

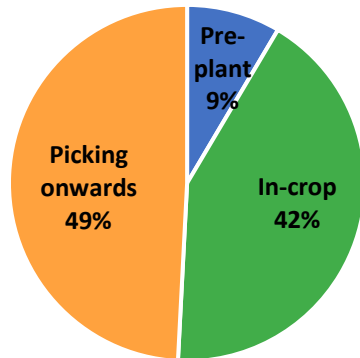
GM Budget: Northern Australia Furrow Irrigated Cotton

Bollgard3®, Roundup Ready Flex®

INCOME:				Example Budget	Your Budget
				\$/ha	\$/ha
10.0	bales/ha ¹ @	Cotton lint	\$594 /bale (at gin)	\$5,939	
		(less discount)	-\$5 /bale (at gin)	-\$50	
		Cotton seed	\$93 /bale (at gin)	\$926	
			\$681 /bale (at gin)		
		A. TOTAL GROSS INCOME \$/ha:		\$6,815	

VARIABLE COSTS:

See pg 2 for details



Ground preparation	\$67
Nutrition	\$975
Planting	\$117
Irrigation (8.1 ML applied)	\$75
Insurance	\$143
Crop protection, application & licence fee	\$870
Defoliation	\$125
Picking, cartage & ginning	\$2,144
Farming: Post-crop	\$152
B. TOTAL VARIABLE COSTS \$/ha:	
	\$4,669

C. GROSS MARGIN (A-B) \$/ha:		\$2,146
D. GROSS MARGIN (A-B/ML applied) \$/ML:		\$257

Breakeven Yield (bales/ha) based on lint & seed prices above: **5.4 bales/ha**
 Breakeven Price (\$/bale inc. seed and discounts) based on 10 bales/ha: **\$462 /bale**
Note that break even yield & price is for variable costs only, overhead costs and labour are NOT considered

SENSITIVITY TABLE

(Gross Margin \$/Ha)

		PRICE (\$/bale incl. of seed & discounts)				
		581	631	681	731	781
227kg lint bales/ha	8.5	615	1031	1447	1864	2280
	9.0	799	1240	1680	2121	2561
	9.5	983	1448	1913	2378	2843
	10.0	1167	1657	2146	2636	3125
	10.5	1351	1865	2379	2893	3407
	11.0	1535	2073	2612	3150	3689
	11.5	1719	2282	2845	3408	3971

SENSITIVITY TABLE

(Gross Margin \$/ML)

		PRICE (\$/bale incl. of seed & discounts)				
		581	631	681	731	781
227kg lint bales/ha	8.5	74	124	173	223	273
	9.0	96	149	201	254	307
	9.5	118	174	229	285	341
	10.0	140	199	257	316	374
	10.5	162	223	285	347	408
	11.0	184	248	313	378	442
	11.5	206	273	341	408	476

This budget is designed to give an indication of operations and costs required to grow a northern Australia cotton crop. Prices are estimates only. A grower should alter this budget to take account of individual 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**.



Variable Costs by Operation	Machinery		Inputs				TOTAL
		Total \$/ha	Rate /ha	Unit	Cost \$/unit	Cost \$/ha	Cost \$/ha
Ground preparation (cover crop destruction)							
Herbicide: Fluroxypyr (333g/L)	Self Propelled	1.37	0.45	L	29.56	13.30	15
Herbicide: Glyphosate (450g/L)	Self Propelled	1.37	2.00	L	1.81	3.62	5
Farming: Discing	295 eng/HP	25.63					26
Farming: Hill up	295 eng/HP	16.00					16
Farming: Rubber tyre roller	225 eng/HP	5.80					6
Nutrition							
Fertiliser: DAP (22kg N, 24kg P, 2kg S) - spread pre plant	295 eng/HP	8.41	120	kg	1.34	160.20	169
Fertiliser: Urea (69kg N) - with above	295 eng/HP		150	kg	1.08	162.00	162
Fertiliser: DAP (18kg N, 20kg P, 2kg S) - side dress mid season	295 eng/HP	15.10	100	kg	1.34	133.50	149
Fertiliser: SOP (50kg K, 20kg S) - with above	295 eng/HP		120	kg	1.88	226.08	226
Fertiliser: Urea (115kg N) - with above	295 eng/HP		250	kg	1.08	270.00	270
Planting							
Planting: Precision planter	295 eng/HP	12.69					13
Planting: Seed: Roundup Ready Flex® Bollgard3®	with above		11	kg	9.46	104.09	104
Irrigation management							
Irrigation: Budgeted water (from source) ^{2,3}			8.2	ML	6.25	51.43	51
Other: Soil moisture monitoring	Contractor	8.75					9
Farming: Rotobuck/Knockdown (twice in season)	225 eng/HP	15.12					15
Crop protection⁴, application & licence fee							
Insecticide: Fipronil (200 g/L), target: mirids	Self Propelled	1.37	0.06	L	71.71	4.48	6
Insecticide: Indoxocarb (150 g/L), target: mirids	Self Propelled	1.37	0.25	L	75.98	18.99	20
Insecticide: Clothianidin (200 g/L), target: shield bugs	Self Propelled	1.37	0.25	L	75.98	18.99	20
Insecticide: Chlorantraniliprole (600 g/L), target: cluster caterpillar	Aerial	35.00	0.06	L	898.35	53.90	89
Insecticide: Acetamiprid (218g/L), Emamectin (32.5g/L) target for above product: shield bugs	Aerial	35.00	0.30	L	88.87	26.66	62
Fungicide: Azoxystrobin + Prothioconazole (133 g/L + 100 g/L) target for above: grey mildew	Aerial	35.00	0.30	L	52.05	15.62	51
Fungicide: Adjuvant: Spraying oil	With above		0.10	L	7.37	0.74	1
Growth regulant: Mepiquat (380g/L), growth regulator	Self Propelled	1.37	0.03	L	24.15	0.60	2
Growth regulant: Mepiquat (380g/L), growth regulator	Self Propelled	1.37	0.03	L	24.15	0.60	2
Growth regulant: Mepiquat (380g/L), growth regulator	Aerial	35.00	0.03	L	24.15	0.60	36
Growth regulant: Mepiquat (380g/L), growth regulator / cutout	Aerial	35.00	0.07	L	24.15	1.69	37
Herbicide: Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.37	1.20	kg	10.85	13.02	14
Herbicide: Roundup Ready® Plantshield® (690g/kg Glyphosate)	Aerial	35.00	1.20	kg	10.85	13.02	48
Herbicide: Roundup Ready® Plantshield® (690g/kg Glyphosate)	Aerial	35.00	1.20	kg	10.85	13.02	48
Farming: Cultivation: Inter-row	295 eng/HP	11.94					12
Other: Chipping or Spot Spray		10.00					10
Licence: Bollgard 3® stacked RRF Licence Fee, (end point royalty) Northern Australia Development allowance					32.50 / lint bale		325
Other: Consultant	Contractor	75.00					75
Refuge: Refuge crop: Pigeon peas 2.5%, see page 3			0.1	ML			13
Defoliation⁴							
Defoliation: Thidiazuron (500g/L)	Aerial	35.00	0.10	L	36.34	3.63	39
Defoliation: Ethephon (900g/L)	with above		0.75	L	9.94	7.45	7
Defoliation: Spraying oil	with above		1.00	L	7.37	7.37	7
Defoliation: Thidiazuron + Diuron (240g + 120g/L)	Aerial	35.00	0.13	L	173.35	21.67	57
Defoliation: Ethephon (900g/L)	with above		0.75	L	9.94	7.45	7
Defoliation: Spraying oil	with above		1.00	L	7.37	7.37	7
Picking, cartage & ginning							
Picking: Contract: Round baler incl. stacking at end of field	CP690	415.00 per ha					415
Picking: plus fuel		27.50 L/ha @	1.46	\$/L		4 / lint bale	40
Picking: plus wrap	costs related to yield	51.00 / round bale				12 / lint bale	120
Cartage: Freight (incl. lift) 550 km from gin ⁵		183.33 / round bale				43 / lint bale	431
Ginning: Fibre processing ⁵		110.00 / lint bale				110 / lint bale	1100
Levies: Research levy & Cotton Australia levy		3.75 / lint bale				4 / lint bale	38
Post-crop							
Farming: Crop destruction: Mulcher	295 eng/HP	17.13					17
Farming: Pupae bust (check bt licence cultivation requirements)	295 eng/HP	22.95					23
Herbicide: Fluroxypyr (333g/L)	Self Propelled	1.37	0.45	L	29.56	13.30	15
Herbicide: Fluroxypyr (333g/L)	Self Propelled	1.37	0.60	L	29.56	17.74	19
Farming: Desilting & grading channels	Contractor	70.00					70
Herbicide: Sterilising channels	225 eng/HP	8.00					8
Other							
Crop insurance:					Premium depends on various factors		143
B. TOTAL VARIABLE COSTS \$/ha:							4669
Total irrigation water use ML/ha:			8.3	ML			



Variable Costs by Operation	Machinery	Inputs				TOTAL	
		Total \$/ha	Rate /ha	Unit	Cost \$/unit		Cost \$/ha
Ground preparation							
Insecticide: Dimethoate (400g/L), broad knock down	Self Propelled	1.37	0.50	L	17.00	8.50	10
Herbicide: Glyphosate (450g/L)	Self Propelled	1.37	2.00	L	5.52	11.04	12
Farming: Discing	295 eng/HP	25.63					26
Farming: Hill up	295 eng/HP	16.00					16
Farming: Rubber tyre roller	225 eng/HP	5.80					6
Nutrition							
Fertiliser: DAP (45kg N, 50kg P, 3.75kg S) - spread pre plant	295 eng/HP	8.41	150	kg	1.34	200.25	209
Planting & farming							
Planting: Planter & seed: Pigeon pea	295 eng/HP	12.69	40.0	kg	3.58	143.00	156
Farming: Cultivation: Inter-row	295 eng/HP	11.46					11
Irrigation							
Irrigation: Budgeted water			4.50	ML	6.25	28.13	28
Herbicide & application							
Herbicide: Glyphosate (450g/L)	Self Propelled	1.37	1.60	L	5.52	8.83	10
Post-crop							
Farming: Crop destruction: Mulcher	295 eng/HP	17.13					17
Farming: Pupae bust (check bt licence cultivation requirements)	295 eng/HP	22.95					23
B. TOTAL VARIABLE COSTS \$/ha:						524	
Total irrigation water use ML/ha:			4.5 ML				

2023-24 Cotton Gross Margins, brought to you by the cotton industry's joint extension program, CottonInfo.

Foot notes

1. Yield: Actual yields are a complex result of agronomic and environmental factors. In this budget a yield of 10 bales/ha is based on input from WA DPIRD for irrigated cotton in the Ord River scheme.

Rotation: This budget assumes cotton follows another crop.

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. Contractor rates encompass these costs and are outlined in a separate budget

2. Irrigation: Water ML/ha sourced (surface). Individual water budgets will vary depending on irrigation system efficiency, and regional and seasonal variations in plant evapotranspiration and effective rainfall. This budget assumes applied water of 8 ML/ha was based on typical usage in the Ord River scheme. Applied water for refuge pigeon peas is estimated at 4.5 ML/ha, giving total cotton (1 ha) and refuge (0.025 ha) water use of 8.1 ML/ha. Water is applied direct from source (no on-farm storage or storage losses) with 97% conduit efficiency (NSW DPI 2-year average 2017-18 and 2021-22) bringing total sourced water to 8.3 ML/ha.

3. 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, energy source of pumps, and relevant fees and charges. This Northern Australia budget reflects costs for the Ord River scheme Stage 1, with a water usage charge of \$6.0/ML to \$6.5/ML, gravity fed to field (no pumping costs).

4. Chemical registrations vary between states. Use of a particular brand name or active ingredient are examples only and do NOT imply a recommendation. Always read chemical labels and follow directions.

5. Freight and ginning. The Katherine cotton gin is due for completion late 2023 so has been included in this gross margin. Cartage and ginning costs are estimates only.

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 2023 Northern Australia cotton gross margin budgets. Assistance was provided by the CottonInfo team, CRDC, CSD, WA DPIRD, and a number of individual growers and specialists.

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