

Gross Margin Budget: Overhead Irrigated Cotton

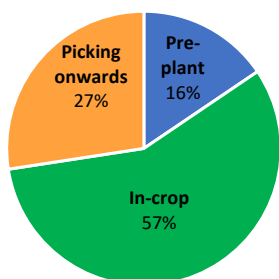
1m row spacing. Bollgard3®, XtendFlex®, Roundup Ready Flex®

INCOME:

			Example Budget \$/ha	Your Budget \$/ha
10.3	bales/ha ¹ @	Cotton lint	\$573 /bale (at gin)	\$5,902
		(less quality discount)	-\$8 /bale (at gin)	-\$82
		Cotton seed	\$93 /bale (at gin)	\$957
			\$658 /bale (at gin)	
		A. TOTAL GROSS INCOME \$/ha:	\$6,777	

VARIABLE COSTS:

See pg 2 for details



Fallow management	\$70
Nutrition	\$887
Planting	\$145
Irrigation (5.5 ML applied ²)	\$836
Insurance	\$233
Crop protection, application & licence fee	\$884
Defoliation	\$120
Picking, cartage & ginning	\$1,157
Farming: Post-crop	\$42
B. TOTAL VARIABLE COSTS \$/ha:	\$4,374
GROSS MARGIN* (A-B) \$/ha:	\$2,403
GROSS MARGIN (A-B/ML sourced²) \$/ML:	\$358

Break even yield (bales/ha) based on lint & seed prices above:

5.7 bales/ha

Break even price (\$/bale incl. seed and discounts) based on 10.3 bales/ha:

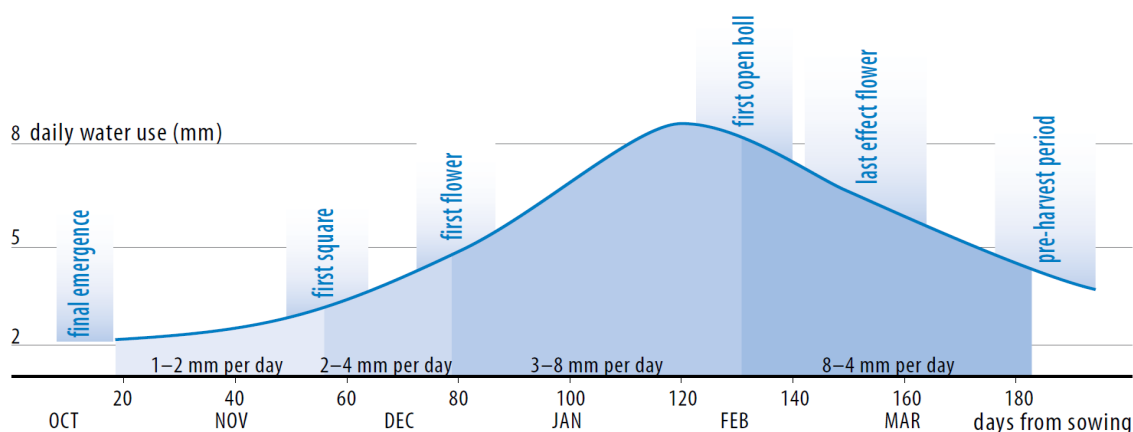
\$411 /bale

Note that break even yield & price are for variable costs only, overhead costs and labour are NOT considered

SENSITIVITY TABLE⁵

		PRICE (\$/bale incl. of seed & discounts)				
		558	608	658	708	758
227kg lint bales/ha	7.3	102	454	806	1159	1511
	8.3	537	938	1339	1739	2140
	9.3	973	1422	1871	2320	2769
	10.3	1408	1905	2403	2900	3397
	11.3	1844	2389	2935	3480	4026
	12.3	2279	2873	3467	4061	4655
	13.3	2715	3357	3999	4641	5283

Nominal seasonal Daily Water Use (mm/day) for cotton production (WaterPak 1212)



This budget is designed to give an indication of operations and costs required to grow a 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**.

Overhead Irrigated Cotton

(Bollgard3®, XtendFlex®, Roundup Ready Flex®)

2025-26



Variable Costs by Operation		Machinery		Inputs				TOTAL
		Total \$/ha		Rate /ha	Unit	Cost \$/unit	Cost \$/ha	Cost \$/ha
Fallow management (long fallow) ⁴								
Fallow spray:	Glyphosate (450g/L)	Self Propelled	2.00	2.00	L	4.00	8.00	10
Fallow spray:	Flumioxazin (500g/L)	with above		0.03	kg	147.00	4.41	4
Fallow spray:	Paraquat (360g/L)	Self Propelled	2.00	2.00	L	5.00	10.00	12
Fallow spray:	Flumioxazin (500g/L)	with above		0.03	kg	147.00	4.41	4
Fallow spray:	Glufosinate-ammonium (200g/L)	Self Propelled	2.00	3.75	L	7.00	26.25	28
Fallow spray:	Terbuthylazine (875g/kg)	with above		1.00	L	11.00	11.00	11
Nutrition								
Fertiliser:	Soil nutrient testing		2.35					2
Fertiliser:	MAP (16.5kg N, 36kg P, 2.5kg S applied) - spread pre plant	Spreader	9.00	165	kg	1.43	236.12	245
Fertiliser:	Potassium (50kg K applied) - spread pre plant	with above		100	kg	0.88	88.10	88
Fertiliser:	Urea (117kg N applied) - drilled pre plant	340 eng/HP	16.00	255	kg	1.02	259.85	276
Fertiliser:	Urea (117kg N applied) - side dress early-mid season	340 eng/HP	16.00	255	kg	1.02	259.85	276
Planting								
Planting:	Precision planter	340 eng/HP	14.00					14
Planting:	Seed: Bollgard3® XtendFlex®	with above		13	kg	10.06	130.74	131
Irrigation management ^{2,3}								
Irrigation:	Budgeted water (from source ²)			6.6	ML	126.15	827.02	827
Other:	Soil moisture monitoring	Contractor	8.75					9
Crop protection, application & licence fee ⁴								
Insecticide:	Sulfoxaflor (500g/kg), target: mirids	Self Propelled	2.00	0.14	kg	311.00	43.54	46
Insecticide:	Fipronil (200g/L), target: mirids	Self Propelled	2.00	0.07	L	62.00	4.34	6
Insecticide:	Spirotetramat(240g/L), target: SLW	Aerial Spraying	20.00	0.40	L	165.00	66.00	86
Insecticide:	Acetamiprid (218g/L), Emamectin (32.5g/L)	Aerial	20.00	0.30	L	83.00	24.90	45
	target:SLW, aphids, shield bugs	Aerial Spraying						
Herbicide:	Pendimethalin (455g/L)	Self Propelled	2.00	2.25	kg	18.00	40.50	43
Herbicide:	Terbuthlazine (875g/L)	with above		1.20	L	11.00	13.20	13
Herbicide:	XtendiMax® 2 (Dicamba 480g/L) (with XtendFlex® varieties only) ⁴	Self Propelled	2.00	1.17	L	20.00	23.40	25
Herbicide:	S-metolachlor OTT (960g/L)	with above		1.00	L	9.00	9.00	9
Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Aerial Spraying	20.00	1.50	kg	9.00	13.50	34
Farming:	Cultivation: Inter-row	340 eng/HP	15.00					15
Growth regulator:	Mepiquat (380g/L), growth regulator	Aerial Spraying	20.00	0.06	L	22.00	1.32	21
Growth regulator:	Mepiquat (380g/L), growth regulator / cutout	Aerial Spraying	20.00	0.20	L	22.00	4.40	24
Other:	Chipping or Spot Spray		11.00					11
Licence:	Bollgard 3® RRF Licence Fee: Price Discount							405
Other:	Consultant	Contractor	75.00					75
Refuge:	Refuge crop: Pigeon peas 2.5%, see page 3			0.1	ML			26
Defoliation ⁴								
Defoliation:	Thidiazuron (500 g/L)	Aerial Spraying	20.00	0.15	L	26.00	3.90	24
Defoliation:	Ethephon (900g/L)	with above		0.80	L	7.00	5.60	6
Defoliation:	Spraying oil	with above		1.00	L	7.00	7.00	7
Defoliation:	Thidiazuron + Diuron (240g + 120g/L)	Aerial Spraying	20.00	0.13	L	94.00	12.22	32
Defoliation:	Ethephon (900g/L)	with above		0.75	L	7.00	5.25	5
Defoliation:	Spraying oil	with above		1.00	L	7.00	7.00	7
Defoliation:	Pyraflufen-ethyl (25g/L)	Aerial Spraying	20.00	0.08	L	87.00	6.96	27
Defoliation:	Ethephon (900g/L)	with above		0.75	L	7.00	5.25	5
Defoliation:	Spraying oil	with above		1.00	L	7.00	7.00	7
Picking, cartage & ginning								
Picking:	Own plant: round baler (variable costs only, incl. fuel)	CP770	94.00 per ha					94
Picking:	plus wrap		47.00 / round bale			10.44 / lint bale		108
Cartage:	Freight (incl. lift) 50 km from gin	costs related to	63.00 / round bale			14.00 / lint bale		144
Ginning:	Fibre processing	yield	75.00 / lint bale			75.00 / lint bale		773
Levies:	Research levy & Cotton Australia levy		3.75 / lint bale			3.75 / lint bale		39
Farming: Post-crop								
Farming:	Mulcher	340 eng/HP	18.00					18
Farming:	Pupae bust (check bt licence cultivation requirements)	340 eng/HP	24.00					24
Other								
Crop insurance:		Premium depends on various factors						233
B. TOTAL VARIABLE COSTS \$/ha:								4374
Total irrigation water requirements (1ha cotton + .025ha refuge) from source ² ML/ha:			6.7	ML				



Variable Costs by Operation		Machinery		Inputs				TOTAL
				Total	Rate	Cost	Cost	Cost
			\$/ha	/ha	Unit	\$/unit	\$/ha	\$/ha
Fallow management (long fallow) ⁴								
Fallow spray:	Glyphosate (450g/L)	Self Propelled	2.00	2.00	L	4.00	8.00	10
Fallow spray:	Flumioxazin (500g/L)	with above		0.03	kg	147.00	4.41	4
Fallow spray:	Paraquat (360g/L)	Self Propelled	2.00	2.00	L	5.00	10.00	12
Fallow spray:	Flumioxazin (500g/L)	with above		0.03	kg	147.00	4.41	4
Fallow spray:	Glufosinate-ammonium (200g/L)	Self Propelled	2.00	3.75	L	7.00	26.25	28
Fallow spray:	Terbuthylazine (875g/kg)	with above		1.00	L	11.00	11.00	11
Farming								
Farming:	Discing	340 eng/HP	27.00					27.00
Farming:	Hill up	340 eng/HP	17.00					17.00
Farming:	Rubber tyre roller	340 eng/HP	6.00					6.00
Planting								
Planting:	Planter & seed: Pigeon pea	340 eng/HP	14.00	35.0	kg	5.50	192.50	206.50
Irrigation management ^{2,3}								
Irrigation:	Budgeted water (from source ²)			4.5	ML	126.15	567.66	567.66
Weed management ⁴								
Herbicide:	Pendimethalin (455g/L)	Self Propelled	2.00	2.00	kg	18.00	36.00	38.00
Herbicide:	Prometryn (500g/L)	with above		2.50	kg	21.00	52.50	52.50
Herbicide:	Glyphosate (450g/L)	Self Propelled	2.00	1.60	L	4.00	6.40	8.40
Farming:	Cultivation: Inter-row	340 eng/HP	15.00					15.00
Post-crop								
Farming:	Crop destruction (slashing)	340 eng/HP	18.00					18.00
B. TOTAL VARIABLE COSTS \$/ha:								1,026
Total Irrigation water use ML/ha:				4.5	ML			

2025-26 Cotton Gross Margins, brought to you by the cotton industry's joint extension program, CottonInfo.

Foot notes

***GM/Ha:** This gross margin represents the income and costs for 1 hectare of cotton plus the required refuge crop of 0.025ha, resulting in a total gross margin area of 1.025 ha.

1. Yield: Actual yields are a complex result of agronomic and environmental factors. In this budget a yield of 10.3 bales/ha is appropriate considering the long fallow, fertiliser program and budgeted irrigation water.

2. Water: Water ML/ha pumped from sources (surface or groundwater). Grower Survey data shows a 5 year average (2019-20 to 2023-24) field applied water of 6.4 ML/ha. Water application for refuge pigeon peas is estimated at 3.7 ML/ha, giving total cotton (1 ha) and refuge (0.025 ha) water use of 6.5 ML/ha. Research and trials show that overhead irrigation systems can decrease water application by up to 30% compared to surface irrigation (see 2022 ACPM p29). A more conservative 15% has been applied generating a 5.5 ML/ha overhead irrigation requirement for cotton plus refuge. Average conveyance efficiency of 83% (NSW DPI 2020-21 and 2021-22) brings total sourced water to 6.7 ML/ha. Individual water budgets will vary depending on irrigation system efficiency, and regional and seasonal variations in plant evapotranspiration and effective rainfall.

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 budget assumes 79% surface water and 21% groundwater (2021-22 to 2022-23 Grower Surveys), with a surfacewater cost of \$64/ML (extract and lift to storage including fuel, maintenance and water usage charges), a groundwater cost of \$83/ML (extract only including fuel, maintenance and water usage charges), and lateral move fuel and maintenance costs of \$58/ML.

4. Chemicals: 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. XtendFlex® varieties allow 'Over the Top' application of glyphosate, dicamba and glufosinate-ammonium herbicides under specific conditions. With a range of traits being grown this season, ensure all weed management strategies are trait specific.

5. Sensitivity tables: There are yield dependant costs included in these calculations.

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.

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 2025 cotton gross margin budgets. Assistance was provided by retailers, agronomists, the CottonInfo team, CCA, and CSD.

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