



SURFACE (furrow) IRRIGATED BREAD WHEAT (diesel pump from surface Northern Zone Winter 2009)

1. GROSS MARGIN BUDGET:

INCOME:

6.00 tonnes/ha@ \$271.00 /tonne (APH, on farm)

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,626.00	

A. TOTAL INCOME \$/ha:

\$1,626.00	
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VARIABLE COSTS:

See next page for detail

Cultivation.....	\$7.80	
Sowing.....	\$109.08	
Fertiliser.....	\$336.94	
Herbicide.....	\$103.83	
Insecticide.....	\$11.86	
Fungicide.....	\$34.51	
Irrigation.....	\$102.14	
Contract harvesting.....	\$119.92	
Consultant.....	\$14.83	
Levies.....	\$16.59	
Insurance.....	\$33.33	

B. TOTAL VARIABLE COSTS \$/ha:

\$890.82	
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C. GROSS MARGIN (A-B) \$/ha:

\$735.18	
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D. Gross margin of alternative dryland crop based on Dryland Wheat after chickpeas (no till)

\$347.89	
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E. Extra gross margin due to irrigation (C-D)

\$387.28	
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F. Gross margin/ML (E÷ML water applied in irrigation)

\$113.91	
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2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	Feed wheat \$176 /tonne	Price			
		\$221 /tonne	\$271 /tonne	\$321 /tonne	\$371 /tonne
4.5	-\$44	\$152	\$370	\$588	\$806
5.0	\$31	\$249	\$492	\$734	\$976
5.5	\$107	\$347	\$613	\$880	\$1,147
6.0	\$183	\$444	\$735	\$1,026	\$1,317
6.5	\$258	\$542	\$857	\$1,172	\$1,487
7.0	\$334	\$639	\$979	\$1,318	\$1,657
7.5	\$410	\$737	\$1,100	\$1,464	\$1,827

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

YIELD tonnes/ha	Feed wheat \$176 /tonne	Price			
		\$221 /tonne	\$271 /tonne	\$321 /tonne	\$371 /tonne
4.5	-\$115	-\$58	\$6	\$71	\$135
5.0	-\$93	-\$29	\$42	\$114	\$185
5.5	-\$71	-\$0	\$78	\$157	\$235
6.0	-\$49	\$28	\$114	\$199	\$285
6.5	-\$26	\$57	\$150	\$242	\$335
7.0	-\$4	\$86	\$186	\$285	\$385
7.5	\$18	\$114	\$221	\$328	\$435

SURFACE (furrow) IRRIGATED BREAD WHEAT (diesel pump from surface supply)

Northern Zone

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg:	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: paraquat + diquat	Jan	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
wetter - non-ionic surfactant	Jan	with above			0.25 L	6.86/L	1.72	1.72
broadleaf and grass weed control eg:	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
cultivate and fertilise	Mar	0.17	45.91	7.80				7.80
nitrogen fertiliser (anhydrous ammonia)	Mar	with above		100 kg/N	122 Kg	1.09/kg	132.98	132.98
irrigate pre-sowing	Apr				1.2 ML	30.04/ML*	36.05	36.05
sowing	May	0.17	66.34	11.28	100 Kg	0.92/kg	91.80	103.08
seed dressing for stripe rust control eg triadimenol	May	with above			100 Kg	0.06/kg	6.00	6.00
fertiliser (Starter Z)	May	with above			100 Kg	1.17/kg	117.00	117.00
grass weed control (1 year in 4)	Jun	0.05	45.64	2.28				0.57
eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	82.67/L	28.93	7.23
broadleaf weed control eg. MCPA 500	Jun	0.05	45.64	2.28	1.5 L	6.78/L	10.17	12.45
blue oat mite control-methidathion	Jul	0.05	45.64	2.28	0.09 L	44.50/L	4.01	6.29
irrigate	Aug				1.2 ML	30.04/ML*	36.05	36.05
nitrogen fertiliser (urea)	Aug	with above irrigation			174 Kg	0.50/kg	86.96	86.96
fungicide-tebuconazole	Sep	aerial		14.50	0.145 L	138.00/L	20.01	34.51
irrigate	Sep				1.0 ML	30.04/ML*	30.04	30.04
heliiothis/armyworm control- alpha-cypermethrin; 1 in 3 years	Oct	aerial		14.50	0.24 L	9.25/L	2.22	5.57
harvest (contract)	Nov	contract		119.92				119.92
consultant		approx \$6.00/acre						14.83
levies	Nov			1.020%				16.59
crop insurance				2.050%	of on-farm value			33.33

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

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.

Diseases: Crown rot can and does occur in irrigation fields. Please refer to the Winter Crops Variety Sowing Guide 2009 for stripe rust ratings for wheat varieties. Any varieties rated less than 5 are not recommended to be sown. However the individual varieties' package needs to be evaluated. If varieties rated <5 are sown two in-crop fungicides should be budgeted for and timing and product rate decisions made depending on seasonal conditions.

Weed Control: Weed control, if required, should be timely to be cost effective. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.

Fertiliser: Adequate phosphorus is essential before applying extra nitrogenous fertiliser. Nutrient requirements should be assessed on an individual paddock basis. Moderate existing N amount assumed

Herbicides: MCPA@ 500 used for early post-emergent broadleaf weeds Fenoxaprop-p-ethyl has been included for wild oats, control by rotation is better

Harvesting: Yields over 2.5 t/ha assumed to cost an extra \$1.70 per extra 100kg harvested grain.

- 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.

MACHINERY ASSUMPTIONS:

Tractor: - pto power: 130 kW (175HP); engine power: 146 kW (196 HP)
 - machinery costs refer only to variable costs (running costs), not overhead costs.

Water pumping costs: * calculated using diesel powered pumping from surface supply.

Irrigation costs were calculated using 2009 Namoi Valley regulated river water charges and pumping costs for 10 metres total head (\$13.02/ML). Your costs are likely to be different and should be allowed for.

Water requirements 3.40 ML/ha



SPRAY IRRIGATED BREAD WHEAT (diesel pump from bore)

Northern Zone

Winter 2009

1. GROSS MARGIN BUDGET:

INCOME:

6.00 tonnes/ha@ \$271.00 /tonne (APH, on farm)

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,626.00	

A. TOTAL INCOME \$/ha:

\$1,626.00	
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VARIABLE COSTS:

See next page for detail

Cultivation.....	\$7.80	
Sowing.....	\$109.08	
Fertiliser.....	\$365.44	
Herbicide.....	\$103.83	
Insecticide.....	\$11.86	
Fungicide.....	\$34.51	
Irrigation.....	\$211.38	
Contract harvesting.....	\$119.92	
Consultant.....	\$14.83	
Levies.....	\$16.59	
Insurance.....	\$33.33	

B. TOTAL VARIABLE COSTS \$/ha:

\$1,028.56	
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C. GROSS MARGIN (A-B) \$/ha:

\$597.44	
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D. Gross margin of alternative dryland crop based on Dryland Wheat after chickpeas (no till)

\$347.89	
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E. Extra gross margin due to irrigation (C-D)

\$249.55	
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F. Gross margin/ML (E÷ML water applied in irrigation)

\$99.82	
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2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	Feed wheat \$176 /tonne	Price			
		\$221 /tonne	\$271 /tonne	\$321 /tonne	\$371 /tonne
4.5	- \$182	\$14	\$232	\$450	\$668
5.0	- \$106	\$112	\$354	\$596	\$839
5.5	- \$31	\$209	\$476	\$742	\$1,009
6.0	\$45	\$307	\$597	\$888	\$1,179
6.5	\$121	\$404	\$719	\$1,034	\$1,349
7.0	\$196	\$502	\$841	\$1,180	\$1,519
7.5	\$272	\$599	\$963	\$1,326	\$1,690

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

YIELD tonnes/ha	Feed wheat \$176 /tonne	Price			
		\$221 /tonne	\$271 /tonne	\$321 /tonne	\$371 /tonne
4.5	- \$212	- \$134	- \$46	\$41	\$128
5.0	- \$182	- \$95	\$2	\$99	\$196
5.5	- \$151	- \$56	\$51	\$158	\$264
6.0	- \$121	- \$16	\$100	\$216	\$332
6.5	- \$91	\$23	\$149	\$275	\$401
7.0	- \$61	\$62	\$197	\$333	\$469
7.5	- \$30	\$101	\$246	\$391	\$537

SPRAY IRRIGATED BREAD WHEAT (diesel pump from bore)

Northern Zone

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: paraquat + diquat	Jan	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
wetter - non-ionic surfactant	Jan	with above			0.25 L	6.86/L	1.72	1.72
broadleaf and grass weed control eg	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
cultivate and fertilise	Mar	0.17	45.91	7.80				7.80
nitrogen fertiliser (anhydrous ammonia)	Mar	with above		100 kg/N	122 Kg	1.09/kg	132.98	132.98
irrigate pre-sowing	Apr				0.5 ML	84.55/ML*	42.28	42.28
sowing	May	0.17	66.34	11.28	100 Kg	0.92/kg	91.80	103.08
seed dressing for stripe rust control eg triadimenol	May	with above			100 Kg	0.06/kg	6.00	6.00
fertiliser (Starter Z)	May	with above			100 Kg	1.17/kg	117.00	117.00
grass weed control (1 year in 4)	Jun	0.05	45.64	2.28				0.57
eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	82.67/L	28.93	7.23
broadleaf weed control eg. MCPA 500	Jun	0.05	45.64	2.28	1.5 L	6.78/L	10.17	12.45
blue oat mite control-methidathion	Jul	0.05	45.64	2.28	0.09 L	44.50/L	4.01	6.29
nitrogen fertiliser (urea)	Aug	aerial		28.50	174 Kg	0.50/kg	86.96	115.46
irrigate	Aug				0.5 ML	84.55/ML*	42.28	42.28
irrigate	Sep				0.5 ML	84.55/ML*	42.28	42.28
fungicide-tebuconazole	Sep	aerial		14.50	0.145 L	138.00/L	20.01	34.51
irrigate	Oct				0.5 ML	84.55/ML*	42.28	42.28
irrigate	Oct				0.5 ML	84.55/ML*	42.28	42.28
heliethis/armyworm control- alpha- cypermethrin; 1 in 3 years	Oct	aerial		14.50	0.24 L	9.25/L	2.22	5.57
harvest (contract)	Nov	contract		119.92				119.92
consultant		approx \$6.00/acre						14.83
levies	Nov			1.020%				16.59
crop insurance				2.050%	of on-farm value			33.33

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

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.
Diseases:	Crown rot can and does occur in irrigation fields. Please refer to the Winter Crops Variety Sowing Guide 2009 for stripe rust ratings for wheat varieties. Any varieties rated less than 5 are not recommended to be sown. However the individual varieties' package needs to be evaluated. If varieties rated <5 are sown two in-crop fungicides should be budgeted for and timing and product rate decisions made depending on seasonal conditions.
Weed Control:	Weed control, if required, should be timely to be cost effective. To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.
Fertiliser:	Adequate phosphorus is essential before applying extra nitrogenous fertiliser. Nutrient requirements should be assessed on an individual paddock basis. Moderate existing N amount assumed
Herbicides:	MCPA® 500 used for early post-emergent broadleaf weeds Fenoxaprop-p-ethyl has been included for wild oats, control by rotation is better
Harvesting:	Yields over 2.5 t/ha assumed to cost an extra \$1.70 per extra 100kg harvested grain. - 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.

MACHINERY ASSUMPTIONS:

Tractor:	- pto power: 130 kW (175HP); engine power: 146 kW (196 HP) - machinery costs refer only to variable costs (running costs), not overhead costs.
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Water pumping costs: * calculated using diesel powered pumping from bore.

Irrigation costs were calculated using 2009 Namoi Valley groundwater charges and pumping costs for a 90m deep bore with 85 metres total head (\$110.66/ML). Your costs are likely to be different and should be allowed for.

Water requirements 2.50 ML/ha Assumes soil profile starts with 50mm stored soil moisture and that 100mm rainfall is received in-crop.

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.



NSW DEPARTMENT OF PRIMARY INDUSTRIES

SURFACE (furrow) IRRIGATED DURUM WHEAT (diesel pump from bore)

Northern Zone

Winter 2009

1. GROSS MARGIN BUDGET:

INCOME:

6.50 tonnes/ha@ \$321.00 /tonne (DR1 on farm)

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$2,086.50	

A. TOTAL INCOME \$/ha:

\$2,086.50	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$100.08	
Fertiliser.....	\$436.98	
Herbicide.....	\$102.12	
Insecticide.....	\$11.86	
Fungicide.....	\$0.00	
Irrigation.....	\$102.14	
Contract harvesting.....	\$129.52	
Consultant.....	\$14.83	
Levies.....	\$21.28	
Insurance.....	\$42.77	

B. TOTAL VARIABLE COSTS \$/ha:

\$961.57	
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C. GROSS MARGIN (A-B) \$/ha:

\$1,124.93	
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D. Gross margin of alternative dryland crop based on Dryland Durum Wheat (no till)

\$372.46	
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E. Extra gross margin due to irrigation (C-D)

\$752.47	
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F. Gross margin/ML (E÷ML water applied in irrigation)

\$221.31	
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2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	Feed grade \$176 /tonne	DR3	DR2	DR1	\$371 /tonne	\$421 /tonne
		\$265.00	\$284.00	\$321 /tonne		
5.0	- \$16	\$416	\$508	\$687	\$929	\$1,172
5.5	\$60	\$534	\$636	\$833	\$1,100	\$1,366
6.0	\$136	\$653	\$764	\$979	\$1,270	\$1,561
6.5	\$211	\$772	\$892	\$1,125	\$1,440	\$1,755
7.0	\$287	\$891	\$1,020	\$1,271	\$1,610	\$1,949
7.5	\$363	\$1,010	\$1,148	\$1,417	\$1,780	\$2,144
8.0	\$438	\$1,129	\$1,276	\$1,563	\$1,951	\$2,338

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

YIELD tonnes/ha	Feed grade \$176 /tonne	DR3	DR2	DR1	\$371 /tonne	\$421 /tonne
		\$265.00	\$284.00	\$321 /tonne		
5.0	- \$114	\$13	\$40	\$93	\$164	\$235
5.5	- \$92	\$48	\$77	\$135	\$214	\$292
6.0	- \$70	\$83	\$115	\$178	\$264	\$349
6.5	- \$47	\$118	\$153	\$221	\$314	\$407
7.0	- \$25	\$152	\$190	\$264	\$364	\$464
7.5	- \$3	\$187	\$228	\$307	\$414	\$521
8.0	\$19	\$222	\$266	\$350	\$464	\$578

SURFACE (furrow) IRRIGATED DURUM WHEAT (diesel pump from surface)

Northern Zone

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg: glyphosate 540 g/L	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr 600g/L	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: paraquat + diquat	Jan	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
broadleaf and grass weed control eg: glyphosate 540 g/L	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
nitrogen fertiliser (anhydrous ammonia)	Mar	with above		100 kg/N	122 Kg	1.09/kg	132.98	233.02
irrigate pre-sowing	Apr				1.2 ML	30.04/ML	36.05	36.05
sowing #	Jun	0.17	66.34	11.28	80 Kg	1.11/kg	88.80	100.08
fertiliser (Starter Z)	Jun	with above			100 Kg	1.17/kg	117.00	117.00
wild oat control (1 year in 4)	Jun	0.05	45.64	2.28				0.57
eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	82.67/L	28.93	7.23
broadleaf weed control eg. MCPA 500	Jun	0.05	45.64	2.28	1.5 L	6.78/L	10.17	12.45
blue oat mite control-methidathion	Jul	0.05	45.64	2.28	0.09 L	44.50/L	4.01	6.29
irrigate	Aug				1.2 ML	30.04/ML	36.05	36.05
nitrogen fertiliser (urea)	Aug	with above irrigation			174 Kg	0.50/kg	86.96	86.96
irrigate	Sep				1.0 ML	30.04/ML	30.04	30.04
heliethis/armyworm control- alpha-cypermethrin; 1 in 3 years	Oct	aerial	14.50		0.24 L	9.25/L	2.22	5.57
harvest (contract)	Nov						129.52	129.52
consultant	Nov	approx \$6.00/acre						14.83
levies	Nov						1.020%	21.28
crop insurance	Nov						2.050% of on-farm value	42.77

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Sowing Time:

Best yields obtained when sown between late May and mid June

Seed purchase costs vary widely with variety and whether growers have kept their own seed from previous seasons.

Diseases:

Crown rot can and does occur in irrigation fields.

Please refer to the Winter Crops Variety Sowing Guide 2009 for stripe rust ratings for wheat varieties. Any varieties rated less than 5 are not recommended to be sown. However the individual varieties' package needs to be evaluated. If varieties rated <5 are sown two in-crop fungicides should be budgeted for and timing and product rate decisions made depending on seasonal conditions.

Weed Control:

All volunteer bread wheat and barley plants should be eliminated.

Fertiliser:

Adequate phosphorus is essential before applying extra nitrogenous fertiliser.

Nutrient requirements should be assessed on an individual paddock basis.

Moderate existing soil N amount assumed

Harvesting:

Care needs to be taken when threshing, since the hard grain has a greater tendency to fracture than bread wheats.

Yields over 2.5 t/ha are assumed to cost a further \$1.70 per extra 100kg.

Herbicides:

Durums have a low safety margin to some chemicals: e.g. chlorsulfuron, tri-allate

A low safety margin means that an application rate above that recommended is likely to cause crop damage.

Refer to "Weed Control in Winter Crops 2009" by NSW DPI for tolerance of wheat varieties to post-emergent herbicides.

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

MCPA® 500 used for early post-emergent broadleaf weeds

Fenoxaprop-ethyl has been included for wild oats, control by rotation is better

- 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.

MACHINERY ASSUMPTIONS:

Tractor:

- pto power: 130 kW (175HP); engine power: 146 kW (196 HP)

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

Water pumping costs:

calculated using bore water with diesel powered pumping

Irrigation costs were calculated using 2009 Namoi Valley regulated river water charges and pumping costs for

10 metres total head (\$13.02/ML). Your costs are likely to be different and should be allowed for.

Water requirements

3.40 ML/ha



SPRAY IRRIGATED DURUM WHEAT (diesel pump from bore)

Northern Zone

Winter 2009

1. GROSS MARGIN BUDGET:

INCOME:

6.50 tonnes/ha@ \$321.00 /tonne (DR1 on farm)

Sample Budget \$/ha	Your Budget \$/ha
\$2,086.50	

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

A. TOTAL INCOME \$/ha:

\$2,086.50

VARIABLE COSTS:

See next page for detail

Sowing.....	\$100.08
Fertiliser.....	\$465.48
Herbicide.....	\$102.12
Insecticide.....	\$11.86
Fungicide.....	\$0.00
Irrigation.....	\$211.38
Contract harvesting.....	\$129.52
Consultant.....	\$14.83
Levies.....	\$21.28
Insurance.....	\$42.77

B. TOTAL VARIABLE COSTS \$/ha:

\$1,099.31

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

\$987.19

D. Gross margin of alternative dryland crop based on Dryland Durum Wheat (no till)

\$372.46

E. Extra gross margin due to irrigation (C-D)

\$614.73

F. Gross margin/ML (E÷ML water applied in irrigation)

\$245.89

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

YIELD tonnes/ha	Feed grade \$176 /tonne	DR3	DR2	DR1	\$371 /tonne	\$421 /tonne
		\$265.00	\$284.00	\$321 /tonne		
5.0	-\$153	\$278	\$370	\$549	\$792	\$1,034
5.5	-\$78	\$397	\$498	\$695	\$962	\$1,228
6.0	-\$2	\$516	\$626	\$841	\$1,132	\$1,423
6.5	\$74	\$634	\$754	\$987	\$1,302	\$1,617
7.0	\$149	\$753	\$882	\$1,133	\$1,472	\$1,812
7.5	\$225	\$872	\$1,010	\$1,279	\$1,643	\$2,006
8.0	\$301	\$991	\$1,138	\$1,425	\$1,813	\$2,201

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

YIELD tonnes/ha	Feed grade \$176 /tonne	DR3	DR2	DR1	\$371 /tonne	\$421 /tonne
		\$265.00	\$284.00	\$321 /tonne		
5.0	-\$210	-\$38	-\$1	\$71	\$168	\$265
5.5	-\$180	\$10	\$50	\$129	\$236	\$342
6.0	-\$150	\$57	\$101	\$188	\$304	\$420
6.5	-\$120	\$105	\$153	\$246	\$372	\$498
7.0	-\$89	\$152	\$204	\$304	\$440	\$576
7.5	-\$59	\$200	\$255	\$363	\$508	\$653
8.0	-\$29	\$247	\$306	\$421	\$576	\$731

SPRAY IRRIGATED DURUM WHEAT (diesel pump from bore)

Northern Zone

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg: glyphosate 540 g/L	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr 600g/	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: paraquat + diquat	Jan	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
broadleaf and grass weed control eg: glyphosate 540 g/L	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
nitrogen fertiliser (anhydrous ammonia)	Mar	with above		100 kg/N	122 Kg	1.09/kg	132.98	233.02
irrigate pre-sowing	Apr				0.5 ML	84.55/ML*	42.28	42.28
sowing #	Jun	0.17	66.34	11.28	80 Kg	1.11/kg	88.80	100.08
fertiliser (Starter Z)	Jun	with above			100 Kg	1.17/kg	117.00	117.00
wild oat control (1 year in 4)	Jun	0.05	45.64	2.28				0.57
wild oat control eg fenoxaprop-p-ethyl	Jun	with above			0.35 L	82.67/L	28.93	7.23
broadleaf weed control eg. MCPA 500	Jun	0.05	45.64	2.28	1.5 L	6.78/L	10.17	12.45
blue oat mite control-methidathion	Jul	0.05	45.64	2.28	0.09 L	44.50/L	4.01	6.29
nitrogen fertiliser (urea)	Aug	aerial		28.50	174 Kg	0.50/kg	86.96	115.46
irrigate	Aug				0.5 ML	84.55/ML*	42.28	42.28
irrigate	Sep				0.5 ML	84.55/ML*	42.28	42.28
irrigate	Oct				0.5 ML	84.55/ML*	42.28	42.28
irrigate	Oct				0.5 ML	84.55/ML*	42.28	42.28
heliolithis/armyworm control- alpha-cypermethrin; 1 in 3 years	Oct	aerial		14.50	0.24 L	9.25/L	2.22	5.57
harvest (contract)	Nov			129.52				129.52
consultant		approx \$6.00/acre						14.83
levies	Nov			1.020%				21.28
crop insurance				2.050%	of on-farm value			42.77

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

AGRONOMIC REQUIREMENTS:

Sowing Time: Best yields obtained when sown between late May and mid June
Seed purchase costs vary widely with variety and whether growers have kept their own seed from previous seasons.

Diseases: Crown rot can and does occur in irrigation fields.
Please refer to the Winter Crops Variety Sowing Guide 2009 for stripe rust ratings for wheat varieties. Any varieties rated less than 5 are not recommended to be sown. However the individual varieties' package needs to be evaluated. If varieties rated <5 are sown two in-crop fungicides should be budgeted for and timing and product rate decisions made depending on seasonal conditions.

Weed Control: All volunteer bread wheat and barley plants should be eliminated.

Fertiliser: Adequate phosphorus is essential before applying extra nitrogenous fertiliser. Nutrient requirements should be assessed on an individual paddock basis. Moderate existing soil N amount assumed

Harvesting: Care needs to be taken when threshing, since the hard grain has a greater tendency to fracture than bread wheats. Yields over 2.5 t/ha are assumed to cost a further \$1.70 per extra 100kg.

Herbicides: Durums have a low safety margin to some chemicals: e.g. chlorsulfuron, tri-allate
A low safety margin means that an application rate above that recommended is likely to cause crop damage. Refer to "Weed Control in Winter Crops 2009" by NSW DPI for tolerance of wheat varieties to post-emergent herbicides.
To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques. MCPA® 500 used for early post-emergent broadleaf weeds
Fenoxaprop-ethyl has been included for wild oats, control by rotation is better
- 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.

MACHINERY ASSUMPTIONS:

Tractor: - pto power: 130 kW (175HP); engine power: 146 kW (196 HP)
- machinery costs refer only to variable costs (running costs), not overhead costs.

Water pumping costs:

* calculated using diesel powered pumping from bore.
Irrigation costs were calculated using 2009 Namoi Valley groundwater charges and pumping costs for a 90m deep bore with 85 metres total head (\$110.66/ML). Your costs are likely to be different and should be allowed for.

Water requirements

2.50 ML/ha Assumes soil profile starts with 50mm stored soil moisture and that 100mm rainfall is received in-crop.



NSW DEPARTMENT OF PRIMARY INDUSTRIES

SURFACE IRRIGATED CHICKPEAS (diesel pump from surface supply)

Farm Enterprise Budget Series - Northern & Central NSW

Winter 2009

1. GROSS MARGIN BUDGET:

INCOME:

2.80 tonnes/ha@ \$450.00 /tonne (on farm)

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,260.00	

A. TOTAL INCOME \$/ha:

\$1,260.00	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$89.22	
Fertiliser.....	\$70.20	
Herbicide (including desiccant).....	\$201.92	
Insecticides.....	\$20.97	
Fungicides.....	\$21.06	
Irrigation.....	\$78.10	
Contract harvesting.....	\$79.32	
Consultant.....	\$14.83	
Levies.....	\$12.85	
Crop Insurance.....	\$32.26	

B. TOTAL VARIABLE COSTS \$/ha:

\$620.73	
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C. GROSS MARGIN (A-B) \$/ha:

\$639.27	
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D. Gross margin of alternative dryland crop based on Dryland Chickpeas (no till)

\$234.46	
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E. Extra gross margin due to irrigation (C-D)

\$404.80	
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F. Gross margin/ML (E÷ML water applied in irrigation)

\$155.69	
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2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	On Farm Price				
	\$350 /tonne	\$400 /tonne	\$450 /tonne	\$500 /tonne	\$550 /tonne
1.8	\$32	\$119	\$205	\$292	\$379
2.2	\$167	\$273	\$379	\$485	\$591
2.5	\$268	\$389	\$509	\$630	\$750
2.8	\$369	\$504	\$639	\$774	\$909
3.0	\$437	\$581	\$726	\$871	\$1,015
3.3	\$538	\$697	\$856	\$1,015	\$1,174
3.6	\$639	\$813	\$986	\$1,160	\$1,333

Gross margin is zero when income is reduced by 51% or variable costs are increased by 103%

<p>LABOUR REQUIREMENTS: - labour is not costed in this budget.</p> <p>Water pumping costs: calculated using diesel powered pumping from surface supply.</p> <p>Irrigation costs were calculated using 2009 Namoi Valley regulated river water charges and pumping costs for 10 metres total head (\$13.02/ML). Your costs are likely to be different and should be allowed for.</p> <p>Water requirements 2.60 ML/ha</p> <p>MACHINERY ASSUMPTIONS:</p> <p>Tractor - pto power: 130 kW (175 HP); engine power: 146 kW (196 HP)</p> <p>Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.</p>
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SURFACE IRRIGATED CHICKPEAS (diesel pump from surface supply)

Farm Enterprise Budget Series - Northern & Central NSW

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg: glyphosate 540 g/L	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr 600g/L	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Jan	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
wetting agent	Jan	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Mar	0.05	45.64	2.28	1.2 L	9.60/L	11.52	13.80
wetting agent	Mar	with above			0.25 L	8.84/L	2.21	2.21
irrigation pre-sowing	Apr				1.0 ML	30.04/ML	30.04	30.04
broadleaf and grass weed control eg: paraquat + diquat	May/June	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
sowing (inoculated seed)	May/June	0.17	66.34	11.28	60 kg	1.22/kg	73.14	84.42
P-Pickle T seed treatment	May/June	with above			120 ml	0.04/ml	4.80	4.80
fertiliser (Starter Z)	May/June	with above			60 kg	1.17/kg	70.20	70.20
PSPE broadleaf & grass weed control eg simazine 500 g/L	May/June	0.05	45.64	2.28	1.5 L	6.74/L	10.11	12.39
PSPE broadleaf weed control eg **isoxaflutole 750 g/kg	May/June	with above			100 g	0.31/g	31.00	31.00
disease control eg.mancozeb *	Jul	0.05	45.64	2.28	1 kg	8.25/kg	8.25	10.53
grass weed control eg haloxyfop-R 520g/L	Jul	with above			0.06 L	163.59/L	9.82	9.82
crop oil	Jul	with above			0.50 L	4.10/L	2.05	2.05
irrigation	Aug/Sep				0.8 ML	30.04/ML	24.03	24.03
disease control eg.mancozeb *	Aug	0.05	45.64	2.28	1 kg	8.25/kg	8.25	10.53
insect control eg. indoxacarb #	Sep	0.05	45.64	2.28	0.30 L	62.30/L	18.69	20.97
irrigation	Sep/Oct				0.8 ML	30.04/ML	24.03	24.03
desiccant-eg. glyphosate 540 g/L~	Nov	aerial		14.50	1.00 L	9.60/L	9.60	24.10
desiccant eg metsulfuron-methyl	Nov	with above		45.64	5 g	0.20/g	1.00	1.00
contract harvest	Nov							79.32
consultant	approx \$6.00/acre							14.83
levies	Nov				1.020% of on-farm value			12.85
crop insurance				2.560%	of on-farm value			32.26

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

SURFACE IRRIGATED CHICKPEAS (diesel pump from surface supply)

Farm Enterprise Budget Series - Northern & Central NSW

Winter 2009

AGRONOMIC NOTES:

Soils: Soils must be well drained to reduce risk of waterlogging. Be aware of and monitor sub-soil constraints that could limit yield potential.

Fertiliser: Nutrient requirements should be assessed using soil tests and previous strip trials. Adequate levels of phosphorus and sulphur should be applied.

Sowing: Sow irrigated chickpeas within the same timeframe as recommended for a dryland crop. Choose varieties with greater phytophthora tolerance on heavier soil types. Shorter varieties will reduce lodging potential and compensate by increased branching. On wide row spacing (eg standard 1m cotton hills) lower sowing rates are recommended to reduce overly dense plant population; twin-row configurations may be substituted on wider beds. Seed price used above is for purchased seed; adjust budget if using retained seed. Inoculation with group N inoculum is essential.

Herbicides: Weed control is critical; a pre-emergent broadleaf weed herbicide is recommended. PSPE = Post-sowing pre-emergent
Balance is **not recommended for use with the chickpea variety Yorker. Application of Balance post-sowing pre-emergence to crops of Yorker variety chickpeas can result in unacceptable crop damage and may result in yield loss.

Chickpeas are highly sensitive to sulfonylurea herbicide residues. To reduce the likelihood of herbicide resistance, rotate herbicide groups & consider other non-chemical 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.

Disease: Ascochyta blight, phytophthora, botrytis grey mould and sclerotinia can all reduce yield.

Varietal resistance and seasonal conditions, especially frequency of rainfall events, will all affect fungicide strategy options.

Check the specific "VMP" (Variety Management Package) to determine the relevant strategy for the variety sown.

Check current permits and registrations prior to using fungicides. * Example uses fungicide for early vegetative control and a pre-flowering spray; timing will be dependent on forecast rainfall events and varietal resistance levels.

Insects: Heliothis must be monitored twice-weekly from flowering through to end of podding.[#] Indoxacarb used as example; must be used within approved window.

Controlled Traffic layouts: Chickpeas grown on wide rows in a controlled traffic or irrigation layout can be band sprayed with herbicides, fungicides and/or insecticides. This may reduce the chemical cost to half and may reduce the application cost from an aerial spray to a ground spray.

Harvest: Desiccation is strongly recommended for irrigated crops to ensure even maturity, and hence reduce harvest delays and loss of potential quality. ~ Example above now registered, but do not apply on crops intended for sowing seed or sprouting. When using desiccants, ensure withholding periods are adhered to. Grading may be required, extra cost is not included in budget.

Irrigation scheduling: Pre-sowing irrigation may be optional, dependent on stored soil moisture following summer rainfall. Timing of the first in-crop irrigation is critical and must be pre-flowering, when RAW reaches 30-40% depletion. Sufficient moisture must be supplied to cover the flowering period. However waterlogging an already stressed crop at flowering can cause severe yield loss or actual plant death. It is imperative to get the water on and off the field as quickly as possible when irrigating chickpeas.

Second in-crop irrigation is optional but will increase yield and seed size. Timing and amount will be dependent on winter rainfall received but is recommended to occur at early pod-fill stage.



NSW DEPARTMENT OF PRIMARY INDUSTRIES

SPRAY IRRIGATED CHICKPEAS (diesel pump from bore supply)
Farm Enterprise Budget Series - Northern & Central NSW Winter 2009

1. GROSS MARGIN BUDGET:

INCOME:

2.50 tonnes/ha@ \$450.00 /tonne (on farm)

Crop prices were correct at the time of writing (Mar 17 2009), world market volatility makes estimation of future pricing impractical.

Sample Budget \$/ha	Your Budget \$/ha
\$1,125.00	

A. TOTAL INCOME \$/ha:

\$1,125.00	
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VARIABLE COSTS:

See next page for detail

Sowing.....	\$89.22	
Fertiliser.....	\$70.20	
Herbicide (including desiccant).....	\$201.92	
Insecticides.....	\$18.69	
Fungicides.....	\$31.60	
Irrigation.....	\$84.55	
Contract harvesting.....	\$79.32	
Consultant.....	\$14.83	
Levies.....	\$11.48	
Crop Insurance.....	\$28.80	

B. TOTAL VARIABLE COSTS \$/ha:

\$630.60	
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C. GROSS MARGIN (A-B) \$/ha:

\$494.40	
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D. Gross margin of alternative dryland crop based on Dryland Chickpeas (no till)

\$234.46	
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E. Extra gross margin due to irrigation (C-D)

\$259.94	
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F. Gross margin/ML (E÷ML water applied in irrigation)

\$259.94	
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2. EFFECT OF YIELD AND PRICE ON GROSS MARGIN PER HECTARE:

YIELD tonnes/ha	On Farm Price				
	\$350 /tonne	\$400 /tonne	\$450 /tonne	\$500 /tonne	\$550 /tonne
1.5	-\$84	-\$12	\$61	\$133	\$205
1.9	\$51	\$142	\$234	\$326	\$417
2.2	\$152	\$258	\$364	\$470	\$576
2.5	\$253	\$374	\$494	\$615	\$735
2.6	\$287	\$412	\$538	\$663	\$788
2.7	\$321	\$451	\$581	\$711	\$842
3.0	\$422	\$567	\$711	\$856	\$1,001

Gross margin is zero when income is reduced by 44%
or variable costs are increased by 78%

<p>LABOUR REQUIREMENTS: - labour is not costed in this budget.</p> <p>Water pumping costs: calculated using diesel powered pumping from bore supply.</p> <p>Irrigation costs were calculated using 2009 Namoi Valley regulated river water charges and pumping costs for 85 metres total head (\$110.66/ML). Your costs are likely to be different and should be allowed for.</p> <p>Water requirements 1.00 ML/ha</p> <p>MACHINERY ASSUMPTIONS:</p> <p>Tractor - pto power: 130 kW (175 HP); engine power: 146 kW (196 HP)</p> <p>Machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.</p>
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SPRAY IRRIGATED CHICKPEAS (diesel pump from bore supply)

Farm Enterprise Budget Series - Northern & Central NSW

Winter 2009

CALENDAR OF OPERATIONS:		Machinery			Inputs			Total Cost \$/ha
Operation	Month	hrs /ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
broadleaf and grass weed control eg: glyphosate 540 g/L	Dec	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
broadleaf weed control eg: triclopyr 600g/L	Dec	with above			0.08 L	43.63/L	3.49	3.49
wetting agent	Dec	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Jan	0.05	45.64	2.28	2.0 L	9.60/L	19.20	21.48
wetting agent	Jan	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Feb	0.05	45.64	2.28	1.8 L	9.60/L	17.28	19.56
wetting agent	Feb	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: glyphosate 540 g/L	Mar	0.05	45.64	2.28	1.2 L	9.60/L	11.52	13.80
wetting agent	Mar	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: paraquat + diquat	May/June	0.05	45.64	2.28	2.5 L	12.25/L	30.63	32.91
sowing (inoculated seed)	May/June	0.17	66.34	11.28	60 kg	1.22/kg	73.14	84.42
P-Pickle T seed treatment	May/June	with above			120 ml	0.04/ml	4.80	4.80
fertiliser (Starter Z)	May/June	with above			60 kg	1.17/kg	70.20	70.20
PSPE broadleaf & grass weed control eg simazine 500 g/L	May/June	0.05	45.64	2.28	1.5 L	6.74/L	10.11	12.39
PSPE broadleaf weed control eg **isoxaflutole 750 g/kg	May/June	with above			100 g	0.31/g	31.00	31.00
disease control eg. mancozeb *	Jul	0.05	45.64	2.28	1 kg	8.25/kg	8.25	10.53
grass weed control eg haloxyfop-R 520g/L	Jul	with above			0.06 L	163.59/L	9.82	9.82
crop oil	Jul	with above			0.50 L	4.10/L	2.05	2.05
irrigation	Aug/Sep				0.5 ML	84.55/ML	42.28	42.28
disease control eg. mancozeb *	Aug	0.05	45.64	2.28	1 kg	8.25/kg	8.25	10.53
disease control eg. mancozeb *	Sep	0.05	45.64	2.28	1 kg	8.25/kg	8.25	10.53
insect control eg. indoxacarb #	Sep	with above			0.30 L	62.30/L	18.69	18.69
irrigation	Sep/Oct				0.5 ML	84.55/ML	42.28	42.28
desiccant-eg. glyphosate 540 g/L ~	Nov	aerial		14.50	1.00 L	9.60/L	9.60	24.10
desiccant eg metsulfuron-methyl	Nov	with above		45.64	5 g	0.20/g	1.00	1.00
contract harvest	Nov							79.32
consultant	approx \$6.00/acre							14.83
levies	Nov				1.020% of on-farm value			11.48
crop insurance				2.560% of on-farm value				28.80

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

SPRAY IRRIGATED CHICKPEAS (diesel pump from bore supply)

Farm Enterprise Budget Series - Northern & Central NSW

Winter 2009

AGRONOMIC NOTES:

Soils: Suited to the better loam, clay loam and heavy self-mulching clay soils. Soils must be well drained to reduce risk of waterlogging. Be aware of and monitor sub-soil constraints that could limit yield potential.

Fertiliser: Nutrient requirements should be assessed using soil tests and previous strip trials. Adequate levels of phosphorus, sulphur and zinc should be applied.

Sowing: Sow irrigated chickpeas within the same timeframe as recommended for a dryland crop. Choose varieties with greater phytophthora tolerance on heavier soil types. Shorter varieties will reduce lodging potential and compensate by increased branching. Seed price used above is for purchased seed; adjust budget if using retained seed. Inoculation with group N inoculum is essential.

Herbicides: Weed control is critical; a pre-emergent broadleaf weed herbicide is recommended. PSPE = Post-sowing pre-emergent

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

Chickpeas are highly sensitive to sulfonylurea herbicide residues. To reduce the likelihood of herbicide resistance, rotate herbicide groups & consider other non-chemical 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.

Disease: Ascochyta blight, phytophthora, botrytis grey mould and sclerotinia can all reduce yield.

Varietal resistance and seasonal conditions, especially frequency of rainfall events, will all affect fungicide strategy options.

Check the specific "VMP" (Variety Management Package) to determine the relevant strategy for the variety sown.

Check current permits and registrations prior to using fungicides. * Example uses fungicide for early vegetative control and a pre flowering spray; timing will be dependent on forecast rainfall events and varietal resistance levels.

Insects: Heliothis must be monitored twice-weekly from flowering through to end of podding.[#] Indoxacarb used as example; must be used within approved window.

Harvest: Desiccation is strongly recommended for irrigated crops to ensure even maturity, and hence reduce harvest delays and loss of potential quality. ~ Example above now registered, but do not apply on crops intended for sowing seed or sprouting. When using desiccants, ensure withholding periods are adhered to. Grading may be required, but the extra cost of this is not included in the budget.

Irrigation scheduling: 100mm depth of water applied over a whole field is equivalent to an application of 1ML/ha.

This budget assumes the season starts with a full profile of soil moisture. Timing of the first in-crop irrigation is critical and must be pre-flowering, when RAW reaches 30-40% depletion. Sufficient moisture must be supplied to cover the flowering period.

However waterlogging an already stressed crop at flowering can cause severe yield loss or plant death. Second in-crop irrigation is optional but will increase yield and seed size. Timing and amount will be dependent on winter rainfall received but is recommended to occur at early pod-fill stage.



ESTABLISHING SPRAY IRRIGATED LUCERNE STAND

Northern Zone

Winter 2009

** this budget is for the establishment of lucerne only, full production lucerne budgets are with the summer crop budgets.*

INCOME:

0.00 tonnes/ha@ \$0.00 /tonne (on farm)

Sample Budget \$/ha	Your Budget \$/ha
\$0.00	

A. TOTAL INCOME \$/ha:

\$0.00	
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VARIABLE COSTS:

See next page for detail

Cultivation.....	\$16.81	
Sowing.....	\$88.08	
Fertiliser.....	\$148.68	
Herbicide.....	\$69.33	
Insecticide.....	\$2.45	
Water.....	\$36.64	
Contract harvesting.....	\$0.00	

B. TOTAL VARIABLE COSTS \$/ha:

\$361.98	
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ESTABLISHING SPRAY IRRIGATED LUCERNE STAND

Northern Zone

(diesel pump from surface supply)

Winter 2009

CALENDAR OF OPERATIONS:								
Operation	Month	Machinery			Inputs			Total Cost \$/ha
		hrs/ha	Cost \$/hour	Total \$/ha	Rate/ha	Cost \$	Total \$/ha	
<i>Type & timing of fallow weed control required will depend on previous crop type and weeds present.</i>								
broadleaf and grass weed control eg: glyphosate 450	Jan	0.10	16.38	1.64	1.8 L	7.43/L	13.37	15.01
wetting agent	Jan	with above			0.25 L	8.84/L	2.21	2.21
disc harrows	Feb	0.58	17.15	9.95				9.95
scarify	Mar	0.42	16.34	6.86				6.86
broadleaf and grass weed control eg: glyphosate 450	Mar	0.10	16.38	1.64	1.2 L	7.43/L	8.92	10.55
wetting agent	Mar	with above			0.25 L	8.84/L	2.21	2.21
broadleaf and grass weed control eg: trifluralin	Apr	0.42	16.34	6.86	2.1 L	8.65/L	18.17	25.03
fertiliser- Single Super	May	0.29	21.30	6.18	250kg	0.57/kg	142.50	148.68
sowing + inoculant	May	0.29	21.30	6.18	10kg	8.19/kg	81.90	88.08
irrigation (spray)	May				0.5 ML	73.27/ML	36.64	36.64
insecticide - dimethoate 400g EC	Jun	0.10	16.38	1.64	0.090 L	9.03/L	0.81	2.45
grass weed control eg. haloxyfop-R	Jun	with above			0.075 L	163.59/L	12.27	12.27
+ crop oil	Jun	with above			0.50 L	4.10/L	2.05	2.05

Input prices were correct at the time of writing (Mar 17 2009). Current fertiliser and chemical market uncertainty makes estimation of future pricing impractical.

Note: irrigation scheme overheads are not included.

NOTES:	
	The lucerne is assumed to last 4 years and hence 1/4 of the establishment costs are charged to the annual gross margin. Details of water pumping costs can be found in the appendix. Full production lucerne budgets are published with NSW DPI Northern NSW Summer Crop Budgets.
	To reduce the likelihood of herbicide resistance, rotate herbicide groups and weed management techniques.
Herbicides:	Generally, good weed control is essential from the spring before sowing.
Insecticide:	Used to control blue oat mite and/or red legged earth mite.

- 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 recommendation of that brand by NSW DPI.

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

According to the above operations, labour required is 2.2hrs/ha. Then multiplying this by 1.25 to allow for machinery repair time etc, and using a labour cost of \$18.51/hr, the cost of labour is \$50.90/ha, increasing the costs to \$412.89/ha. This doesn't include labour for irrigation.

MACHINERY ASSUMPTIONS:

Tractor: pto power: 57kW (76 HP)
 machinery costs refer to variable costs of: fuel, oil, filters, tyres, batteries and repairs.