	\$148	\$241	\$333	\$425
2.30	\$130	\$242	\$353	\$465	\$577

Gross margin is zero when income is reduced by 19%
or variable costs are increased by 23%

DRYLAND FIELD PEAS (No Till, after wheat)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery*			Inputs			Total
Operation	Month	Cost		Total	Rate/ha	Cost		Total
		hrs/ha	\$/hour	\$/ha		\$/ha	\$	\$/ha
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr €	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Apr	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
wetter - non-ionic surfactant	Apr	with above			0.25 L	6.77/L	1.69	1.69
sowing - inoculated	May	0.17	75.66	12.86	100 kg	0.62/kg	62.00	\$74.86
fertiliser - Starter Z	May	with above			40 kg	0.94/kg	37.60	\$37.60
PSPE ground spray - metribuzin	May	0.05	54.96	2.75	380 g	62.00/kg	23.56	\$26.31
grass weed control eg haloxyfop-R 5	May	0.05	54.96	2.75	0.08 L	99.00/L	7.43	\$10.17
insect control eg. Decis Options®	Sep	with above			0.5 L	12.85/L	6.43	\$6.43
insect control eg. Decis Options®	Oct	0.05	54.96	2.75	0.5 L	12.85/L	6.43	\$9.17
contract harvest	Dec	contract		81.24				\$81.24
levies					1.02%	of on-farm value		\$3.85
crop insurance				1.740%		of on-farm value		\$6.56

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

NOTES:

Soils: Suitable for the lighter textured soils through to the heavier clay soils, paddocks should be free of sticks and stones for harvesting.

Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, this can be roughly measured at sowing using a push probe.

Rotation place: Useful as a break crop in cereal rotations for disease control, weed control and nitrogen benefits.

Inoculation: With Group E inoculum is essential.

Fertiliser: Adequate levels of phosphorus and sulfur should be applied, similar to winter cereals.

Seed source: Seed should be obtained from northern areas and from certified growers, because of the pea weevil threat. Ensure seed has been tested for bacterial blight.

Disease: See the NSW DPI *Winter crop variety sowing guide 2012* for resistant varieties

For more information see Pulse Point 13 "Strategies to minimise bacterial blight in field peas "

<http://www.dpi.nsw.gov.au/agriculture/field/field-crops/pulses/diseases/bacterial-blight-peas>

Sowing time: Early May to June.

Insects: Heliothis and pea weevil must be monitored from flowering through to podding.

Herbicides: Haloxyfop-R is the example used for grass weed control.

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

Harvest: Best harvested with crop lifters or a pea front. Harvest on time to reduce losses due to from shattering, storm damage and soil in the harvest sample.

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

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

***Machinery** Tractor - 130 kW (175 HP) pto power and 146kW (196 HP) engine power assumed
Machinery costs refer only to variable costs: fuel, oil, filters, tyres, batteries & repairs.

LABOUR REQUIREMENTS: - labour is not costed in this budget.

The labour required for machinery operations is 0.28 hrs/ha

- Using a labour cost of \$15/hr, an additional \$4.13 can be deducted from the budget

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.



DRYLAND FABA BEANS (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME: 1.80 tonnes/ha
Small grain 1.80 tonnes/ha@ \$270.00 /tonne (on farm)

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

Sample Budget \$/ha	Your Budget \$/ha
\$486.00	

VARIABLE COSTS:
See next page for detail

A. TOTAL INCOME \$/ha: **\$486.00**

Sowing.....	\$98.91	
Herbicide.....	\$83.65	
Insecticides.....	\$23.93	
Fungicides.....	\$38.42	
Contract harvesting.....	\$86.24	
Levies.....	\$4.96	
Insurance.....	\$17.45	

B. TOTAL VARIABLE COSTS \$/ha: **\$353.55**

C. GROSS MARGIN (A-B) \$/ha: **\$132.45**

Water use efficiency example

Growing season rainfall (ie in-crop): mm

Stored fallow moisture: mm (25% of rainfall in fallow period)

Early crop water use: mm

Total crop water use mm

Gross margin per mm

kg of grain per mm

189	
69	
130	
128	
\$0.74	
14.0	

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
for more information on water use efficiency
assumptions used at right.

* A yield range of 7-15kg/mm could be expected depending on suitable management, fallow efficiency and rainfall received.

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)				
	\$220 /t	\$245 /t	\$270 /t	\$320 /t	\$370 /t
1.00	-\$121	-\$97	-\$74	-\$26	\$22
1.20	-\$79	-\$51	-\$22	\$35	\$92
1.60	\$5	\$43	\$81	\$157	\$234
1.80	\$47	\$90	\$132	\$218	\$304
2.00	\$89	\$136	\$184	\$279	\$375
2.40	\$173	\$230	\$287	\$401	\$516
2.60	\$214	\$276	\$338	\$463	\$587

Gross margin is zero when income is reduced by 27%
or variable costs are increased by 37%

DRYLAND FABA BEANS (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	\$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg paraquat+diquat	Apr	0.03	56.21	1.69	2.0 L	10.93/L	21.86	23.55
wetter - non-ionic surfactant	Apr	with above			0.12 L	6.77/L	0.81	0.81
broadleaf and grass weed control eg. simazine	May	0.03	56.21	1.69	1.5 L	7.26/L	10.89	12.58
sowing	May	0.12	78.21	9.39				9.39
seed	May	with above			80 kg	1.12/kg	89.52	89.52
grass weed control eg haloxyfop-R 520 g	Jun	0.03	56.21	1.69	0.06 L	99.00/L	5.94	7.63
crop oil	Jun	with above			0.5 L	3.91/kg	1.96	1.96
disease control eg.mancozeb	Jun	with above			1 kg	9.21/kg	9.21	9.21
disease control eg.mancozeb	Aug	aerial spray		20.00	1 kg	9.21/kg	9.21	29.21
insect control eg. lambda-cyhalothrin	Sep	aerial spray		20.00	0.024 L	163.64/L	3.93	23.93
harvest (contract)	Nov			86.24				86.24
crop levies					1.02%	of on-farm value		4.96
crop insurance				3.590%	of on-farm value			17.45

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Growers should assess soil moisture profiles and soil fertility levels to assist with yield targets.

Soils: Best grown on the better clay loam and heavy self mulching clay soils. Soils must be well-drained. Faba beans are more tolerant of waterlogging than chickpeas.

Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, this can be roughly measured at sowing using a push probe.

Rotation place: Useful as a break crop in cereal rotations for disease control, weed control and nitrogen benefits for following cereal crops. Crop rotation is essential to minimise loss of yield due to disease. Nutrient requirements should be assessed with soil tests and strip trial results.

Inoculation: With group E inoculum is essential.

Seed: Seed price used above is for purchased seed; if using retained seed adjust budget accordingly.

Insects: Heliothis must be monitored from flowering through to podding.

Herbicides: Faba beans are sensitive to sulfonyl urea herbicide residues.

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

Refer to the NSW DPI booklet *Weed Control in winter crops 2012* for options.

Fungicide: Used to control chocolate spot and rust. See Faba bean Agnote *Faba beans 2009- Management strategies for the Northern Region* and Agfact P4.2.7 for disease management strategies. Check current permits & registrations prior to using fungicides. Number of applications will depend on the season

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

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

MACHINERY ASSUMPTIONS:

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

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

- Contract harvesting does not include the cost of fuel.

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.21hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$5.51/ha, reducing the gross margin to \$126.94/ha.



DRYLAND CHICKPEAS (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.30 tonnes/ha@ \$440.00 /tonne (on farm)

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

Sample Budget \$/ha	Your Budget \$/ha
\$572.00	

A. TOTAL INCOME \$/ha:

\$572.00	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$79.41	
Fertiliser.....	\$37.80	
Herbicide.....	\$100.20	
Insecticides.....	\$20.75	
Fungicides.....	\$53.88	
Contract harvesting.....	\$81.24	
Levies.....	\$5.83	
Insurance.....	\$16.99	

B. TOTAL VARIABLE COSTS \$/ha:

\$396.09	
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C. GROSS MARGIN (A-B) \$/ha:

\$175.91	
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Water use efficiency example

Growing season rainfall (ie in-crop): mm

Stored fallow moisture: mm (25% of rainfall in fallow period)

Early crop water use: mm

Total crop water use mm

Gross margin per mm

kg of grain per mm

189	
69	
130	
128	
\$0.98	
10.1	

Please refer to the NSW DPI webpage

["About gross margin budgets"](#)

for more information on water use efficiency assumptions used at right.

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

YIELD tonnes/ha	On Farm Price				
	\$340 /tonne	\$390 /tonne	\$440 /tonne	\$490 /tonne	\$540 /tonne
0.5	- \$210	- \$186	- \$162	- \$138	- \$114
0.8	- \$112	- \$74	- \$35	\$3	\$41
1.0	- \$47	\$1	\$49	\$97	\$145
1.3	\$51	\$114	\$176	\$238	\$301
1.7	\$182	\$263	\$345	\$426	\$508
2.1	\$312	\$413	\$514	\$615	\$715
2.5	\$443	\$563	\$683	\$803	\$923

Gross margin is zero when income is reduced by 31%
or variable costs are increased by 44%

DRYLAND CHICKPEAS (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	Total Cost \$/ha
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 6l	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Mar	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
wetter - non-ionic surfactant	Mar	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg paraquat+diquat	May	0.03	56.21	1.69	2.0 L	10.93/L	21.86	23.55
wetting agent	May	with above			0.25 L	7.47/L	1.87	1.87
sowing	May	0.12	78.21	9.39	60 kg	1.17/kg	70.02	79.41
fertiliser (Starter Z)	May	with above			35 kg	1.08/kg	37.80	37.80
PSPE broadleaf and grass weed control eg. simazine	May	0.03	56.21	1.69	1.0 L	7.26/L	7.26	8.95
PSPE broadleaf weed control eg. isoxaflutole	May	with above			50 g	0.25/g	12.50	12.50
disease control eg.mancozeb	Jun	0.03	56.21	1.69	1 kg	9.21/kg	9.21	10.90
grass weed control eg haloxyfop-R 520 g/L	Jul	0.03	56.21	1.69	0.06 L	99.00/L	5.94	7.63
crop oil	Jul	with above			0.5 L	3.91/L	1.96	1.96
disease control eg.mancozeb	Jul	with above			1 kg	9.21/kg	9.21	9.21
disease control eg.chlorothalonil	Aug	0.03	56.21	1.69	1.0 L	15.20/L	15.20	16.89
disease control eg.chlorothalonil	Oct	0.03	56.21	1.69	1.0 L	15.20/L	15.20	16.89
insect control eg. indoxacarb*	Oct	with above			0.3 L	69.15/L	20.75	20.75
harvest (contract)**	Nov			81.24				81.24
crop levies	Nov			1.020%	of on-farm value			5.83
crop insurance				2.970%	of on-farm value			16.99

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

DRYLAND CHICKPEAS (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

AGRONOMIC REQUIREMENTS:

Growers should assess soil moisture profiles and fertility levels to assist with yield targets.

Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, this can be roughly measured at sowing using a push probe.

Inoculation: With Group N inoculum is essential.

Soils: Performs best on well drained loam, clay loam and self mulching clay soils.

Be aware of and monitor sub-soil constraints that could limit yield potential.

Nutrient requirements should be assessed with soil tests and previous strip trial results.

Insects: Heliothis must be monitored from flowering through to podding.

* Indoxacarb used as example, must be used within approved window, check permits.

Herbicides: Weed control is critical and a pre-emergent broadleaf herbicide is important.

Isoxaflutole is **not recommended** for use with the chickpea variety Yorker. Application of isoxaflutole post-sowing pre-emergence to crops of Yorker chickpeas can result in unacceptable crop damage and may result in yield loss.

Chickpeas are highly sensitive to sulfonylurea herbicide residues.

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

Refer to the NSW DPI booklet *Weed Control in winter crops 2012* for options.

Disease: Ascochyta blight, phytophthora root rot, botrytis grey mould and Sclerotinia can all reduce yield.

Seasonal conditions, especially rainfall events, and varietal resistance will affect the number and type of fungicides required.

See variety management packages for disease management strategies on the Pulse Australia website

<http://www.pulseaus.com.au/> Check current permits & registrations prior to using fungicides.

Crop rotation is essential to minimise loss of yield due to disease.

Chlorothalonil (720 g/L) applied in October to cover pod-fill stage when all varieties are susceptible, but before 14-day harvest WHP guidelines as per label requirements.

Controlled traffic: Chickpeas grown on wide rows in a controlled traffic layout may be band sprayed with fungicides and insecticides. This may reduce the chemical cost by half and may reduce the application cost from an aerial spray to a ground spray.

Harvest: ** Grading may be required, extra cost not included in budget.

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

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.42hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$11.03/ha, reducing the gross margin to \$164.88/ha.

MACHINERY ASSUMPTIONS:

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

machinery costs refer only to variable costs (running costs), not overhead costs.



DRYLAND CANOLA (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.30 tonnes/ha@ \$460.00 /tonne (on farm)

Oil bonuses and discounts may also need to be considered in canola pricing.

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

Sample Budget \$/ha	Your Budget \$/ha
\$598.00	

A. TOTAL INCOME \$/ha:

\$598.00

VARIABLE COSTS:

See next page for detail

Sowing.....	\$44.50	
Fertiliser.....	\$110.80	
Herbicide.....	\$46.77	
Insecticide.....	\$51.10	
Contract harvesting.....	\$80.00	
Levies.....	\$6.10	
Insurance.....	\$21.47	

B. TOTAL VARIABLE COSTS \$/ha:

\$360.74

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

\$237.26

Water use efficiency example

Growing season rainfall (ie in-crop): mm	189	
Stored fallow moisture: mm (25% of rainfall in fallow period)	69	
Early crop water use: mm	110	
Total crop water use mm	148	
Gross margin per mm	\$1.19	
kg of grain per mm	8.8	

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
 for more information on water use efficiency
 assumptions used at right.

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

YIELD tonnes/ha	On Farm Price				
	\$360 /tonne	\$410 /tonne	\$460 /tonne	\$510 /tonne	\$560 /tonne
0.50	- \$161	- \$138	- \$114	- \$90	- \$66
0.75	- \$76	- \$40	- \$4	\$32	\$67
1.00	\$10	\$58	\$106	\$153	\$201
1.30	\$113	\$175	\$237	\$299	\$361
1.70	\$251	\$332	\$413	\$494	\$575
2.10	\$388	\$488	\$588	\$688	\$789
2.50	\$525	\$645	\$764	\$883	\$1,002

Gross margin is zero when income is reduced by 40%
 or variable costs are increased by 66%

DRYLAND CANOLA (no till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
harvest previous crop	Nov							
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.04 L	6.77/L	0.27	0.27
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.04 L	6.77/L	0.27	0.27
nitrogen fertiliser eg. urea	Feb	0.13	60.02	7.80	80 kg	0.70/kg	56.00	63.80
broadleaf and grass weed control eg: glyphosate 450 g/L	Apr	0.03	56.21	1.69	0.5 L	4.67/L	2.34	2.01
sowing	May	0.12	78.21	9.39	2.0 kg	17.56/kg	35.12	44.50
fertiliser (Granulock 15)	May	with above			50 kg	0.94/kg	47.00	47.00
grass weed control eg haloxyfop-R 520 g	Jul	0.03	56.21	1.69	0.06 L	99.00/L	5.94	7.63
insect control eg pirimicarb	Aug	aerial spray		15.00	0.5 Kg	53.02/kg	26.51	41.51
aerial spray (1 year in 4)	Oct	aerial spray		15.00				3.75
insect control eg. methomyl	Oct	with above			1.5 L	15.56/L	23.34	5.84
harvest (contract-windrowed)	Dec			80.00				80.00
crop levies	Nov			1.020%				6.10
crop insurance				3.590%	of on-farm value			21.47

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Moisture considerations: Growers should assess soil moisture profiles and fertility levels to assist with yield targets. At least 90cm – 100cm of soil moisture is needed before sowing canola. Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Soils in the North West can store approximately 150-200 mm in the rooting zone, which can be roughly measured at sowing using a push probe.

Paddock selection: Where possible, grow under zero-tillage management. Only plant canola on the best country with high levels of soil moisture and fertility.

Canola can benefit a winter cereal rotation by reducing cereal root diseases. However, canola can reduce AM (formerly VAM) levels which are required by summer crops. Select a paddock relatively free of broadleaf weeds following cereal crops or pulses. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

Fertilisers: Soil testing for nitrogen (N) and sulfur is essential to adequately budget for fertiliser. Canola needs more N than wheat. N should be applied well in advance of planting. Apply very little or no N in contact with the seed since fertiliser burn may result. Phosphorus is critical for canola and regional trials have shown large responses. Canola requires high levels of available sulfur. Granulock 15 is used in the budget for increased sulfur (S), gypsum is a good alternative source of S.

Sowing time: Sow mid-maturing varieties from early May and early maturing varieties from mid May. Finish sowing about June 1 at Moree and June 15 south of Gunnedah. Refer to NSW DPI *Winter crop variety sowing guide 2012* for sowing guidelines.

Insects: Check for beneficial biological control agents such as ladybird larvae, hover fly larvae and fungal diseases. Aphids need to be monitored from early flowering, when isolated colonies begin to spread control may be needed. Check for heliothis post flowering.

Weed control: Refer to the NSW DPI booklet *Weed control in winter crops 2012* for options.

For more information, refer to the Primefact *Canola in northern NSW*, or contact your local district agronomist.

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

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

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.34hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$8.93/ha, reducing the gross margin to \$228.34/ha.

MACHINERY ASSUMPTIONS:

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

machinery costs refer only to variable costs (running costs), not overhead costs.



DRYLAND ALBUS LUPINS (no-till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

1. GROSS MARGIN BUDGET:

INCOME:

1.40 tonnes/ha@ \$300.00 /tonne (on farm)

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

Sample Budget \$/ha	Your Budget \$/ha
\$420.00	

A. TOTAL INCOME \$/ha:

\$420.00

VARIABLE COSTS:

See next page for detail

Sowing.....	\$118.09	
Herbicide.....	\$79.93	
Insecticide.....	\$26.43	
Contract harvesting.....	\$62.24	
Levies.....	\$4.28	
Insurance.....	\$5.38	

B. TOTAL VARIABLE COSTS \$/ha:

\$296.34

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

\$123.66

Water use efficiency example

Growing season rainfall (ie in-crop): mm
Stored fallow moisture: mm (25% of rainfall in fallow period)

Please refer to the NSW DPI webpage
["About gross margin budgets"](#)
for more information on water use efficiency
assumptions used at right.

Early crop water use: mm
Total crop water use mm
Gross margin per mm
kg of grain per mm

189	
69	
130	
128	
\$0.69	
10.9	

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

YIELD tonnes/ha	ON FARM PRICE (\$/tonne)				
	\$100 /t	\$200 /t	\$300 /t	\$350 /t	\$400 /t
0.80	- \$209	- \$130	- \$52	- \$13	\$26
1.00	- \$189	- \$91	\$6	\$55	\$104
1.20	- \$169	- \$52	\$65	\$124	\$182
1.40	- \$150	- \$13	\$124	\$192	\$260
1.70	- \$121	\$46	\$212	\$295	\$378
2.00	- \$91	\$104	\$300	\$397	\$495
2.30	- \$62	\$163	\$387	\$500	\$612

Gross margin is zero when income is reduced by 29%
or variable costs are increased by 42%

DRYLAND ALBUS LUPINS (no-till)

Farm Enterprise Budget Series - North West NSW

Winter 2012

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total
Operation	Month	hrs /ha	Cost	Total	Rate/ha	Cost	Total	Total Cost \$/ha
			\$/hour	\$/ha		\$	\$/ha	
broadleaf and grass weed control eg: glyphosate 450 g/L	Dec	0.03	56.21	1.69	1.2 L	4.67/L	5.60	7.29
broadleaf weed control eg 2,4-D amine 475 g/L	Dec	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Dec	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Jan	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg triclopyr 600g	Jan	with above			0.12 L	19.57/L	2.35	2.35
wetter - non-ionic surfactant	Jan	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Feb	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
broadleaf weed control eg 2,4-D amine 475 g/L	Feb	with above			1.2 L	5.82/L	6.98	6.98
wetter - non-ionic surfactant	Feb	with above			0.25 L	6.77/L	1.69	1.69
broadleaf and grass weed control eg: glyphosate 450 g/L	Apr	0.03	56.21	1.69	1.0 L	4.67/L	4.67	6.36
wetter - non-ionic surfactant	Apr	with above			0.25 L	6.77/L	1.69	1.69
sowing (albus)	Apr	0.12	78.21	9.39	100 kg	1.09/kg	108.70	118.09
post-sowing pre-emergent broadleaf and grass weed control eg. simazine	Apr	with above			1.5 L	7.26/L	10.89	10.89
incorporation	Apr	0.13	60.02	7.80				7.80
grass weed control eg haloxyfop-R 520	Jun	0.03	56.21	1.69	0.085 L	99.00/L	8.42	10.10
aerial spray (1 year in 4)	Sep	aerial spray		20.00				20.00
insect control eg. deltamethrin EC	Sep	with above			0.5 L	12.85/L	6.43	6.43
contract harvest	Nov	contract		62.24				62.24
crop levies	Nov			1.020%	of on-farm value			4.28
crop insurance				1.280%	of on-farm value			5.38

Input prices were correct at the time of writing (Feb 2012). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Growers should assess soil moisture profiles and fertility levels to assist with yield targets.

Soil type:

Adapted to sandy acid soils and loamy soils.

Stored soil moisture at sowing reduces the risk of crop failure due to variable in crop rainfall. To reduce this risk, crops should be sown with the maximum amount of stored soil moisture. Red soils in the North west can store approximately 120-160 mm in the rooting zone, this can be roughly measured at sowing using a push probe.

Rotation place:

Suitable with cereals to break disease and weed cycles and improve soil nitrogen.

There can be substantial benefits to the yields of following crops.

Inoculation:

With Group G is essential

Sowing time:

Mid April to mid-May is optimal. Avoid early sown crops in northern areas since they are more susceptible to aphid activity and *Cucumber mosaic virus*.

In these areas, Albus varieties are preferred.

Seed price used above is for purchased seed; if using own retained seed adjust budget accordingly.

Insects:

Monitor heliothis from flowering through to pod fill.

Weed control:

Weeds must be controlled as lupins are poor competitors

Simazine pre-emergent herbicide treatment to control capeweed and ryegrass.

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

Refer to the NSW DPI booklet *Weed Control in winter crops 2012* for options.

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

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

MACHINERY ASSUMPTIONS:

Tractor:

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

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

Contract harvesting does not include the cost of fuel.

LABOUR REQUIREMENTS: - labour is not costed in this budget.

According to the above operations, labour required is 0.18hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$21/hr, the cost of labour is \$4.73/ha, reducing the gross margin to \$118.94/ha.