

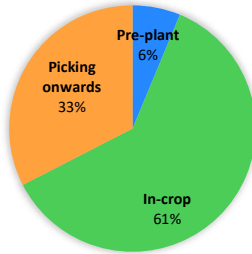
Gross Margin Budget: Overhead Irrigated Cotton

Bollgard3®, Roundup Ready Flex®

INCOME:				Example Budget	Your Budget
				\$/ha	\$/ha
	11.00 bales/ha*	Cotton lint	\$466 /bale (at gin)	\$5,126	_____
		Cotton seed	\$75 /bale (at gin)	\$825	_____
			A. TOTAL GROSS INCOME \$/ha:	\$5,951	_____

VARIABLE COSTS:

See pg 2 for details



Fallow management	\$93	_____
Farming: Pre-planting	\$31	_____
Nutrition	\$359	_____
Planting & in-crop farming	\$135	_____
Irrigation (8.1 ML)	\$708	_____
Insurance	\$110	_____
Crop protection, application & licence fee	\$740	_____
Defoliation	\$144	_____
Picking, cartage & ginning	\$1,095	_____
Farming: Post-crop	\$26	_____
	B. TOTAL VARIABLE COSTS \$/ha:	\$3,441

C. GROSS MARGIN (A-B) \$/ha:	\$2,510
D. GROSS MARGIN (A-B/ML applied) \$/ML:	\$310

Approximate Breakeven Yield (bales/ha) based on lint & seed prices above: **7.38 bales/ha**
 Approximate Breakeven Price (\$/bale) based on 11 bales/ha: **\$313 \$/bale**
Note that break even yield & price is for variable costs only, overhead costs and labour are NOT considered

SENSITIVITY TABLE

YIELD	PRICE (\$/bale incl. of seed & discounts)				
	366	416	466	516	566
8	-312	63	438	813	1188
9	112	562	1012	1462	1912
10	395	895	1395	1895	2395
11	678	1228	1778	2328	2878
12	961	1561	2161	2761	3361
13	1244	1894	2544	3194	3844
15	1669	2394	3119	3844	4569

Nominal seasonal Daily Water Use (mm/day) for cotton production

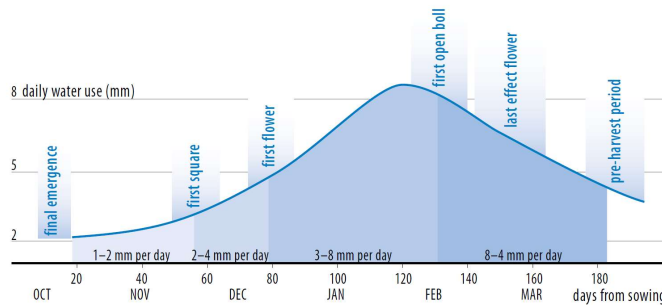


Chart source: WATERpak, CRDC 2012.

This budget is designed to give an indication of operations and costs required to grow a cotton crop using overhead lateral irrigation. Costs and prices are estimates only. A grower should alter this budget to take account of individual business costs, field management plans, movements in crop and input prices and changes in seasonal conditions. In all instances, operations should be tailored to the requirements of individual paddocks. For a complete guide to cotton management, see the **Australian Cotton Production Manual 2017**.



Variable Costs by Operation	Machinery	Inputs				TOTAL
		Total \$/ha	Rate /ha Unit	Cost \$/unit	Cost \$/ha	Cost \$/ha
Fallow management						
Nov Fallow spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Nov Fallow spray 2,4-D amine (625g/L)	with above		0.40 L	4.00	1.60	1.60
Jan Fallow spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Jan Fallow Spray Fluroxypyr (333g/L)	with above		0.40 L	22.00	8.80	8.80
Mar Fallow Spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Mar Fallow spray Pendimethalin (440g/L)	with above		2.25 L	11.00	24.75	24.75
Jun Fallow Spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Jun Fallow Spray Diuron (900g/kg)	with above		1.00 Kg	9.00	9.00	9.00
Jun Fallow Spray S-metolachlor (960g/L)	with above		1.00 L	13.00	13.00	13.00
Farming: Pre-planting						
Jul Farming: Discing	295 eng/HP	9.90				9.90
Jul Farming: Hill up	295 eng/HP	13.70				13.70
Aug Farming: Rubber tyre roller	225 eng/HP	6.90				6.90
Nutrition						
Jul Fertiliser: MAP	with 'Hill up'		150 kg	0.62	92.85	92.85
Aug Fertiliser: Urea (140kg N)	295 eng/HP	17.60	304 kg	0.44	134.06	151.66
Nov Fertiliser: Urea - water run (120kgs of N)	in irrigation		260 kg	0.44	114.66	114.66
Planting & In-crop farming						
Oct Planting: Precision planter	295 eng/HP	10.10				10.10
Oct Planting: Seed: Roundup Ready Flex® Bollgard3®	with above		13 kg	8.85	115.05	115.05
Dec Farming: Cultivation: Inter-row	295 eng/HP	10.20				10.20
Irrigation management						
Nov Irrigation: In-crop, lateral move			8.00 ML	88.00	704.00	704.00
Jun Other: Soil moisture monitoring	Contractor	4.00				4.00
Crop protection, application & licence fee						
Dec Insecticide: Sulfoxaflor (500g/kg), target: mirids	Self Propelled	1.00	0.12 L	260.00	31.20	32.20
Dec Insecticide: Fipronil (200g/L), target: mirids	Self Propelled	1.00	0.06 L	107.00	6.42	7.42
Jan Insecticide: Clothianidin (200g/L), target: mirids, GVB	Aerial Spraying	15.00	0.20 L	69.00	13.80	28.80
Jan Insecticide: Pyriproxyfen (100g/L), target: SLW	Aerial Spraying	15.00	0.50 L	132.00	66.00	81.00
Feb Insecticide: Diafenthiuron (500g/L), target: SLW, aphids, mites	Aerial Spraying	15.00	0.60 L	61.00	36.60	51.60
Oct Herbicide: Pendimethalin (455g/L)	Self Propelled	1.00	2.20 kg	14.00	30.80	31.80
Nov Herbicide: Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.00	1.20 kg	8.00	9.60	10.60
Jan Herbicide: Roundup Ready® Plantshield® (690g/kg Glyphosate)	Aerial Spraying	15.00	1.20 kg	8.00	9.60	24.60
Dec Other: Chipping or Spot Spray		5.00				5.00
Mar Licence: Bollgard 3® stacked RRF Licence Fee						390.00
Jun Other: Consultant	Contractor	60.00				60.00
Jun Refuge: Refuge crop: Pigeon peas 2.5%, see page 3			0.10 ML			17.26
Defoliation						
Mar Defoliation: Thidiazuron + Diuron (120g + 60g/L)	Self Propelled	2.90	0.15 L	157.00	23.55	26.45
Mar Defoliation: Ethephon (720g/L)	with above		0.50 L	7.00	3.50	3.50
Mar Defoliation: Crop oil	with above		1.00 L	6.00	6.00	6.00
Mar Defoliation: Thidiazuron + Diuron (120g + 60g/L)	Aerial Spraying	15.00	0.15 L	157.00	23.55	38.55
Mar Defoliation: Ethephon (720g/L)	with above		2.50 L	7.00	17.50	17.50
Mar Defoliation: Crop oil	with above		1.00 L	6.00	6.00	6.00
Apr Defoliation: ETee® (25g/L + 756g/L + 102g/L)	Aerial Spraying	15.00	0.08 L	224.00	17.92	32.92
Apr Defoliation: Ethephon (720g/L)	with above		1.00 L	7.00	7.00	7.00
Apr Defoliation: Crop oil	with above		1.00 L	6.00	6.00	6.00
Picking, cartage & ginning						
Apr Picking: Own plant: round baler (variable costs only, incl. fuel)	CP690	60.00	per ha			60.00
Apr Picking: plus wrap		47.00	round bale		11.06 / lint bale	121.65
May Cartage: Lift		7.00	round bale	12 round bales/truck	1.65 / lint bale	18.12
May Cartage: Freight	costs related to yield	53.00	round bale	50 km from gin	12.47 / lint bale	137.18
May Ginning: Fibre processing		65.00	/ lint bale		65.00 / lint bale	715.00
Jun Levies: Research levy & Cotton Australia levy		3.90	/ lint bale		3.90 / lint bale	42.90
Farming: Post-crop						
Jun Farming: Mulcher with root cutter	295 eng/HP	11.90				11.90
Jun Farming: Bed renovation (check bt licence requirements)	295 eng/HP	13.70				13.70
Other						
Nov Crop insurance:				Premium depends on various factors		110.00
B. TOTAL VARIABLE COSTS \$/ha:						3,441
Total irrigation water use ML/ha:						8.10 ML

Overhead Irrigated Pigeon Peas
(refugla for Bollgard3® cotton)

2017-2018



Variable Costs by Operation	Machinery	Total \$/ha	Inputs			TOTAL
			Rate /ha Unit	Cost \$/unit	Cost \$/ha	Cost \$/ha
Fallow management						
Nov Fallow spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Nov Fallow spray 2,4-D amine (625g/L)	with above		0.40 L	4.00	1.60	1.60
Jan Fallow spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Jan Fallow Spray Fluroxypyr (333g/L)	with above		0.40 L	22.00	8.80	8.80
Mar Fallow Spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Mar Fallow spray Pendimethalin (440g/L)	with above		2.25 L	11.00	24.75	24.75
Jun Fallow Spray Glyphosate (450g/L)	Self Propelled	1.00	2.00 L	4.00	8.00	9.00
Jun Fallow Spray Diuron (900g/kg)	with above		1.00 Kg	9.00	9.00	9.00
Jun Fallow Spray S-metolachlor (960g/L)	with above		1.00 L	13.00	13.00	13.00
Farming						
Jul Farming: Discing	295 eng/HP	9.90				9.90
Jul Farming: Hill up	295 eng/HP	13.70				13.70
Aug Farming: Rubber tyre roller	225 eng/HP	6.90				6.90
Dec Farming: Cultivation: Inter-row	295 eng/HP	10.20				10.20
Nutrition						
Jul Fertiliser: MAP	with 'Hill up'		150 kg	0.62	92.85	92.85
Planting						
Oct Planting: Seed: Pigeon pea	225 eng/HP	10.10	40.0 kg	4.00	160.00	170.10
Irrigation						
Nov Irrigation: In-crop (x4)			4.00 ML	50.00	200.00	200.00
Herbicide & application						
Sep Herbicide: Pendimethalin (455g/L)	Self Propelled	1.00	2.00 kg	11.00	22.00	23.00
Sep Herbicide: Prometryn (500g/L)	with above		2.50 kg	15.00	37.50	37.50
May Herbicide: Glyphosate (450g/L)	Self Propelled	1.00	1.60 L	4.00	6.40	7.40
Post-crop						
Apr Farming: Crop destruction (slashing)	225 eng/HP	11.90				11.90
Jun Farming: Bed renovation (check bt licence requirements)	295 eng/HP	13.70				13.70
B. TOTAL VARIABLE COSTS \$/ha:						690
Total irrigation water use ML/ha:			4.0 ML			

2017-18 Cotton Gross Margins, brought to you by the cotton industry's joint extension program, CottonInfo.

Foot notes

Cost of water: The cost of applied irrigation water varies considerably depending on; source (groundwater, surface water), number of times pumped to get to field, the energy source of pumps and relevant fees and charges. In the overhead lateral irrigated budget, a cost of \$88/ML is used assuming pumping from a regulated groundwater source (fees \$17/ML) with water 'lifted' twice using diesel pumps (pumping and maintenance cost of \$33/ML), plus the lost of the lateral (pumping and maintenance cost of \$38/ML). Pumping costs can be in excess of \$120/ML for bores.

Irrigation: In cotton, requirements for applied irrigation water typically range from 8-13 ML/ha. The largest impact on water use is in-crop rainfall. An overhead lateral irrigator is restricted to the volume of water that can be applied in each pass.

Machinery costs: The cost of each farming pass reflects variable costs only (fuel, repairs and maintenance), labour and depreciation are considered overhead costs, so are not included in this budget.

Rotation: This budget assumes the previous crop was wheat, followed by a long fallow.

* **Yield:** Actual yields are a complex result of agronomic and environmental factors. In this budget a yield of 11 bales/ha is appropriate considering the long fallow, fertiliser program and budgeted irrigation water. See the **Gross Margin Notes** for further details on assumptions.

Acknowledgements

We wish to acknowledge the efforts made by industry specialists and management during the development and review of the 2017 cotton gross margin budgets. Assistance was provided by the Cotton Info team, CRDC, and CSD. Critical review and comments by Chris McCormack (Agronomics) are also gratefully acknowledged.

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