AgEcon Cotton Industry Gross Margins 2017-18

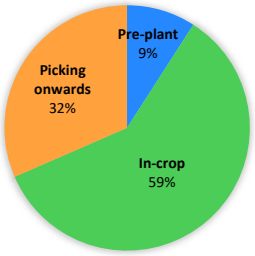
Gross Margin Budget: Semi-irrigated Cotton, double skip

Bollgard3®, Roundup Ready Flex®

INCOME:				Example Budget $/ha	Your Budget $/ha
5.00	bales/ha* @	Cotton lint	$466 /bale (at gin)	$2,330	
		Cotton seed	$75 /bale (at gin)	$375	
			A. TOTAL GROSS INCOME $/ha:	$2,705	

VARIABLE COSTS:

See pg 2 for details



Fallow management	$93
Farming: Pre-planting	$31
Nutrition	$131
Planting & in-crop farming	$82
Irrigation (4.55 ML)	$229
Insurance	$55
Crop protection, application & licence fee	$541
Defoliation	$120
Picking, cartage & ginning	$510
Farming: Post-crop	$81
B. TOTAL VARIABLE COSTS $/ha:	$1,872

C. GROSS MARGIN (A-B) $/ha:	$833
D. GROSS MARGIN (A-B/ML applied) $/ML:	$183

Approximate Breakeven Yield (bales/ha) based on lint & seed prices above:	4.02	bales/ha
Approximate Breakeven Price ($/bale) based on 5 bales/ha:	$374	$/bale

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

SENSITIVITY TABLE

227kg lint bales/ha YIELD	PRICE ($/bale incl. of seed & discounts) 366	416	466	516	566
2	-939	-864	-789	-714	-639
3	-515	-365	-215	-65	85
4	-232	-32	168	368	568
5	51	301	551	801	1051
6	334	634	934	1234	1534
7	617	967	1317	1667	2017
9	1041	1466	1891	2316	2741

The El Niño-Southern Oscillation Indices

ENSO has a strong impact on water budgets and early season crop evapotranspiration

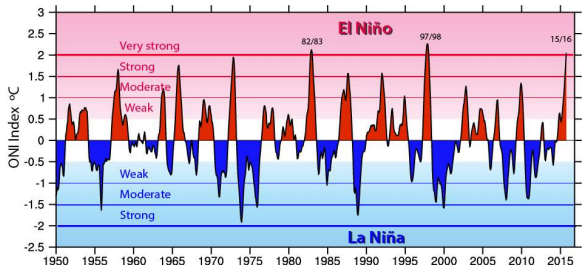


Chart source: National Center for Atmospheric Research (US) 2016

This budget is designed to give an indication of operations and costs required to grow a semi-irrigated, double skip 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 2017.***

Semi-Irrigated Cotton (Bollgard3®Roundup Ready Flex®) *2017-2018*

Variable Costs by Operation			Machinery		Inputs					TOTAL
				Total	Rate		Cost	Band	Cost	Cost
				$/ha	/ha	Unit	$/unit	Width	$/ha	$/ha
Fallow management										
Nov	Fallow spray:	Glyphosate (450g/L)	Self Propelled	1.00	2.00	L	4.00	100%	8.00	**9.00**
Nov	Fallow spray:	2,4-D amine (625g/L)	with above		0.40	L	4.00	100%	1.60	**1.60**
Jan	Fallow spray:	Glyphosate (450g/L)	Self Propelled	1.00	2.00	L	4.00	100%	8.00	**9.00**
Jan	Fallow Spray:	Fluroxypyr (333g/L)	with above		0.40	L	22.00	100%	8.80	**8.80**
Mar	Fallow Spray:	Glyphosate (450g/L)	Self Propelled	1.00	2.00	L	4.00	100%	8.00	**9.00**
Mar	Fallow spray:	Pendimethalin (440g/L)	with above		2.25	L	11.00	100%	24.75	**24.75**
Jun	Fallow Spray:	Glyphosate (450g/L)	Self Propelled	1.00	2.00	L	4.00	100%	8.00	**9.00**
Jun	Fallow Spray:	Diuron (900g/kg)	with above		1.00	Kg	9.00	100%	9.00	**9.00**
Jun	Fallow Spray:	S-metolachlor (960g/L)	with above		1.00	L	13.00	100%	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	50%	46.43	**46.43**
Aug	Fertiliser:	Urea (140kg N)	295 eng/Hp	17.60	304	kg	0.44	50%	67.03	**84.63**
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	50%	57.53	**57.53**
Dec	Farming:	Cultivation: Inter-row	295 eng/Hp	10.20						**10.20**
Dec	Farming:	Rip / Rotobuck (once in season)	225 eng/Hp	4.00						**4.00**
Irrigation management										
Nov	Irrigation:	In-crop (x3)#			4.50	ML	50.00	100%	225.00	**225.00**
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	50%	15.60	**16.60**
Dec	Insecticide:	Fipronil (200g/L), target: mirids	Self Propelled	1.00	0.06	L	107.00	50%	3.21	**4.21**
Jan	Insecticide:	Clothianidin (200g/L), target: mirids, GVB	Aerial Spraying	15.00	0.20	L	69.00	100%	13.80	**28.80**
Jan	Insecticide:	Pyriproxyfen (100g/L), target: SLW	Aerial Spraying	15.00	0.50	L	132.00	100%	66.00	**81.00**
Feb	Insecticide:	Diafenthiuron (500g/L), target: SLW, aphids, mites	Aerial Spraying	15.00	0.60	L	61.00	100%	36.60	**51.60**
Oct	Herbicide:	Pendimethalin (455g/L)	Self Propelled	0.83	2.20	kg	14.00	100%	30.80	**31.63**
Nov	Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Self Propelled	1.00	1.20	kg	8.00	100%	9.60	**10.60**
Jan	Herbicide:	Roundup Ready® Plantshield® (690g/kg Glyphosate)	Aerial Spraying	15.00	1.20	kg	8.00	100%	9.60	**24.60**
Dec	Other:	Chipping or Spot Spray		5.00						**5.00**
Mar	Licence:	Bollgard 3® stacked RRF Licence Fee	*50% of Option 2, LCR $420*							**210.00**
Jun	Other:	Consultant	Contractor	60.00						**60.00**
Jun	Refuge:	Refuge crop: Pigeon peas 2.5%, see page 3			0.10	ML		50%		**17.26**
Defoliation										
Mar	Defoliation:	Thidiazuron + Diuron (120g + 60g/L)	Self Propelled	2.90	0.15	L	157.00	100%	23.55	**26.45**
Mar	Defoliation:	Ethephon (720g/L)	with above		0.50	L	7.00	100%	3.50	**3.50**
Mar	Defoliation:	Crop oil	with above		1.00	L	6.00	100%	6.00	**6.00**
Mar	Defoliation:	Thidiazuron + Diuron (120g + 60g/L)	Aerial Spraying	2.90	0.15	L	157.00	100%	23.55	**26.45**
Mar	Defoliation:	Ethephon (720g/L)	with above		2.50	L	7.00	100%	17.50	**17.50**
Mar	Defoliation:	Crop oil	with above		1.00	L	6.00	100%	6.00	**6.00**
Apr	Defoliation:	ETee® (25g/L + 756g/L + 102g/L)	Aerial Spraying	2.90	0.08	L	224.00	100%	17.92	**20.82**
Apr	Defoliation:	Ethephon (720g/L)	with above		1.00	L	7.00	100%	7.00	**7.00**
Apr	Defoliation:	Crop oil	with above		1.00	L	6.00	100%	6.00	**6.00**
Picking, cartage & ginning										
Apr	Picking:	Own plant: round baler (variable costs only, incl. fuel)	CP690	39.60 per ha	(double skip picking cost 66% of solid plant)					**39.60**
Apr	Picking:	plus wrap		47.00 round bale					11.06 / lint bale	**55.29**
May	Cartage:	Lift	costs related to yield	7.00 round bale	*12 round bales/truck*				1.65 / lint bale	**8.24**
May	Cartage:	Freight		53.00 round bale	*50 km from gin*				12.47 / lint bale	**62.35**
May	Ginning:	Ginning		65.00 / lint bale					65.00 / lint bale	**325.00**
Jun	Levies:	Research levy & Cotton Australia levy		3.90 / lint bale					3.90 / lint bale	**19.50**
Farming: Post-crop										
Jun	Farming:	Mulcher with root cutter	295 eng/Hp	11.90						**11.90**
Jun	Farming:	Desilting & grading channels	Contractor	50.00						**50.00**
Jun	Herbicide:	Sterilising channels	225 eng/Hp	5.00						**5.00**
Jun	Farming:	Bed renovation (check bt licence requirements)	295 eng/Hp	13.70						**13.70**
Other										
Nov	Crop insurance:		*Premium depends on various factors*							**55.00**
		B. TOTAL VARIABLE COSTS $/ha:								**1,872**
		Total irrigation water use ML/ha:			4.55	ML				

Semi-irrigated Pigeon Peas *2017-2018*

(refugia for Bollgard3® cotton)

Variable Costs by Operation			Machinery		Inputs				TOTAL
				Total	Rate		Cost	Cost	Cost
				$/ha	/ha	Unit	$/unit	$/ha	$/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 (x3)			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 furrow irrigated budget, a cost of $50/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). 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.

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. Yields will vary between regions and row configurations depending on environmental conditions. The yield of 5 bales ha assumes 200mm plant available water content (PAWC) at planting and applied irrigation water of 4.5ML.

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.