

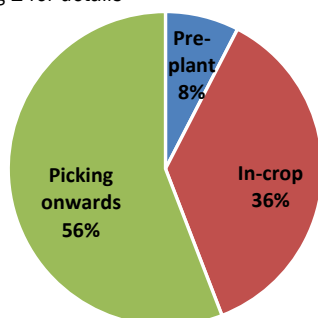
GM Budget: Northern Australia Furrow Irrigated Cotton

Bollgard3®, Roundup Ready Flex®

INCOME:				Example Budget	Your Budget
				\$/ha	\$/ha
9.7	bales/ha * @	Cotton lint	\$569 /bale (at gin)	\$5,519	
		(less discount)	-\$5 /bale (at gin)	-\$49	
		Cotton seed	\$70 /bale (at gin)	\$679	
			\$634 /bale (at gin)		
		A. TOTAL GROSS INCOME \$/ha:		\$6,150	

VARIABLE COSTS:

See pg 2 for details



Ground preparation	\$57
Nutrition	\$1,051
Planting & in-crop farming	\$118
Irrigation (5.7 ML)	\$208
Insurance	\$0
Crop protection, application & licence fee	\$556
Defoliation	\$71
Picking, cartage & ginning	\$2,482
Farming: Post-crop	\$126
B. TOTAL VARIABLE COSTS \$/ha:	\$4,668

C. GROSS MARGIN (A-B) \$/ha:	\$1,482
D. GROSS MARGIN (A-B/ML applied) \$/ML:	\$330

Breakeven Yield (bales/ha) based on lint & seed prices above:	5.9 bales/ha
Breakeven Price (\$/bale inc. seed and discounts) based on 9.7 bales/ha:	\$481 /bale
<i>Note that break even yield & price is for variable costs only, overhead costs and labour are NOT considered</i>	

SENSITIVITY TABLE

(Gross Margin \$/Ha)

227kg lint bales/ha	PRICE (\$/bale incl. of seed & discounts)	PRICE (\$/bale incl. of seed & discounts)				
		534	584	634	684	734
\$1,482						
6.2		-508	-198	112	422	732
7.7		-71	314	699	1084	1469
8.7		221	656	1091	1526	1961
9.7		512	997	1482	1967	2452
10.7		803	1338	1873	2408	2943
11.7		1095	1680	2265	2850	3435
13.2		1532	2192	2852	3512	4172

SENSITIVITY TABLE

(Gross Margin \$/ML)

227kg lint bales/ha	PRICE (\$/bale incl. of seed & discounts)	PRICE (\$/bale incl. of seed & discounts)				
		534	584	634	684	734
\$330						
6.2		-113	-44	25	94	163
7.7		-16	70	156	241	327
8.7		49	146	243	339	436
9.7		114	222	330	438	546
10.7		179	298	417	536	655
11.7		244	374	504	634	764
13.2		341	488	635	781	928

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	Rate	Cost	Cost	Cost		
			\$/ha	/ha	Unit	\$/unit	\$/ha	\$/ha	
Ground preparation (cover crop destruction)									
Dec	Insecticide:	Dimethoate (400g/L), broad knock down	Self Propelled	1.50	0.50 L	16.80	8.40	10	
Dec	Herbicide:	Glyphosate (450g/L)	Self Propelled	1.50	2.00 L	6.30	12.60	14	
Dec	Farming:	Discing	295 eng/HP	10.50				11	
Dec	Farming:	Hill up	295 eng/HP	14.50				15	
Dec	Farming:	Rubber tyre roller	225 eng/HP	7.50				8	
Nutrition									
Dec	Fertiliser:	DAP - spread	295 eng/HP	5.00	250 kg	1.17	292.50	298	
Mar	Fertiliser:	DAP - drilled - side dress	295 eng/HP	18.50	250 kg	1.17	292.50	311	
Mar	Fertiliser:	SOP - with above	295 eng/HP		100 kg	1.17	116.50	117	
Mar	Fertiliser:	Urea - with above	295 eng/HP		300 kg	1.09	326.40	326	
Planting & in-crop farming									
Feb	Planting:	Precision planter	295 eng/HP	10.50				11	
Feb	Planting:	Seed: Roundup Ready Flex® Bollgard3®	with above		11 kg	8.00	88.00	88	
Apr	Farming:	Cultivation: Inter-row	295 eng/HP	11.00				11	
Apr	Farming:	Rip / Rotobuck (twice in season)	225 eng/HP	8.00				8	
Irrigation management #									
Apr	Irrigation:	Budgeted water			4.4 ML	46.00	204.44	204	
Jun	Other:	Soil moisture monitoring	Contractor	4.00				4	
Crop protection, application & licence fee									
Apr	Insecticide:	Indoxcarb (200 g/L), target: mirids	Self Propelled	1.50	0.40 L	67.20	26.88	28	
Apr	Insecticide:	Clothianidin (200 g/L), target: shield bugs	Self Propelled	1.50	0.25 L	73.50	18.38	20	
Apr	Insecticide:	Acetamiprid (218g/L), Emamectin (32.5g/L) target for above product: SLW, aphids, GVB	Aerial	16.00	0.30 L	61.95	18.59	35	
Mar	Growth regulant:	Mepiquat (38g/L), growth regulator	Self Propelled	1.50	0.25 L	3.15	0.79	2	
Mar	Growth regulant:	Mepiquat (38g/L), growth regulator	Self Propelled	1.50	0.25 L	3.15	0.79	2	
Apr	Growth regulant:	Mepiquat (38g/L), growth regulator	Self Propelled	1.50	0.25 L	3.15	0.79	2	
May	Growth regulant:	Mepiquat (38g/L), growth regulator	Aerial	16.00	0.25 L	3.15	0.79	17	
Feb	Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.50	1.20 kg	11.55	13.86	15	
Mar	Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.50	1.20 kg	11.55	13.86	15	
Mar	Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.50	1.20 kg	11.55	13.86	15	
Mar	Other:	Chipping or Spot Spray		5.00				5	
May	Licence:	Bollgard 3® stacked RRF Licence Fee, (end point royalty) Northern Australia Development allowance				32.50 / lint bale		315	
Jun	Other:	Consultant	Contractor	70.00				70	
Jun	Refuge:	Refuge crop: Pigeon peas 2.5%, see page 3			0.05 ML			13	
Defoliation									
Jun	Defoliation:	Thidiazuron (500g/L)	Self Propelled	3.00	0.15 L	54.60	8.19	11	
Jun	Defoliation:	Ethephon (900g/L)	with above		1.00 L	11.55	11.55	12	
Jun	Defoliation:	Crop oil	with above		1.00 L	6.30	6.30	6	
Jul	Defoliation:	Thidiazuron (500g/L)	Aerial	16.00	0.15 L	54.60	8.19	24	
Jul	Defoliation:	Ethephon (900g/L)	with above		1.00 L	11.55	11.55	12	
Jul	Defoliation:	Crop oil	with above		1.00 L	6.30	6.30	6	
Picking, cartage & ginning									
Jul	Picking:	Contract: Round baler incl. stacking at end of field	CP690	420.00 per ha				420	
Jul	Picking:	plus fuel		27.50 L/ha @	0.84 \$/L		2 / lint bale	23	
Jul	Picking:	plus wrap	costs related to yield	51.00 / round bale			12 / lint bale	116	
Jul	Cartage:	Freight (incl. lift) 2755 km from gin		550.00 / round bale			129 / lint bale	1255	
Jul	Ginning:	Fibre processing		65.00 / lint bale			65 / lint bale	631	
Aug	Levies:	Research levy & Cotton Australia levy		3.75 / lint bale			4 / lint bale	36	
Post-crop									
Aug	Farming:	Mulcher-root cutter (check bt licence cultivation requirements)	295 eng/HP	12.50				13	
Aug	Farming:	Bed renovation	295 eng/HP	14.50				15	
Sept	Herbicide:	Ratoon / volunteer management. 2,4-D (700g/L)	Self Propelled	1.50	1.00 L	6.30	6.30	8	
Sept	Herbicide:	Fluroxypyr (400g/L) with above	with above		1.00 L	35.70	35.70	36	
Sept	Farming:	Desilting & grading channels	Contractor	50.00				50	
Sept	Herbicide:	Sterilising channels	225 eng/HP	5.00				5	
Other									
Mar	Crop insurance:					Premium depends on various factors		0	
B. TOTAL VARIABLE COSTS \$/ha:								4668	
Total irrigation water use ML/ha:				4.49	ML				

Furrow Irrigated Pigeon Peas

(refuge for Bollgard3® cotton)

2021-22



Northern Australia Gross margin

Variable Costs by Operation			Machinery		Inputs			TOTAL
			Total \$/ha	Rate /ha	Unit	Cost \$/unit	Cost \$/ha	Cost \$/ha
Ground preparation								
Dec	Insecticide:	Dimethoate (400g/L), broad knock down	Self Propelled	1.50	0.50 L	16.80	8.40	9.90
Dec	Herbicide:	Glyphosate (450g/L)	Self Propelled	1.50	2.00 L	6.30	12.60	14.10
Dec	Farming:	Discing	295 eng/HP	10.50				10.50
Dec	Farming:	Hill up	295 eng/HP	14.50				14.50
Dec	Farming:	Rubber tyre roller	225 eng/HP	7.50				7.50
Nutrition								
Dec	Fertiliser:	MAP	with 'Hill up'		150 kg	1.17	175.50	175.50
Planting & farming								
Feb	Planting:	Seed: Pigeon pea	295 eng/HP	10.50	40.0 kg	3.30	132.00	142.50
Apr	Farming:	Cultivation: Inter-row	295 eng/HP	11.00				11.00
Irrigation								
Apr	Irrigation:	Budgeted water			2.00 ML	46.00	92.00	92.00
Herbicide & application								
Jul	Herbicide:	Glyphosate (450g/L)	Self Propelled	1.50	1.60 L	6.30	10.08	11.58
Post-crop								
Jul	Farming:	Crop destruction (slashing)	225 eng/HP	12.50				12.50
Jul	Farming:	Bed renovation (check bt licence requirements)	295 eng/HP	14.50				14.50
B. TOTAL VARIABLE COSTS \$/ha:								516
Total irrigation water use ML/ha:					2.0 ML			

2021-22 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, energy source of pumps, and relevant fees and charges. In this budget, a cost of \$46/ML is used assuming pumping from a regulated surface water source (fees \$9/ML) with water 'lifted' twice using diesel pumps (pumping and maintenance cost of \$37/ML), this also takes into consideration pumping tailwater. Pumping and maintenance costs can exceed \$110/ML for bores.

Rotation: This budget assumes cotton follows another crop.

Irrigation: Water ML/ha pumped from sources (surface or groundwater). Individual water budgets will vary depending on irrigation system efficiency, and regional and seasonal variations in plant evapotranspiration and effective rainfall. Irrigation water use of 4 ML/ha was based on CSIRO Water resources assessment for the Mitchell catchment indicating applied water of 3-5ML/ha for wet season cotton. Storage and conveyance losses of 10% brings total water requirement to 4.4 ML/ha.

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.

*** Yield:** Actual yields are a complex result of agronomic and environmental factors. In this budget a yield of 9.7 bales/ha is based on Yeates, S., (2018), Northern Australia Cotton Development & Coordination Leader, Final Report to CRDC.

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 2021 Northern Australia cotton gross margin budgets. Assistance was provided by the CottonInfo team, CRDC, CSD, NT DPIR, and a number of individual growers and specialists.

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