

2021 Cotton, No-Till, Irrigated Budget

	<u>Unit</u>	<u>Quantity</u>	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue¹					
			Gross Revenue (\$/Acre)		
Cotton	lb	1,300	\$0.76	\$984.62	_____
Government Payments	\$/acre	1	\$0.00	\$0.00	_____
Other Revenue	\$/acre	1	\$0.00	\$0.00	_____
			Total Revenue	\$984.62	_____
Variable Expenses					
Seed ²	Thous.	60	\$2.24	\$134.11	_____
Wrap ³	lb	1,300	\$0.02	\$31.20	_____
Fertilizer & Lime (Table 1) ⁴	Acre	1	\$140.18	\$140.18	_____
Chemical (Table 2) ⁵	Acre	1	\$137.87	\$137.87	_____
Crop Scout or Consultant	Acre	1	\$11.00	\$11.00	_____
Repair & Maintenance (Table 3) ⁶	Acre	1	\$30.71	\$30.71	_____
Fuel, Oil & Filter (Table 3) ⁶	Acre	1	\$19.38	\$19.38	_____
Operator Labor (Table 3) ⁶	Acre	1	\$12.35	\$12.35	_____
Crop Insurance ⁷	Acre	1	\$8.75	\$8.75	_____
Machinery Rental	Acre	1	\$0.00	\$0.00	_____
Custom Work	Acre	1	\$0.00	\$0.00	_____
Other Transportation Costs	Acre	1	\$0.00	\$0.00	_____
Irrigation Energy Cost ⁸	Ac-In	6	\$4.90	\$29.40	_____
Irrigation System R&M ⁸	Ac-In	6	\$2.25	\$13.50	_____
Other Irrigation Costs	Acre	1	\$0.00	\$0.00	_____
Other	Acre	0	\$0.00	\$0.00	_____
Other	Acre	0	\$0.00	\$0.00	_____
Operating Interest ⁹	%	\$568.44	4.65%	\$13.22	_____
			Total Variable Expenses	\$581.66	_____
			Return Above Variable Expenses	\$402.96	_____
Fixed Expenses					
Machinery ⁶					
Capital Recovery (Table 3)	Acre	1	\$142.77	\$142.77	_____
Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	_____
Capital Recovery (Irrigation Equipment) ⁸	Acre	1	\$102.00	\$102.00	_____
Other Irrigation Costs	Acre	1	\$0.00	\$0.00	_____
Property Taxes	Acre	1	\$0.00	\$0.00	_____
Cash Rent ¹⁰	Acre	1	\$185.00	\$185.00	_____
Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	_____
Management Labor ¹¹	Acre	1	\$18.00	\$36.00	_____
Other Fixed Costs	Acre	1	\$0.00	\$0.00	_____
			Total Fixed Expenses	\$465.77	_____
			Total Expenses	\$1,047.43	_____
			Return Above Specified Expenses	-\$62.81	_____

Breakeven Price for Selected Yield

Yield (lb)	Variable Cost (\$/lb)	Total Specified Cost (\$/lb)
1,050	\$0.55	\$1.00
1,100	\$0.53	\$0.95
1,150	\$0.51	\$0.91
1,200	\$0.48	\$0.87
1,250	\$0.47	\$0.84
1,300	\$0.45	\$0.81
1,350	\$0.43	\$0.78
1,400	\$0.42	\$0.75
1,450	\$0.40	\$0.72
1,500	\$0.39	\$0.70
1,550	\$0.38	\$0.68

Breakeven Yield for Selected Price

Price (\$/lb)	Variable Cost (lb)	Total Specified Cost (lb)
\$0.51	1,146	2,064
\$0.56	1,044	1,879
\$0.61	958	1,724
\$0.66	885	1,593
\$0.71	822	1,481
\$0.76	768	1,383
\$0.81	720	1,297
\$0.86	678	1,222
\$0.91	641	1,154
\$0.96	608	1,094
\$1.01	577	1,040

FOOTNOTES

- 1) Cotton price estimate includes the loan rate plus an estimated loan equity payment and seed and hauling allowance. Cotton yield is the predicted 2021 linear trend line yield for cotton in Tennessee, adjusted for irrigation practices. Most ginning arrangements provide producers cottonseed revenue net ginning costs.
- 2) Seed cost varies by variety and seed size. Check with farm suppliers for rebates, discounts and incentives for seed and chemicals. Substantial cost savings may be available.
- 3) Bale wrap is estimated at \$0.02 per lb of lint.
- 4) Lime is assumed to be applied once every four years at a rate of 2 tons per acre. Includes the cost of application. Fertilizer quantities and prices are shown in elemental lb. Check with farm suppliers for rebates, discounts and incentives for fertilizers, seed and chemicals. Substantial cost savings may be available. Substantial variation in prices for seed, chemical and fertilizer exist based on quantity purchased, product purchased and location of purchase.
- 5) Assumes a normal crop rotation with minimal weed infestation. A continuous cotton system may require additional expenses for chemicals and/or land preparation. Weed control chemicals should be selected for specific weed or grass problems that are present. In-season per-acre cost includes boll weevil eradication fees and chemical expenses for control of plant bugs, bollworm and other insect pests. Additional sprays may be necessary for specific insects. Generic chemicals may be a cost-effective option. Contact your chemical supplier, qualified consultant or weed control specialist. Alternative weed control options are available in the University of Tennessee Weed Control Manual for Tennessee. Follow all labels, state and national regulations when using all chemicals. Check with farm suppliers for rebates, discounts and incentives for seed and chemicals. Substantial cost savings may be available. Significant variation in chemical costs between location and product exist.
- 6) Machinery expenses will vary dramatically by operation, financial resources and land base. The machinery cost estimates provided in Table 3 are provided as an estimate of cost of ownership and operation for specified pieces of machinery that would be available to a "representative" row-crop farm in Tennessee. To estimate machinery costs for a specific set of equipment, interested parties can utilize the Excel version of the budgets and modify the Machinery Assumptions Table.
- 7) Crop insurance is an estimate and will vary by policy, county and coverage election. The estimate provided is the average premium paid per insured acre of cotton in Tennessee for the previous production year, as reported by USDA RMA's Summary of Business Report.
- 8) Center-pivot irrigation costs are estimated using the following assumptions: purchase price and installation cost of \$85,000; useful life of 20 years; and an irrigated acreage of 125 acres. Well depth and energy source will dramatically impact irrigation costs. Irrigation rates should be adjusted to meet commodity- and farm-specific applications.
- 9) Operating interest is assumed to be charged on half of all variable expenses.
- 10) Cash rental rates are the 2020 USDA-NASS reported cash rental rates for irrigated cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 11) Management labor for irrigated acreage is assumed to be double that of dryland acres.

Table 1. Fertilizer & Lime⁴

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	45	\$0.39	\$17.56	_____
	UAN 32%	45	\$0.39	\$17.58	_____
Phosphorous	P ₂ O ₅	60	\$0.50	\$29.80	_____
Potassium	K ₂ O	90	\$0.37	\$33.40	_____
Sulfur		10	\$2.50	\$25.00	_____
Boron		0.5	\$3.67	\$1.83	_____
Lime	Limestone	1,000	\$30.00	\$15.00	_____
Other		0	\$0.00	\$0.00	_____
Other		0	\$0.00	\$0.00	_____
Total				\$140.18	_____

Table 2. Chemicals⁵

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides	Burndown	Roundup	qt.	1	1	\$5.69	\$5.69	_____
		Clarity	oz.	1	8	\$0.72	\$5.74	_____
	Pre-Emerge	Cotoran	pt.	1	1	\$5.00	\$5.00	_____
		Caparol	pt.	1	1	\$3.03	\$3.03	_____
	Post-Emerge	Liberty	oz.	1	26	\$0.57	\$14.82	_____
		Roundup	qt.	1	1	\$5.69	\$5.69	_____
		Sequence	pt.	1	2.5	\$5.99	\$14.98	_____
		Surfactant	\$/acre	3	1	\$1.50	\$4.50	_____
Growth Regulator		Mepex (Mepiquat Chloride)	pt.	1	2	\$1.00	\$2.00	_____
Defoliant		Defoliant	oz.	1	12	\$0.15	\$1.80	_____
Boll Opener		Ethephon	oz.	1	32	\$0.16	\$5.12	_____
Insecticides		Seed Treatment	acre	1	1	\$12.00	\$12.00	_____
		In-Season	acre	1	1	\$48.00	\$48.00	_____
Fungicides		Seed Treatment	acre	1	1	\$9.50	\$9.50	_____
		Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
		Other		0	0	\$0.00	\$0.00	_____
Total							\$137.87	_____

Table 3. Machinery⁶

	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chop Stalks	Tractor, 215 hp	Rotary Mower	15'	\$6.46	\$3.84	\$2.47	\$1.96	\$14.74	_____
Burndown	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Plant	Tractor, 215 hp	Planter	12-row	\$10.64	\$4.64	\$2.13	\$1.69	\$19.11	_____
Fertilize	Tractor, 215 hp	Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Weed Control	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Weed Control	Tractor, 215 hp	Hooded Sprayer		\$1.64	\$0.32	\$0.59	\$0.47	\$3.03	_____
Fertilize	Tractor, 215 hp	Fertilize Spreader		\$4.21	\$1.53	\$1.70	\$1.35	\$8.79	_____
Spray	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Spray	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Spray	SP Boom Sprayer		90'	\$7.45	\$0.27	\$0.26	\$0.25	\$8.23	_____
Harvest		Picker/Module Builder (Round)	6-row	\$61.50	\$16.95	\$7.42	\$2.50	\$88.38	_____
Harvest	Tractor, 215 hp	Module Handler		\$1.96	\$0.00	\$1.57	\$1.25	\$4.79	_____
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	_____
Total				\$142.77	\$30.71	\$19.38	\$12.35	\$205.21	_____