Field Crop
Budgets
For 2017

Field Crop Budgets For 2017

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Introduction and Disclaimer

The 2017 Tennessee Row Crop Budgets were developed to assist producers and other agricultural decision makers to evaluate the returns of different row cropping alternatives. The budgets developed use production alternatives, management strategies, machinery, and inputs that are commonly utilized in row crop production in Tennessee. Given the diverse nature of row crop production in the state, it is impossible to account for all possible production scenarios and circumstances. As such, this guide should be utilized to assist decision makers in their annual planning efforts. To develop a custom budget for a specific field or operation, interested parties are strongly encouraged to use the University of Tennessee Extension's Excel-based spreadsheet available online at: http://economics.ag.utk.edu/crop.html. The spreadsheet uses the same format as the budgets contained in this document; however, it allows the user to change yields, input quantities, input prices, machinery costs, and add additional costs that are specific to a field or enterprise. This allows users to adjust for region- and site-specific production methodology and input selections.

This publication and the accompanying Excel spreadsheet contain short-term planning budgets for canola, corn, cotton, grain sorghum, soybean, and wheat enterprises. These budgets should be used for short-run or annual plans developed for 2017, as significant changes may occur from year to year in production methods and input and output prices.

The fertilizer recommendations in the crop budgets are generally for soils that have a medium soil test. Farmers should have their soils tested in order to get maximum return for money spent for fertilizer. As crop programs are planned, the fertilizer applications can be adjusted to the soil test recommendations.

Disclaimer: Significant variability in inputs, prices, and production methods exist in the production of row crops. The information contained in this document relies on estimates and assumptions that are specific to Tennessee row-crop production. These budgets should not be construed as a reflection of all circumstances across the state, as significant regional variability will occur. To improve the accuracy, users are encouraged to use inputs, prices, and processes that are utilized on their specific farms in budget calculations.

Trade Names, Herbicides, Insecticides, and Pesticide Caution

Use of trade or brand names in this publication is for clarity and information: It does not imply approval of the product to the exclusion of others that may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product.

The herbicide and insecticide programs used in these budgets are based on UT Extension publications titled "2017 Weed Control Manual for Tennessee" (PB1580) and "2017 Insect Control Recommendations for Field Crops" (PB1768). Chemicals recommended in the publication were registered for the prescribed uses when this manual was printed. Chemical registrations are continuously being reviewed. Should registration of a recommended chemical be canceled, it will no longer be recommended by The University of Tennessee.

In order to protect people and the environment, chemicals should be used safely. This is everyone's responsibility, especially the user. Read and follow label directions carefully before you buy, mix, apply, store, or dispose of a chemical. According to laws regulating chemicals, they must be used only as directed by the label.

No direct government program benefits are included in the budgets. Adjust the estimates as appropriate.

For additional information on the 2017 Tennessee Row Crop Budgets please contact:

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		2017 Corn, No-	Till, Non-l	Irrigated	Budget		
			<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue				<u>G</u>	iross Reven		<u>e)</u>
	Corn ¹		Bu	150	\$3.65	\$547.50	
				Tota	al Revenue	\$547.50	
Variable	Expenses						
	Seed ^{2,3}		Thous.	32	\$3.56	\$114.00	
	Fertilizer & Lime (Tab	ole 1)	Acre	1	\$121.14	\$121.14	
	Chemical (Table 2) 3,4	1	Acre	1	\$38.93	\$38.93	
	Crop Scout or Consul	tant	Acre	1	\$6.00	\$6.00	
	Repair & Maintenand	ce (Table 3)	Acre	1	\$21.18	\$21.18	
	Fuel, Oil & Filter (Tab	le 3)	Acre	1	\$9.25	\$9.25	
	Operator Labor (Tabl	e 3)	Acre	1	\$5.20	\$5.20	
	Machinery Rental		Acre	1	\$0.00	\$0.00	
	Custom Work		Acre	1	\$0.00	\$0.00	
	Drying (Fuel/Electric)		Bu	150	\$0.00	\$0.00	
	Cash Rent ⁵		Acre	1	\$94.00	\$94.00	
	Crop Insurance ⁶		Acre	1	\$12.85	\$12.85	
	Operating Interest ⁷		%	\$422.53	6.00%	\$12.68	
	Other Variable Costs		Acre	1	\$0.00	\$0.00	
				otal Variable	-	-	
			Return ab	ove Variable	e Expenses	\$112.29	
Fixed Exp							
	Machinery ⁸						
	Capital Recovery (Ta		Acre	1	\$41.13	\$41.13	
	Other Fixed Machin	ery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes		Acre	1	\$0.00	\$0.00	
	Insurance (Non-Macl	ninery)	Acre	1	\$0.00	\$0.00	
	Management Labor		Acre	1	\$15.00	\$15.00	
	Other Fixed Costs		Acre	1	\$0.00	\$0.00	
		D	atura Abaya		d Expenses		
		, no	eturn Above	All Specified	a expenses	\$20.10	
	Breakeven Price for	Selected Yield		<u>B</u>	reakeven Y	ield for Se	elected Price
Yield	Variable Cost	Total Specified Cost		Price	\/o#:= = - #	Cost (b)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)		(\$/bu)	Variable (Lost (bu)	(bu)
100	\$4.35	\$4.91		\$2.40	18	31	205
110	\$3.96	\$4.47		\$2.65	16	54	185
120	\$3.63	\$4.09		\$2.90	15	50	169
130	\$3.35	\$3.78		\$3.15	13		156
140	\$3.11	\$3.51		\$3.40	12		145
150	ć2 00	ć2 20		Ć2 CE	11	0	125

150

160

170

180

190

200

\$2.90

\$2.72

\$2.56

\$2.42

\$2.29

\$2.18

\$3.28

\$3.07

\$2.89

\$2.73

\$2.59

\$2.46

135

126

118

112

106

100

119

112

105

99

94 89

\$3.65

\$3.90

\$4.15

\$4.40

\$4.65

\$4.90

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Table

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	170	\$0.36	\$60.61	
Phosphorous	P_2O_5	70	\$0.34	\$23.84	
Potassium	K_20	70	\$0.26	\$18.43	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$121.14	

Table 2. Chemicals ^{3,4}

able 4. Circilicals								
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Fotal (\$/Acre) Your Farm (\$/Acre)
Herbicides ³	Burndown	Gramoxone SL	.zo	1	40	\$0.14	\$5.50	
		Surfactant	pt.	1	0.2	\$3.52	\$0.70	
	Pre-Emerge	Atrazine	qt.	1	1	\$3.33	\$3.33	
		Gramoxone SL	.zo	П	40	\$0.14	\$5.50	
	Post-Emerge	Halex GT	pt.	П	3.6	\$5.25	\$18.90	
		Atrazine	qt.	1	1.5	\$3.33	\$5.00	
						\$0.00	\$0.00	
						\$0.00	\$0.00	
Insecticides						\$0.00	\$0.00	
						\$0.00	\$0.00	
Fungicides ⁴						\$0.00	\$0.00	
Total							\$38.93	

Table 3. Machinery	nery								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Weed Control			,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Harvest	Combine	Corn Head	8-row	\$13.30	\$13.13	\$4.60	\$1.64	\$32.67	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Other								\$0.00	
Other								\$0.00	
Total				\$41.13	\$21.18	\$9.25	\$5.20	\$76.75	

- 1) Corn price was estimated using weighted average futures prices from September 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a bag of seed costs \$285 and contains 80,000 seeds (\$3.56/thousand seeds). Seeding rate of 32,000 seeds/acre. Seed treatment is included in the price.
- 3) Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 4) A foliar fungicide application may be used in some cropping systems at a cost of \$15/acre plus application cost. Cost will vary depending on the fungicide used and the application rate.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 corn in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.
- 8) 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.

		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farr
Revenue			<u>(</u>	Gross Rever	nue (\$/Acre	<u>)</u>
Corn ¹		Bu	150	\$3.65	\$547.50	
			Tota	al Revenue	\$547.50	
ariable Expense	es .					
Seed ^{2,}		Thous.	32	\$3.56	\$114.00	
	er & Lime (Table 1)	Acre	1	\$121.14	\$121.14	
	cal (Table 2) ^{3, 4}	Acre	1	\$32.73	\$32.73	
	cout or Consultant	Acre	1	\$6.00	\$6.00	
Repair	& Maintenance (Table 3)	Acre	1	\$28.12	\$28.12	
Fuel, O	il, & Filter (Table 3)	Acre	1	\$13.15	\$13.15	
Operat	or Labor (Table 3)	Acre	1	\$8.09	\$8.09	
Machir	nery Rental	Acre	1	\$0.00	\$0.00	
Custon	n Work	Acre	1	\$0.00	\$0.00	
Drying	(Fuel/Electric)	Bu	150	\$0.00	\$0.00	
Cash R	ent ⁵	Acre	1	\$94.00	\$94.00	
Crop Ir	surance ⁶	Acre	1	\$12.85	\$12.85	
Operat	ing Interest 7	%	\$430.07	6.00%	\$12.90	
•	/ariable Costs	Acre	1	\$0.00	\$0.00	
		To	otal Variable		\$442.98	
			ove Variable	-	\$104.52	
ixed Expenses					,	
, Machir	nerv ⁸					
	al Recovery (Table 3)	Acre	1	\$45.75	\$45.75	
	Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	ty Taxes	Acre	1	\$0.00	\$0.00	
•	rce (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	ement Labor	Acre	1	\$15.00	\$15.00	
_	Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	d Expenses	\$60.75	
		Return Above	All Specified	d Expenses	\$43.77	
				, et		
<u>Breake</u>	even Price for Selected Yield Total Specified		<u>Break</u>	<u>even Yield 1</u>	for Selected	<u> Price</u>

	Breakeven Price to	r Selected Yleid	<u>B</u>	reakever	i Yieid for Selecte	<u>a Price</u>
Yield (bu)	Variable Cost (\$/bu)	Total Specified Cost (\$/bu)	Prid (\$/k	V	ariable Cost (bu)	Total Specified Cost (bu)
100	\$4.43	\$5.04	\$2.		185	210
110	\$4.03	\$4.58	\$2.	65	167	190
120	\$3.69	\$4.20	\$2.	90	153	174
130	\$3.41	\$3.87	\$3.	15	141	160
140	\$3.16	\$3.60	\$3.	40	130	148
150	\$2.95	\$3.36	\$3.	65	121	138
160	\$2.77	\$3.15	\$3.	90	114	129
170	\$2.61	\$2.96	\$4.	15	107	121
180	\$2.46	\$2.80	\$4.	40	101	114
190	\$2.33	\$2.65	\$4.	65	95	108
200	\$2.21	\$2.52	\$4.	90	90	103

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Nitrogen Description Quantity (IIs) Total (§/Acre) Nour Farm (lable 1. Fertilizer & Lime	& Lime							
Procepue Urea		Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)			
Prosphorous P,O, 70 5034 523.84	Nitrogen	Urea	170	\$0.36	\$60.61				
Potassium Kg0 70 50.26 518.43	Phosphorous	P ₂ O ₅	70	\$0.34	\$23.84				
Lime of the control of the	Potassium	K ₂ 0	70	\$0.26	\$18.43				
Other Other 50.000 \$0.000 Fire Total [5/Acre) Your Table 2. Chemicals And Table 2. Chemicals Pre-Emerge Integrated	Lime	Limestone	1,000	\$36.50	\$18.25				
Total Price Pric	Other		0	\$0.00	\$0.00				
Table 2. Chemicals 4 Chemical 6 Forticon 6 Chemical 7 Equation 7 Equa	Total				\$121.14				
cal Function Description Unit Number of Apps. Quantity Price Total (§AAcre) Your ides 3 Fre-Emerge Afrazine 4L qt. 1 4 \$3.33 \$3.33 \$3.33 \$3.33 \$3.33 \$3.33 \$3.33 \$3.33 \$3.33 \$5.00 <	Table 2. Chemical	S ^{3,4}							
Herbicides	Chemical	Function	Description		Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acr
Post-Emerge Halex GT pt. 1 40 50.14 55.50	Herbicides ³	Pre-Emerge	Atrazine 4L	qt.	1	1	\$3.33	\$3.33	
Post-fmerge Halex GT pt. 1 1.5 55.25 518.90			Gramoxone SL	.zo	1	40	\$0.14	\$5.50	
State Stat		Post-Emerge	Halex GT	pt.	1	3.6	\$5.25	\$18.90	
Solition			Atrazine 4L	qt.	1	1.5	\$3.33	\$5.00	
South Sout							\$0.00	\$0.00	
Solution Solution							\$0.00	\$0.00	
Succession Suc	Insecticides						\$0.00	\$0.00	
Sacing S							\$0.00	\$0.00	
Saz.73 S	Fungicides ⁴						\$0.00	\$0.00	
3. Machinery* Power Unit Implement Size Capital Recovery Repairs & Maintenance Fuel, Oil & Filter Labor Total Tractor, 215 hp Chisel Plow 21' \$1.90 \$2.38 \$1.25 \$1.16 \$6.98 Tractor, 215 hp Tractor, 215 hp Tractor, 215 hp Do-All \$2.65' \$2.43 \$2.21 \$1.31 \$0.97 \$6.92 central Tractor, 215 hp Fertilize Spreader 900# \$4.19 \$0.24 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.20 \$0.16 \$4.79 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 st Combine Corn Head 8-row \$13.30 \$1.16 \$0.69 \$0.59 \$0.50 \$0.99 \$0.00 <	Total							\$32.73	
Power Unit Implement Size Capital Recovery Repairs & Maintenance Fuel, Oil & Filter Labor Total Tractor, 215 hp \$2.73 \$2.24 \$2.27 \$2.21 \$2.27 \$6.92 \$9.25 re Seedbed Tractor, 215 hp Planter 16-row \$6.46 \$2.21 \$1.31 \$0.97 \$6.92 control SP Boom Sprayer Fertilize Spreader 90° \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 control SP Boom Sprayer 90° \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 st Combine Combine 8-row \$13.30 \$13.13 \$4.60 \$0.29 \$1.64 \$5.65 Tractor, 215 hp Grain Cart 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$5.04 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$5.00	Table 3. Machiner	٧,8							
Tractor, 215 hp Chisel Plow 21' \$1.90 \$2.38 \$1.55 \$1.16 re Seedbed Tractor, 215 hp Tandem Disk 29' \$4.48 \$2.59 \$1.25 \$0.93 re Seedbed Tractor, 215 hp Planter 16-row \$6.46 \$2.21 \$1.31 \$0.97 te Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart 800 bu \$4.83 \$0.52 \$1.16 \$0.93		Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	
re Seedbed Tractor, 215 hp Tandem Disk 29' \$4.48 \$2.59 \$1.25 \$0.93 re Seedbed Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.31 \$0.97 ze Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.79 control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine R-row \$13.30 \$13.13 \$4.60 \$1.64 st Combine R-row \$2.31 \$1.06 \$0.69 \$0.52 st Combine R-row \$13.30 \$1.16 \$0.69 \$0.52 st Combine R-row \$2.31 \$1.06 \$0.69 \$0.52 semi Tractor, Z15 hp Grain Cart \$0.00 \$4.83 \$0.52 \$1.16 \$0.93	Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.9\$
re Seedbed Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.31 \$0.97 Tractor, 215 hp Planter 16-row \$6.46 \$3.71 \$1.07 \$0.79 Ze Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 St Combine 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart \$20.31 \$0.05 \$1.06 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25
Tractor, 215 hp Planter 16-row \$6.46 \$3.71 \$1.07 \$0.79 ze Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 St Combine Corn Head 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Prepare Seedbed	Tractor, 215 hp	Do-All	26.5'	\$2.43	\$2.21	\$1.31	\$0.97	\$6.92
ze Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine Corn Head 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03
Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine Corn Head 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66
Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79
st Combine Corn Head 8-row \$13.30 \$13.13 \$4.60 \$1.64 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.59 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79
Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.59 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Harvest	Combine	Corn Head	8-row	\$13.30	\$13.13	\$4.60	\$1.64	\$32.67
Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93	Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57
	Haul	Semi Tractor/Trailer		nq 008	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44
	Other								\$0.00
	Other								\$0.00

Your Farm (\$/Acre)

\$95.11

\$8.09

\$13.15

\$28.12

\$45.75

Total

- 1) Corn price was estimated using weighted average futures prices from September 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a bag of seed costs \$285 and contains 80,000 seeds (\$3.56/thousand seeds). Seeding rate of 32,000 seeds/acre. Seed treatment is included in the price.
- 3) Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 4) A foliar fungicide application may be used in some cropping systems at a cost of \$15/acre plus application cost. Cost will vary depending on the fungicide used and the application rate.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 corn in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.
- 8) 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.

	2017 Corr	ı, No-Till, Ir	rigated B	udget		
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm
Revenue					nue (\$/Acre)	
	Corn ¹	Bu	225	\$3.65	\$821.25	
			Tota	al Revenue	\$821.25	
Variable	Expenses					
	Seed ^{2,3}	Thous.	36	\$3.56	\$128.25	
	Fertilizer & Lime (Table 1)	Acre	1	\$158.17	\$158.17	
	Chemical (Table 2) ^{3,4}	Acre	1	\$38.93	\$38.93	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3)	Acre	1	\$21.18	\$21.18	
	Fuel, Oil & Filter (Table 3)	Acre	1	\$9.25	\$9.25	
	Operator Labor (Table 3)	Acre	1	\$5.20	\$5.20	
	Machinery Rental	Acre	0	\$0.00	\$0.00	
	Custom Work	Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	225	\$0.00	\$0.00	
	Irrigation Energy Cost (Diesel)	Ac-In	7	\$4.02	\$28.12	
	Irrigation System R&M & Labor	Acre	1	\$15.09	\$15.09	
	Other Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Cash Rent ⁵	Acre	1	\$165.00	\$165.00	
	Crop Insurance ⁶	Acre	1	\$12.85	\$12.85	
	Operating Interest ⁷	%	\$588.02	6.00%	\$17.64	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		Т	otal Variable	Expenses	\$605.66	
		Return Ab	ove Variable	Expenses	\$215.59	
ixed Exp	penses					
	Machinery ⁸					
	Capital Recovery (Table 3)	Acre	1	\$41.13	\$41.13	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Capital Recovery (Irrigation Equipment) 9	Acre	1	\$85.15	\$85.15	
	Other Fixed Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor ¹⁰	Acre	2	\$15.00	\$30.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	-	\$156.28	
		Return Above	All Specified	l Expenses	\$59.30	

	Breakeven Price Fo	or Selected Yield	<u>B</u>	reakeven Yield for Sel	<u>lected Price</u>
Yield	Variable Cost	Total Specified Cost	Price (\$/bu)	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	Price (\$/bu)	variable Cost (bu)	(bu)
175	\$3.46	\$4.35	\$2.40	252	317
185	\$3.27	\$4.12	\$2.65	229	288
195	\$3.11	\$3.91	\$2.90	209	263
205	\$2.95	\$3.72	\$3.15	192	242
215	\$2.82	\$3.54	\$3.40	178	224
225	\$2.69	\$3.39	\$3.65	166	209
235	\$2.58	\$3.24	\$3.90	155	195
245	\$2.47	\$3.11	\$4.15	146	184
255	\$2.38	\$2.99	\$4.40	138	173
265	\$2.29	\$2.88	\$4.65	130	164
275	\$2.20	\$2.77	\$4.90	124	155

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	240	\$0.36	\$85.57	
Phosphorous	P_2O_5	06	\$0.34	\$30.66	
Potassium	K ₂ 0	06	\$0.26	\$23.70	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$158.17	

				,				
Table 2. Chemicals 3,4	nicals ^{3,4}							
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides ³	Burndown	Gramoxone SL	OZ.	1	40	\$0.14	\$5.50	
		Surfactant	pt.	1	0.2	\$3.52	\$0.70	
	Pre-Emerge	Atrazine 4L	qt.	1	1	\$3.33	\$3.33	
		Gramoxone SL	0Z.	1	40	\$0.14	\$5.50	
	Post-Emerge	Halex GT	pt.	1	3.6	\$5.25	\$18.90	
		Atrazine 4L	qt.	1	1.5	\$3.33	\$5.00	
						\$0.00	\$0.00	
						\$0.00	\$0.00	
Insecticides						\$0.00	\$0.00	
						\$0.00	\$0.00	
Fungicides ⁴						\$0.00	\$0.00	
ට Total							\$38.93	

Table 3. Machinery	inery								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp Planter	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Weed Control	Weed Control SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Weed Control SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Weed Control SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Harvest	Combine	Corn Head	8-row	\$13.30	\$13.13	\$4.60	\$1.64	\$32.67	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer	ler	900 pn	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Other									
Other									
Total				\$41.13	\$21.18	\$9.25	\$5.20	\$76.75	

- 1) Corn price was estimated using weighted average futures prices from September 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a bag of seed costs \$285 and contains 80,000 seeds (\$3.56/thousand seeds). Seeding rate of 36,000 seeds/acre. Seed treatment is included in the price.
- 3) Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 4) A foliar fungicide application may be used in some cropping systems at a cost of \$15/acre plus application cost. Cost will vary depending on the fungicide used and the application rate.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 corn in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.
- 8) 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.
- 9) Center-pivot irrigation costs are estimated using the following assumptions: purchase price and installation cost of \$80,000; useful life of 20 years; and an irrigated acreage of 125 acres. Irrigation rates should be adjusted to meet commodity- and farm-specific applications.
- 10) Management labor for irrigated acreage is assumed to be double that of dryland acres.

	20	17 Soybean, No-	-Till, Nor	-Irrigated	Budget		
			<u>Unit</u>	<u>Quantity</u>	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue				Gro	ss Revenue	(\$/Acre)	
	Soybeans ¹		Bu	45	\$9.80	\$441.00	
				Tota	l Revenue	\$441.00	
Variable	Expenses ²						
	Seed ^{3*}		Thous.	140	\$0.43	\$60.00	
	Fertilizer & Lime (Tab	le 1) ⁴	Acre	1	\$38.26	\$38.26	
	Chemical (Table 2) 5,6	,7,8,9,10**	Acre	1	\$96.50	\$96.50	
	Crop Scout		Acre	1	\$6.00	\$6.00	
	Repair & Maintenanc	e (Table 3) ¹¹	Acre	1	\$18.33	\$18.33	
	Fuel, Oil & Filter (Tab		Acre	1	\$8.49	\$8.49	
	Operator Labor (Table		Acre	1	\$5.10	\$5.10	
	Machinery Rental	,	Acre	0	\$0.00	\$0.00	
	Custom Work		Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)		Bu	45	\$0.00	\$0.00	
	Cash Rent 12		Acre	1	\$94.00	\$94.00	
	Crop Insurance 13		Acre	1	\$7.94	\$7.94	
	Operating Interest 14		%	\$334.63	6.00%	\$10.04	
	Other Variable Costs		Acre	1	\$0.00	\$0.00	
			Т	otal Variable	Expenses	\$344.67	
			Return Ab	ove Variable	Expenses	\$96.33	
Fixed Exp	penses						
	Machinery ¹¹						
	Capital Recovery (Ta	ble 3)	Acre	1	\$47.33	\$47.33	
	Other Fixed Machine	ery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes		Acre	1	\$0.00	\$0.00	
	Insurance (Non-Mach	ninery)	Acre	1	\$0.00	\$0.00	
	Management Labor		Acre	1	\$15.00	\$15.00	
	Other Fixed Costs		Acre	1 Total Fixed	\$0.00	\$0.00	
		Re	turn Ahove	All Specified	-	\$62.33 \$33.99	
		ine.	turri Above	All Specified	LAPETISES	733. 33	
	Breakeven Price For S	elected Yield	_	<u>Brea</u>	akeven Yie	ld for Selec	cted Price
Yield	Variable Cost	Total Specified Cost		Price	Variable	Cost (bu)	Total Specified
(bu)	(\$/bu)	(\$/bu)	-	(\$/bu)			Cost (bu)
25	\$13.79	\$16.28		\$7.80		.4	52
30	\$11.49	\$13.57		\$8.30		.2	49
35	\$9.85	\$11.63		\$8.80		9	46
40	\$8.62	\$10.18		\$9.30	3	57	44

\$9.80

\$10.30

\$10.80

\$11.30

\$11.80

35

33

32

31

29

42

40

38

36

34

\$9.04

\$8.14

\$7.40

\$6.78

\$6.26

40 **45**

50

55

60

65

\$7.66

\$6.89

\$6.27

\$5.74

\$5.30

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	0	\$0.36	\$0.00	
Phosphorous	P_2O_5	20	\$0.47	\$9.48	
Potassium	K_20	40	\$0.26	\$10.53	
Lime ⁴	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$38.26	

Table 2. Chemicals 5,6,7,8,9,10**

lable 2. Chellicals	113							
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Fotal (\$/Acre) Your Farm (\$/Acre)
Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Clarity 4EC	pt.	1	1	\$11.48	\$11.48	
		Valor	.zo	1	2	\$6.11	\$12.22	
	Pre-Emerge	Gramoxone SL	70	1	40	\$0.14	\$5.50	
		Boundary	pt.	1	2	\$10.26	\$20.52	
	Post-Emerge	Flexstar GT	pt.	1	က	\$4.10	\$12.30	
		Roundup Power Max	qt.	1	П	\$4.49	\$4.49	
							\$0.00	
Insecticides		Foliar	acre	1	1	\$5.00	\$5.00	
Insecticide/Fungicides	cides	Seed Treatment	acre	1	1	\$8.50	\$8.50	
Fungicides		Foliar	acre	1	1	\$12.00	\$12.00	
Total							\$96.50	

11 13 **Table**

Table 3. Machinery	ery								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Weed Control	SP Boom Sprayer		-06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fungicide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Hanl	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Total				\$47.33	\$18.33	\$8.49	\$5.10	\$79.26	

- 1) Soybean price was estimated using weighted average futures prices from November 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a normal crop rotation with minimal weed infestation. A continuous soybean system may require additional expenses for chemicals and/or land preparation.
- 3) Seed price includes technology fee.
- 4) Assumes 2 tons of lime applied every four years.
- 5) Seed treatments, such as some nematicide treatments, are optional and costs vary depending on product used.
- 6) Weed control chemicals should be selected for specific weed or grass problems that are present. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 7) The addition of Dicamba @ 8oz./acre is necessary to manage Glyphosate resistant horseweed. This adds an additional \$5.50/acre to the burndown spray cost.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) For an alternate control, use Gramoxone SL @1.25 quarts/acre plus a surfactant.
- 10) Several other versions of Glyphosate, the active ingredient in Roundup Power Max, are available. Check label for concentration rates and registration on Roundup Ready Soybeans.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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 soybeans in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- * For Xtend soybeans seed prices may be \$6-15 per unit higher.
- ** Xtend soybeans require alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Soybean, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

	2017 Soybear	•				
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue	1	_	_		ue (\$/Acre)	
	Soybeans ¹	Bu	60	\$9.80	\$588.00	
	2		Tota	al Revenue	\$588.00	
Variable	Expenses ²					
	Seed ^{3*}	Thous.	140	\$0.43	\$60.00	
	Fertilizer & Lime (Table 1) 4	Acre	1	\$38.26	\$38.26	
	Chemical (Table 2) 5,6,7,8,9,10**	Acre	1	\$96.50	\$96.50	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3) 11	Acre	1	\$18.33	\$18.33	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$8.49	\$8.49	
	Operator Labor (Table 3) 11	Acre	1	\$5.10	\$5.10	
	Machinery Rental	Acre	0	\$0.00	\$0.00	
	Custom Work	Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	60	\$0.00	\$0.00	
	Irrigation Energy Cost (Diesel)	Ac-In	4.5	\$4.02	\$18.09	
	Irrigation System R&M & Labor	Acre	1	\$15.09	\$15.09	
	Other Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Cash Rent ¹²	Acre	1	\$165.00	\$165.00	
	Crop Insurance ¹³	Acre	1	\$7.94	\$7.94	
	Operating Interest 14	%	\$438.81	6.00%	\$13.16	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		Т	otal Variable	e Expenses	\$451.98	
		Return Ab	ove Variable	e Expenses	\$136.02	
Fixed Exp	penses					
	Machinery ¹¹					
	Capital Recovery (Table 3)	Acre	1	\$47.33	\$47.33	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Capital Recovery (Irrigation Equipment) ¹⁵	Acre	1	\$85.15	\$85.15	
	Other Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor ¹⁶	Acre	2	\$15.00	\$30.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	d Expenses	\$162.48	
	Re	eturn Above	All Specified	d Expenses	-\$26.46	

<u> </u>	Breakeven Price Fo	r Selected Yield		Breakeven Yield for S	<u>elected Price</u>
Yield	Variable Cost	Total Specified Cost	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	(\$/bu)	variable cost (bu)	(bu)
40	\$11.30	\$15.36	\$7.80	58	79
45	\$10.04	\$13.65	\$8.30	54	74
50	\$9.04	\$12.29	\$8.80	51	70
55	\$8.22	\$11.17	\$9.30	49	66
60	\$7.53	\$10.24	\$9.80	46	63
65	\$6.95	\$9.45	\$10.30) 44	60
70	\$6.46	\$8.78	\$10.80) 42	57
75	\$6.03	\$8.19	\$11.30) 40	54
80	\$5.65	\$7.68	\$11.80) 38	52

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	0	\$0.36	\$0.00	
Phosphorous	P_2O_5	20	\$0.47	\$9.48	
Potassium	K ₂ 0	40	\$0.26	\$10.53	
Lime ⁴	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$38.26	

Table 2. Chemicals 5,6,7,8,9,10**

Chemical	Function	Description	Unit	Unit Number of Apps.	Quantity	Price	Total (\$/Acre)	Total (\$/Acre) Your Farm (\$/Acre)
Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Clarity 4EC	pt.	1	1	\$11.48	\$11.48	
	Pre-Emerge	Valor	0Z.	1	2	\$6.11	\$12.22	
		Gramoxone SL	0Z.	1	40	\$0.14	\$5.50	
	Post-Emerge	Boundary	pt.	1	2	\$10.26	\$20.52	
		Flexstar GT	pt.	1	3	\$4.10	\$12.30	
		Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
							\$0.00	
Insecticides			acre	1	1	\$5.00	\$5.00	
Insecticide/Fungicides	gicides	Seed Treatment	acre	1	1	\$8.50	\$8.50	
Fungicides			acre	T	1	\$12.00	\$12.00	
Total							\$96.50	
Table 3. Machinery 11	11							

Table 3. Machinery	ery 🔭								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp Planter	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Burndown	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fungicide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer	ler	800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Total				\$47.33	\$18.33	\$8.49	\$5.10	\$79.26	

- 1) Soybean price was estimated using weighted average futures prices from November 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a normal crop rotation with minimum weed infestation. A continuous soybean system may require additional expenses for chemicals and/or land preparation.
- 3) Seed price includes technology fee.
- 4) Assumes 2 tons of lime applied every four years.
- 5) Seed treatments, such as some nematicide treatments, are optional and costs vary depending on product used.
- 6) Weed control chemicals should be selected for specific weed or grass problems that are present. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 7) The addition of Dicamba @ 8oz./acre is necessary to manage Glyphosate resistant horseweed. This adds an additional \$5.50/acre to the burndown spray cost.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) For an alternate control, use Gramoxone SL @1.25 quarts/acre plus a surfactant.
- 10) Several other versions of Glyphosate, the active ingredient in Roundup Power Max, are available. Check label for concentration rates and registration on Roundup Ready Soybeans.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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 soybeans in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Center-pivot irrigation costs are estimated using the following assumptions: purchase price and installation cost of \$80,000; useful life of 20 years; and an irrigated acreage of 125 acres. Irrigation rates should be adjusted to meet commodity- and farm-specific applications.
- 16) Management labor for irrigated acreage is assumed to be double that of dryland acres.
- * For Xtend soybeans seed prices may be \$6-15 per unit higher.
- ** Xtend soybeans require alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Soybean, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

	2017 Wheat/Soybean [Ocuble Cror	aned No	n_Irrigat	ad Bude	ot t
	2017 Wileat/30ybean L	Unit_	Quantity	Price	Total	Your Farm
Revenue	•	<u>Ome</u>		ross Rever		
nevenue	Soybeans ¹	Bu	40	\$9.80	\$392.00	<u>-1</u>
	Wheat ²	Bu	65	\$4.25	\$276.25	
	vviicut	24		l Revenue	•	
Variable	Expenses ³				***************************************	
	Seed, Soybeans ^{4*}	Thous.	140	\$0.43	\$60.00	
	Seed, Wheat ⁴	Bu	2	\$17.50	\$35.00	
	Fertilizer & Lime (Table 1)	Acre	1	\$100.88		
	Chemical (Table 2) 5,6,7,8,9,10**	Acre	1	\$97.40	\$97.40	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3) 11	Acre	1	\$45.18	\$45.18	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$20.50	\$20.50	
	Operator Labor (Table 3) 11	Acre	1	\$12.78	\$12.78	
	Machinery Rental	Acre	0	\$0.00	\$0.00	
	Custom Work	Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	40	\$0.00	\$0.00	
	Cash Rent 12	Acre	1	\$94.00	\$94.00	
	Crop Insurance 13	Acre	1	\$14.78	\$14.78	
	Operating Interest ¹⁴	%	\$486.53	6.00%	\$14.60	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		То	tal Variable	Expenses	\$501.12	
		Return Abo	ve Variable	Expenses	\$167.13	
Fixed Exp	penses					
	Machinery 11					
	Capital Recovery (Table 3)	Acre	1	\$83.58	\$83.58	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	•	\$98.58	
		Return Above A	All Specified	Expenses	\$68.55	
Rrea	keven Price For Selected Soybean Yield 11	5	Breake	van Viald	for Salacte	ed Soybean Price 15
Yield	Variable Cost Total Specified Co		Price			Total Specified Cost
(bu)	(\$/bu) (\$/bu)		(\$/bu)	Variable	Cost (bu)	(bu)

Breake	even Price For Sele	cted Soybean Yield 15	<u>Breake</u>	ven Yield for Selecte	ed Soybean Price 15
Yield	Variable Cost	Total Specified Cost	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	(\$/bu)	variable Cost (bu)	(bu)
20	\$12.53	\$14.99	\$7.80	32	38
25	\$10.02	\$11.99	\$8.30	30	36
30	\$8.35	\$10.00	\$8.80	28	34
35	\$7.16	\$8.57	\$9.30	27	32
40	\$6.26	\$7.50	\$9.80	26	31
45	\$5.57	\$6.66	\$10.30	24	29
50	\$5.01	\$6.00	\$10.80	23	28
55	\$4.56	\$5.45	\$11.30	22	27
60	\$4.18	\$5.00	\$11.80	21	25

<u>Breal</u>	keven Price For Sele	ected Wheat Yield 15	Break	even Yield for Select	ed Wheat Price 15
Yield	Variable Cost	Total Specified Cost	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	(\$/bu)	variable Cost (bu)	(bu)
45	\$5.57	\$6.66	\$2.25	111	133
50	\$5.01	\$6.00	\$2.75	91	109
55	\$4.56	\$5.45	\$3.25	77	92
60	\$4.18	\$5.00	\$3.75	67	80
65	\$3.85	\$4.61	\$4.25	59	71
70	\$3.58	\$4.28	\$4.75	53	63
75	\$3.34	\$4.00	\$5.25	48	57
80	\$3.13	\$3.75	\$5.75	44	52
85	\$2.95	\$3.53	\$6.25	40	48

Table 1. Fertilizer & Lime	er & Lime				
Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Ammonium Nitrate	80	\$0.48	\$38.40	
Phosphorous	P ₂ O ₅	09	\$0.47	\$28.43	
Potassium	K ₂ 0	09	\$0.26	\$15.80	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$100.88	

lotal				\$100.88				
Table 2. Chemicals 5,6,7,8,9,10**	cals ^{5,6,7,8,9,10**}							
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides-	Burndown	Gramoxone SL	.zo	1	40	\$0.14	\$5.50	
Soybeans		Metribuzin	.zo	1	4	\$0.86	\$3.44	
	Post-Emerge	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Flexstar GT	pt.	1	æ	\$4.10	\$12.30	
Herbicides-		Harmony Extra	.zo	1	0.5	\$14.03	\$7.02	
Wheat		Axial XL	20	1	16.4	\$1.07	\$17.55	
		Surfactant	pt.	1	0.1	\$3.52	\$0.35	
nsecticides		Wheat-seed treatment	acre	1	1	\$11.00	\$11.00	
		Wheat-Foliar	acre	1	1	\$3.00	\$3.00	
		Soybeans	acre	1	1	\$5.00	\$5.00	
Fungicides		Soybeans	acre	1	1	\$12.00	\$12.00	
		Soybeans-seed treatment	acre	1	1	\$3.75	\$3.75	
		Wheat-foliar	acre	1	1	\$12.00	\$12.00	
Total							\$97.40	

Table 3. Machinery	ery								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.9\$	
Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Prepare Seedbed	Prepare Seedbed Tractor, 215 hp	Cultimulcher	20,	\$2.73	\$3.00	\$1.73	\$1.29	\$8.75	
Plant	Tractor, 215 hp	Grain Drill	20 ft	\$4.69	\$7.26	\$1.98	\$1.47	\$15.40	
Topdress	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Fungicide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Insect Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Total				\$83.58	\$45.18	\$20.50	\$12.78	\$162.04	

- 1) Soybean price was estimated using weighted average futures prices from November 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Wheat price was estimated using weighted average futures prices from July 2017 to May 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 3) Spraying for stinkbugs may add \$2.50/acre per spraying, plus application expenses.
- 4) Seed price includes technology fee.
- 5) Additional seed treatment is to protect against Barley Yellow Dwarf Virus.
- 6) Seed treatments, such as some nematicide treatments, are optional and costs vary depending on product used. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be
- available.

 7) Several other versions of Glyphosate, the active ingredient in Roundup Original Max, are available. Check label for
- concentration rates and registration on Roundup Ready Soybeans.

 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Cost may vary depending on fungicide used and application rate per acre.
- 10) If using Liberty Link soybeans, replace Flexstar GT with Liberty herbicide.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) Crop insurance is an estimate and will vary by policy, county, and coverage election. The estimate provided is the average premiums paid per insured acre of soybeans and wheat in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Estimated breakeven yields and prices assume that half of variable and total specified costs are incurred for each commodity. When estimating soybean breakeven, wheat yield/price are held constant at 60 bu/acre and \$4.21/bu. When estimating wheat breakeven, soybean yield and price are held constant at 40 bu/acre and \$10.04/bu.
- * For Xtend soybeans seed prices may be \$6-15 per unit higher.
- ** Xtend soybeans require alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Soybean, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

		Wheat, Convention	<u>Unit</u>	Quantity	Price	Total	Your Farm
Revenue			Offic			nue (\$/Acre	
nevenue	Wheat ¹		Bu	65	\$4.25	\$276.25	<u>L</u>
	Wilcat		24		al Revenue	\$276.25	
ariable/	Expenses					7_1 00	
	Seed ²		Bu	2	\$17.50	\$35.00	
	Fertilizer & Lime (Tal	ble 1)	Acre	1	\$75.54	\$75.54	
	Chemical (Table 2) 2,	•	Acre	1	\$70.41	\$70.41	
	Crop Scout		Acre	1	\$6.00	\$6.00	
	Repair & Maintenan	ce (Table 3) ⁴	Acre	1	\$28.82	\$28.82	
	Fuel, Oil & Filter (Tak		Acre	1	\$13.31	\$13.31	
	Operator Labor (Tab	•	Acre	1	\$8.68	\$8.68	
	Machinery Rental	ie 3)	Acre	0	\$0.00	\$0.00	
	Custom Work		Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	65	\$0.00	\$0.00	
	Cash Rent ⁵	,	Acre	1	\$94.00	\$94.00	
	Crop Insurance ⁶		Acre	1	\$6.84	\$6.84	
	Operating Interest ⁷		%	\$338.60	6.00%	\$10.16	
	Other Variable Costs		Acre	1	\$0.00	\$0.00	
				otal Variable	•	\$348.76	
				ove Variable	•	-\$72.51	
ixed Exp	oenses					**	
	Machinery ⁴						
	Capital Recovery (T	able 3)	Acre	1	\$50.17	\$50.17	
	Other Fixed Machin		Acre	1	\$0.00	\$0.00	
	Property Taxes	•	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Mac	hinery)	Acre	1	\$0.00	\$0.00	
	Management Labor		Acre	1	\$15.00	\$15.00	
	Other Fixed Costs		Acre	1	\$0.00	\$0.00	
					l Expenses	\$65.17	
		Ret	urn Above	All Specified	d Expenses	-\$137.68	
	Breakeven Price For	Selected Yield		E	Breakeven '	Yield for Sel	ected Price
Yield	Variable Cost	Total Specified Cost	-	Price			Total Specified Cos
(bu)	(\$/bu)	(\$/bu)		(\$/bu)	Variable	Cost (bu)	(bu)
45	\$7.75	\$9.20		\$3.25	10	07	127
50	\$6.98	\$8.28		\$3.50	10	00	118
55	\$6.34	\$7.53		\$3.75	9)3	110
60	A= 04	40.00		4	•		

\$4.00

\$4.25

\$4.50

\$4.75

\$5.00

\$5.25

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82

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73 70

66

103

97

92 87

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60

65

70

75

80

85

\$5.81

\$5.37

\$4.98

\$4.65

\$4.36

\$4.10

\$6.90

\$6.37

\$5.91

\$5.52

\$5.17

\$4.87

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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Ammonium Nitrate	80	\$0.48	\$38.40	
Phosphorous	P_2O_5	40	\$0.34	\$13.63	
Potassium	K^20	20	\$0.26	\$5.27	
Lime	Limestone	1,000	\$36.500	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$75.54	

Table 2. Chemicals^{2,3}

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides	Burndown	Gramoxone SL	.ZO	1	48	\$0.14	\$6.60	
	Pre-Emerge	Roundup Power Max	d:	П	1	\$4.49	\$4.49	
	Post-Emerge	Harmony Extra	OZ.	1	0.5	\$14.03	\$7.02	
		Axial XL	.zo	1	16.4	\$1.07	\$17.55	
		Surfactant	pt.	1	0.1	\$3.52	\$0.35	
							\$0.00	
Insecticides		Seed Treatment	acre	1	1	\$11.00	\$11.00	
Insecticides		Foliar	acre	П	1	\$3.00	\$3.00	
Fungicides		Seed Treatment	acre	1	1	\$8.40	\$8.40	
Fungicides		Foliar	acre	1	1	\$12.00	\$12.00	
Total							\$70.41	

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Stable 3. Machinery 4 Size Capital Recovery Repairs & Maintenance Fuel, Oil & Filter Labor Total Your labor Burndown SP Boom Sprayer 90' \$4.19 \$0.24 \$0.24 \$0.20 \$0.16 \$4.79 \$- Chisel Tractor, 215 hp Tandem Disk 21' \$1.90 \$2.38 \$1.25 \$0.16 \$4.99 \$- Prepare Seedbed Tractor, 215 hp Tandem Disk 29' \$4.48 \$2.21 \$1.31 \$6.93 \$6.92 \$- Prepare Seedbed Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.35 \$6.92 \$6.92 \$- \$1.47 \$1.54 \$1.54 \$1.25 \$0.93 \$6.92 \$1.54 \$1.54 \$0.20 \$1.25 \$0.93 \$6.92 \$1.54 \$1.47 \$1.54 \$1.24 \$2.21 \$1.25 \$0.20 \$0.16 \$4.79 \$1.47 \$1.74 \$1.74 \$1.74 \$1.74 \$1.74 \$1.74 \$1.75 \$1.25 \$0.20 \$0.16 \$4.79										
Own SP Boom Sprayer Fortise Inplement Size Capital Recovery Repairs & Maintenance Fuel, Oil & Filter Labor Total Own SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 Tractor, 215 hp Tandem Disk 21' \$1.90 \$2.38 \$1.55 \$1.16 \$6.98 Tractor, 215 hp Tandem Disk 26.5' \$2.43 \$2.25 \$1.25 \$0.93 \$5.25 Tractor, 215 hp Tractor, 215 hp Grain Drill 20f. \$4.49 \$0.20 \$1.88 \$1.47 \$1.54 Control SP Boom Sprayer 100' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 cide SP Boom Sprayer 100' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 cide SP Boom Sprayer 100' \$4.19 \$0.24 \$0.20 \$0.16 \$4.79 cide SP Boom Sprayer Grain Head \$0.1 \$1.0 \$0.24 \$0.20 \$0.16 \$4.79	S Table 3. Machine	ıry 4								
own SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 Tractor, 215 hp Chisel Plow 21' \$1.90 \$2.38 \$1.15 \$1.16 Tractor, 215 hp Tractor, 215 hp Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.31 \$0.97 Control SP Boom Sprayer Grain Drill 20ft \$4.19 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ce Tractor, 215 hp Fertilize Spreader 90' \$4.19 \$0.24 \$0.20 \$0.16 cide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 cide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 st Combine Grain Head 30ft \$1.11 \$9.80 \$0.20 \$0.20 <t< th=""><th></th><th>Power Unit</th><th>Implement</th><th>Size</th><th>Capital Recovery</th><th>Repairs & Maintenance</th><th>Fuel, Oil & Filter</th><th>Labor</th><th>Total</th><th>Your Farm (\$/Acre)</th></t<>		Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Fractor, 215 hp Chisel Plow 21' \$1.90 \$2.38 \$1.55 \$1.16 Tractor, 215 hp Tandem Disk 29' \$4.48 \$2.59 \$1.25 \$0.93 Fractor, 215 hp Do-All 26.5' \$4.48 \$2.21 \$1.25 \$0.93 Fractor, 215 hp Do-All 26.5' \$4.48 \$2.21 \$1.21 \$0.97 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.24 \$0.20 \$0.16 Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ide SP Boom Sprayer 90' \$4.10 \$0.10 \$0.20 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0.10 \$0.20 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0.20 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0.20 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0.20 \$0.10 ide SP Boom Sprayer 90' \$4.10 \$0	Burndown	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Tractor, 215 hp Tandem Disk 29' \$4.48 \$2.59 \$1.25 \$0.93 are Seedbed Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.31 \$0.97 A Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 A Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.13 est Combine Grain Head \$0' \$1.11 \$0.24 \$0.20 \$0.20 ricide SP Boom Sprayer Grain Cart	Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.98	
are Seedbed Tractor, 215 hp Do-All 26.5' \$2.43 \$2.21 \$1.31 \$0.97 Tractor, 215 hp Grain Drill 20ft \$4.69 \$7.26 \$1.98 \$1.47 J Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 J Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 size Tractor, 215 hp Fertilize Spreader 900# \$4.19 \$0.24 \$0.20 \$0.16 size SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 size Tractor, 215 hp Grain Head 30ft \$1.11 \$9.80 \$3.45 \$1.23 st Combine Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 st Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 semi Tractor/Trailer Semi Tractor, 215 hp \$2.31 \$2.82 \$1.33 \$8.68 \$3.86	Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Tractor, 215 hp Grain Drill 20 ft \$4.69 \$7.26 \$1.98 \$1.47 J Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 J Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ize Tractor, 215 hp Fertilize Spreader 900# \$4.19 \$0.24 \$0.20 \$0.16 st Combine Grain Head 30 ft \$1.11 \$9.80 \$3.45 \$1.23 ractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 Semi Tractor/Trailer Semi Tractor/Trailer \$50.77 \$28.82 \$13.31 \$8.68 \$1.86	Prepare Seedbed		Do-All	26.5	\$2.43	\$2.21	\$1.31	\$0.97	\$6.92	
A Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 A Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 cide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ize Tractor, 215 hp Fertilize Spreader 90' \$4.19 \$0.24 \$0.20 \$0.16 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 est Combine Grain Head 30 ft \$11.11 \$9.80 \$3.45 \$1.23 st Combine Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 \$0.69 \$0.59 Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$0.59 \$13.31 \$8.68 \$18.68 \$18.68	Plant	Tractor, 215 hp	Grain Drill	20 ft	\$4.69	\$7.26	\$1.98	\$1.47	\$15.40	
A Control SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 icide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ize Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 sst Combine Grain Head 30 ft \$11.11 \$9.80 \$3.45 \$1.23 st Combine Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Tractor, 215 hp Grain Cart \$0.0 bu \$4.83 \$0.52 \$1.16 \$0.93 Semi Tractor/Trailer 800 bu \$50.17 \$28.82 \$1.331 \$8.68 \$8.68	Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
cicle SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 ize Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 sst Combine 30 ft \$11.11 \$9.80 \$3.45 \$1.23 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$50.17 \$28.82 \$13.31 \$8.68 \$	Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
ize Tractor, 215 hp Fertilize Spreader 900# \$1.65 \$2.03 \$1.13 \$0.84 sticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 sst Combine Grain Head 30 ft \$11.11 \$9.80 \$3.45 \$1.23 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$50.17 \$28.82 \$13.31 \$8.68 \$	Fungicide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
ticide SP Boom Sprayer 90' \$4.19 \$0.24 \$0.20 \$0.16 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.20 \$0.16 \$0.	Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
est Combine Grain Head 30 ft \$11.11 \$9.80 \$3.45 \$1.23 Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$50.17 \$28.82 \$13.31 \$8.68 \$	Insecticide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Tractor, 215 hp Grain Cart \$2.31 \$1.06 \$0.69 \$0.52 Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$50.17 \$28.82 \$13.31 \$8.68 \$	Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Semi Tractor/Trailer 800 bu \$4.83 \$0.52 \$1.16 \$0.93 \$50.17 \$28.82 \$13.31 \$8.68 \$	Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
\$50.17 \$28.82 \$13.31 \$8.68	Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
	Total				\$50.17	\$28.82	\$13.31	\$8.68	\$100.99	

- 1) Wheat price was estimated using weighted average futures prices from July 2017 to May 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee. If a market for straw is available, add an appropriate amount to return to land, management, and risk, based on the expected yield and price of the straw, less harvest and marketing costs.
- 2) Additional seed treatment is to protect against Barley Yellow Dwarf virus.
- 3) Cost may vary depending on fungicide used and application rate per acre. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 4) 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.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 wheat in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.

	2017 Cottor	<mark>ı, No-Till, No</mark>	n-Irrigate	ed Budge	t	
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	<u>Your Farm</u>
Revenue			<u>(</u>	Gross Rever	nue (\$/Acre)	
	Cotton ^{1,2,3}	lb	950	\$0.72	\$684.00	
			Tota	al Revenue	\$684.00	
Variable	Expenses					
	Seed ^{4*}	Thous.	48.15	\$2.16	\$103.99	
	Wrap ⁵	lb	950	\$0.02	\$19.00	
	Fertilizer & Lime (Table 1)	Acre	1	\$97.07	\$97.07	
	Chemical (Table 2) 6,7,8,9,10**	Acre	1	\$135.62	\$135.62	
	Crop Scout	Acre	1	\$9.50	\$9.50	
	Repair & Maintenance (Table 3) 11	Acre	1	\$24.11	\$24.11	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$12.99	\$12.99	
	Operator Labor (Table 3) 11	Acre	1	\$7.04	\$7.04	
	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	
	Cash Rent 12	Acre	1	\$94.00	\$94.00	
	Crop Insurance ¹³	Acre	1	\$9.05	\$9.05	
	Operating Interest ¹⁴	%	\$512.37	6.00%	\$15.37	
	Other Variable Costs	Acre	0	\$0.00	\$0.00	
			otal Variable	•	\$527.74	
		Return Ab	ove Variable	e Expenses	\$156.26	
Fixed Exp						
	Machinery ¹¹			4445.40	4445.40	
	Capital Recovery (Table 3)	Acre	1	\$115.48	\$115.48	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00 \$0.00	
	Property Taxes	Acre	1	\$0.00	-	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor Other Fixed Costs	Acre	1 1	\$15.00 \$0.00	\$15.00 \$0.00	
	Other Fixed Costs	Acre		\$0.00 d Expenses	\$0.00 \$130.48	
		Return Above			\$25.78	
			ро-		7=0.70	

	Breakeven Price For S	<u>Selected Yield</u>	<u>Br</u>	eakeven Yield for Se	elected Price
Yield (lb)	Variable Cost (\$/lb)	Total Specified Cost (\$/lb)	Price (\$/lb)	Variable Cost (lb)	Total Specified Cost (lb)
700	\$0.75	\$0.94	\$0.47	1,123	1,400
750	\$0.70	\$0.88	\$0.52	1,015	1,266
800	\$0.66	\$0.82	\$0.57	926	1,155
850	\$0.62	\$0.77	\$0.62	851	1,062
900	\$0.59	\$0.73	\$0.67	788	982
950	\$0.56	\$0.69	\$0.72	733	914
1,000	\$0.53	\$0.66	\$0.77	685	855
1,050	\$0.50	\$0.63	\$0.82	644	803
1,100	\$0.48	\$0.60	\$0.87	607	757
1,150	\$0.46	\$0.57	\$0.92	574	715
1,200	\$0.44	\$0.55	\$0.97	544	679

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	80	\$0.36	\$28.52	
Phosphorous	P ₂ O ₅	09	\$0.34	\$20.44	
Potassium	K_20	06	\$0.26	\$23.70	
Sulfur ¹⁵	Elemental	10	\$0.35	\$3.50	
Boron		0.5	\$5.33	\$2.67	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$97.07	

Table 2. Chemicals^{6,7,8,9,10**}

Burndown Roundup Power Max qt. 1 \$4.49 Clarity 4EC pt. 1 0.5 \$11.48 Pre-Emerge Liberty 280 SL 02. 2 29 \$0.46 Cotoran 4L pt. 1 2 \$4.99 Post-Emerge Roundup Power Max qt. 1 \$4.49 Dual Magnum pt. 1 \$1.50 \$4.49 Hooded Sprayer Surfactant pt. 1 \$1.50 \$3.52 Valor valor 02. 1 \$5.11 \$6.11 Sullator Mepex (Mepiquat Chloride) pt. 1 \$6.18 \$6.18 Fithephon 02. 1 32 \$0.46 \$6.18 Seed Treatment acre 1 1 \$5.00 In-Season acre 1 1 \$7.50	Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Total (\$/Acre) Your Farm (\$/Acre)
Clarity AEC pt. 1 0.5 511.48 Pre-Emerge Liberty 280 SL 0.2 2 29 50.46 Cotoran 4L pt. 1 2 24.99 54.49 Post-Emerge Roundup Power Max qt. 1 1 1 512.50 Dual Magnum pt. 1 1 1 512.50 Hooded Sprayer Surfactant pt. 1 0.2 53.52 Valor Mepex (Mepiquat Chloride) pt. 1 1 56.11 In-Season acre 1 1 535.00 Seed Treatment acre 1 1 535.00 In-Season acre 1 1 57.50 Seed Treatment acre 1 1 1 57.50 Seed Treatment acre 1 1 1 1 1 Seed Treatment acre 1 1 1 1 1 1 Seed Treatment acre 1 1 1 1 1 1 1 1 1	Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
Pre-Emerge Liberty 280 SL oz. 2 50.46 Cotoran 4L pt. 1 2 \$4.99 Post-Emerge Roundup Power Max qt. 1 1 \$4.99 Hooded Sprayer Surfactant pt. 1 \$1.50 \$3.25 Julator Valor oz. 1 \$1.00 \$5.11 Sulator Mepex (Mepiquat Chloride) pt. 1 \$2.00 \$1.00 Post Ethephon oz. 1 32 \$0.18 Seed Treatment acre 1 \$3.2 \$0.18 In-Season acre 1 \$3.50 \$0.00 Seed Treatment acre 1 \$7.50			Clarity 4EC	pt.	1	0.5	\$11.48	\$5.74	
Cotoran 4L pt. 1 2 \$4.99 Post-Emerge Roundup Power Max qt. 1 1 \$4.29 Dual Magnum pt. 1 1 \$4.25 Hooded Sprayer Surfactant pt. 1 \$2.25 Valor oz. 1 \$6.11 Sulator Mepex (Mepiquat Chloride) pt. 1 \$6.11 Fthephon oz. 1 \$2 \$1.00 Seed Treatment acre 1 \$32 \$0.18 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50		Pre-Emerge	Liberty 280 SL	OZ.	2	29	\$0.46	\$26.83	
Post-Emerge Roundup Power Max qt. 1 \$4.49 Dual Magnum pt. 1 1 \$12.50 Hooded Sprayer Surfactant pt. 1 0.2 \$3.52 Julator Mepex (Mepiquat Chloride) pt. 1 2 \$1.00 Sulator Fthephon oz. 1 \$0.46 Seed Treatment acre 1 \$32 \$0.18 In-Season acre 1 \$35.00 Seed Treatment acre 1 \$7.50			Cotoran 4L	pt.	1	2	\$4.99	\$6.6\$	
Dual Magnum pt. 1 \$12.50 Hooded Sprayer Surfactant pt. 1 0.2 \$3.52 Julator Mepex (Mepiquat Chloride) pt. 1 2 \$1.00 Seled Treatment oz. 1 22 \$0.46 Seed Treatment acre 1 \$32 \$0.18 In-Season acre 1 \$35.00 Seed Treatment acre 1 \$35.00		Post-Emerge	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
Hooded Sprayer Surfactant pt. 1 0.2 \$3.52 Sulator Valor 0z. 1 \$6.11 Sulator Mepex (Mepiquat Chloride) pt. 1 2 \$1.00 Principle 0z. 1 22 \$0.46 Seed Treatment acre 1 \$32 \$0.18 In-Season acre 1 \$35.00 Seed Treatment acre 1 1 \$57.50			Dual Magnum	pt.	1	1	\$12.50	\$12.50	
Valor Oz. 1 \$6.11 All		Hooded Sprayer	Surfactant	pt.	1	0.2	\$3.52	\$0.70	
Sulator Mepex (Mepiquat Chloride) pt. 1 2 \$1.00 - Ethephon 0z. 1 32 \$0.18 - Seed Treatment acre 1 1 \$9.00 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50			Valor	OZ.	П	1	\$6.11	\$6.11	
gulator Mepex (Mepiquat Chloride) pt. 1 2 \$1.00 oz. 1 12 \$0.46 Ethephon oz. 1 32 \$0.18 Seed Treatment acre 1 1 \$9.00 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50									
Oz. 1 12 \$0.46 Fthephon Oz. 1 32 \$0.18 Seed Treatment acre 1 1 \$9.00 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50	Growth Regulator		Mepex (Mepiquat Chloride)	pt.	1	2	\$1.00	\$2.00	
Ethephon oz. 1 32 \$0.18 Seed Treatment acre 1 1 \$9.00 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50	Defoliant			.zo	1	12	\$0.46	\$5.52	
Seed Treatment acre 1 \$9.00 In-Season acre 1 1 \$35.00 Seed Treatment acre 1 1 \$7.50	Boll Opener		Ethephon	OZ.	1	32	\$0.18	\$5.76	
In-Season acre 1 1 \$35.00 cides Seed Treatment acre 1 1 \$7.50	Insecticides		Seed Treatment	acre	1	1	\$9.00	\$9.00	
cides Seed Treatment acre 1 1 \$7.50			In-Season	acre	1	1	\$35.00	\$35.00	
	Fungicides		Seed Treatment	acre	1	1	\$7.50	\$7.50	
	Total							\$135.62	

Table 3. Machinery 11

l able 3. Machinery	ery								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chop Stalks	Tractor, 215 hp	Rotary Mower	15'	\$3.50	\$3.68	\$1.65	\$1.23	\$10.06	
Burndown	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Plant	Tractor, 215 hp	Planter	12-row	\$7.25	\$3.76	\$1.42	\$1.06	\$13.50	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Tractor, 215 hp	Hooded Sprayer		\$7.55	\$1.07	\$0.39	\$0.29	\$9.31	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Picker/Module Builder (Round)	ilder (Round)	6-row	\$60.51	\$11.45	\$5.75	\$1.56	\$79.27	
Harvest	Tractor, 215 hp Module Handler	Module Handler		\$1.46	\$0.17	\$1.05	\$0.78	\$3.46	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total				\$115.48	\$24.11	\$12.99	\$7.04	\$159.61	

- 1) Most ginning arrangements provide producers cottonseed revenue net ginning costs.
- 2) A second harvest may add as much as \$25/acre to variable costs.
- 3) Cotton price estimate includes the loan rate plus an estimated loan equity payment and seed and hauling allowance.
- 4) Assumes 3.5 seeds per foot. Tech fees have been included in seed cost. Seed and tech fees can be separated at the users discretion. Seed cost varies per variety and seed size. Tech fees had not been set at time of printing and are estimates. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 5) Bale wrap is estimated at \$0.02 per lb of lint.
- 6) Additional sprays may be necessary for specific insects.
- 7) In-season per-acre cost includes boll weevil eradication fees and chemical expenses for control of plant bugs, bollworm, and other insect pests.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Do not tank mix Dual Magnum and Liberty when applying on Widestrike cotton.
- 10) Use alternative chemicals on non-Liberty tolerant cotton varieties.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Current University of Tennessee recommendations do not include sulfur. However, in west Tennessee, sulfur is commonly applied at a rate of 10-15 lbs/acre.
- * For Xtend cotton seed prices may be \$6-15 per unit higher.
- ** Xtend cotton requires alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Cotton, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

	2017 Cotton, Conve	entional Tilla	ge, Non-I	rrigated	Budget	
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm
Revenue			<u>G</u>	iross Reven	ue (\$/Acre)	
	Cotton ^{1,2,3}	lb	950	\$0.72	\$684.00	
			Tota	l Revenue	\$684.00	
Variable	Expenses					
	Seed ^{4*}	Thous.	48.15	\$2.16	\$103.99	
	Wrap ⁵	lb	950	\$0.02	\$19.00	
	Fertilizer & Lime (Table 1)	Acre	1	\$97.07	\$97.07	
	Chemical (Table 2) 6,7,8,9,10**	Acre	1	\$125.39	\$125.39	
	Crop Scout	Acre	1	\$9.50	\$9.50	
	Repair & Maintenance (Table 3) 11	Acre	1	\$34.43	\$34.43	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$18.57	\$18.57	
	Operator Labor (Table 3) 11	Acre	1	\$11.18	\$11.18	
	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	
	Cash Rent 12	Acre	1	\$94.00	\$94.00	
	Crop Insurance ¹³	Acre	1	\$9.05	\$9.05	
	Operating Interest ¹⁴	%	\$522.19	6.00%	\$15.67	
	Other Variable Costs	Acre	0	\$0.00	\$0.00	
			otal Variable	-	•	
		Return Ab	ove Variable	Expenses	\$146.15	
Fixed Exp						
	Machinery ¹¹					
	Capital Recovery (Table 3)	Acre	1	\$124.88	\$124.88	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
		Return Above		Expenses	\$139.88 \$6.27	
		Neturn Above	An Specified	ryheiises	30.27	

Breakeven Price For Selected Yield

Breakeven Yield for Selected Price

Yield (lb) V	ariable Cost (\$/lb)	Total Specified Cost (\$/lb)	Price (\$/lb)	Variable Cost (lb)	Total Specified Cost (lb)
700	\$0.77	\$0.97	\$0.47	1,144	1,442
750	\$0.72	\$0.90	\$0.52	1,034	1,303
800	\$0.67	\$0.85	\$0.57	944	1,189
850	\$0.63	\$0.80	\$0.62	868	1,093
900	\$0.60	\$0.75	\$0.67	803	1,012
950	\$0.57	\$0.71	\$0.72	747	941
1,000	\$0.54	\$0.68	\$0.77	699	880
1,050	\$0.51	\$0.65	\$0.82	656	827
1,100	\$0.49	\$0.62	\$0.87	618	779
1,150	\$0.47	\$0.59	\$0.92	585	737
1,200	\$0.45	\$0.56	\$0.97	554	699

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	80	\$0.36	\$28.52	
Phosphorous	P_2O_5	09	\$0.34	\$20.44	
Potassium	K_20	06	\$0.26	\$23.70	
Sulfur ¹⁵	Elemental	10	\$0.35	\$3.50	
Boron		0.5	\$5.33	\$2.67	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$97.07	

Table 2. Chemicals^{6,7,8,9,10**}

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Fotal (\$/Acre) Your Farm (\$/Acre)
Herbicides	Pre-Emerge	Cotoran 4L	pt.	1	2	\$4.99	\$6.6\$	
		Liberty 280 SL	OZ.	2	29	\$0.46	\$26.83	
	Post-Emerge	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Dual Magnum	pt.	1	T	\$12.50	\$12.50	
	Hooded Sprayer	Surfactant	pt.	1	0.2	\$3.52	\$0.70	
		Valor	.zo	1	П	\$6.11	\$6.11	
							\$0.00	
Growth Regulator		Mepex (Mepiquat Chloride)	pt.	1	2	\$1.00	\$2.00	
Defoliant			OZ.	1	12	\$0.46	\$5.52	
Boll Opener		Ethephon	OZ.	1	32	\$0.18	\$5.76	
Insecticides		Seed Treatment	acre	1	1	\$9.00	\$9.00	
		In-Season	acre	1	П	\$35.00	\$35.00	
S Fungicides		Seed Treatment	acre	1	1	\$7.50	\$7.50	
Total							\$125.39	

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Table 3. Machinery ***	ry **								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chop Stalks	Tractor, 215 hp	Rotary Mower	15'	\$3.50	\$3.68	\$1.65	\$1.23	\$10.06	
Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.98	
Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Prepare Seedbed	Tractor, 215 hp	Cultimulcher	20,	\$2.73	\$3.00	\$1.73	\$1.29	\$8.75	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$2.66	
Plant	Tractor, 215 hp	Planter	12-row	\$7.25	\$3.76	\$1.42	\$1.06	\$13.50	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Tractor, 215 hp	Hooded Sprayer		\$7.55	\$1.07	\$0.39	\$0.29	\$9.31	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Picker/Module Builder (Round)	iilder (Round)	6-row	\$60.51	\$11.45	\$5.75	\$1.56	\$79.27	
Harvest	Tractor, 215 hp	Module Handler		\$1.46	\$0.17	\$1.05	\$0.78	\$3.46	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total				\$124.88	\$34.43	\$18.57	\$11.18	\$189.06	

- 1) Most ginning arrangements provide producers cottonseed revenue net ginning costs.
- 2) A second harvest may add as much as \$25/acre to variable costs.
- 3) Cotton price estimate includes the loan rate plus an estimated loan equity payment and seed and hauling allowance.
- 4) Assumes 3.5 seeds per foot. Tech fees have been included in seed cost. Seed and tech fees can be separated at the users discretion. Seed cost varies per variety and seed size. Tech fees had not been set at time of printing and are estimates. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 5) Bale wrap is estimated at \$0.02 per lb of lint.
- 6) Additional sprays may be necessary for specific insects.
- 7) In-season per-acre cost includes boll weevil eradication fees and chemical expenses for control of plant bugs, bollworm, and other insect pests.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Do not tank mix Dual Magnum and Liberty when applying on Widestrike cotton.
- 10) Use alternative chemicals on non-Liberty tolerant cotton varieties.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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 wheat in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Current University of Tennessee recommendations do not include sulfur. However, in west Tennessee, sulfur is commonly applied at a rate of 10-15 lbs/acre.
- * For Xtend cotton seed prices may be \$6-15 per unit higher.
- ** Xtend cotton requires alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Cotton, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

	2017 Cotto	n, No-Till, I	rrigated E	Budget		
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm
Revenue			<u>(</u>	Gross Reven	ue (\$/Acre)	
	Cotton ^{1,2,3}	lb	1,100	\$0.72	\$792.00	
			Tota	al Revenue	\$792.00	
Variable	Expenses					
	Seed ^{4*}	Thous.	48.15	\$2.16	\$103.99	
	Wrap ⁵	lb	1,100	\$0.02	\$22.00	
	Fertilizer & Lime (Table 1)	Acre	1	\$100.64	\$100.64	
	Chemical (Table 2) 6,7,8,9,10**	Acre	1	\$135.62	\$135.62	
	Crop Scout	Acre	1	\$9.50	\$9.50	
	Repair & Maintenance (Table 3) 11	Acre	1	\$24.11	\$24.11	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$12.99	\$12.99	
	Operator Labor (Table 3) 11	Acre	1	\$7.04	\$7.04	
	Machinery Rental	Acre	1	\$0.00	\$0.00	
	Custom Work	Acre	1	\$0.00	\$0.00	
	Irrigation Energy Cost	Ac-In	6	\$4.02	\$24.12	
	Irrigation System R&M	Acre	1	\$15.09	\$15.09	
	Other Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Cash Rent ¹²	Acre	1	\$165.00	\$165.00	
	Crop Insurance 13	Acre	1	\$9.05	\$9.05	
	Operating Interest ¹⁴	%	\$629.15	6.00%	\$18.87	
	Other Variable Costs	Acre	0	\$0.00	\$0.00	
			otal Variable	-	•	
		Return Ab	ove Variable	e Expenses	\$143.98	
Fixed Exp						
	Machinery ¹¹					
	Capital Recovery (Table 3)	Acre	1	\$115.48	\$115.48	
	Other Fixed Machinery Costs	Acre -	1	\$0.00	\$0.00	
	Capital Recovery (Irrigation Equipment) ¹	5 Acre	1	\$85.15	\$85.15	
	Other Irrigation Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor ¹⁶	Acre	2	\$15.00	\$30.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
		Datum Abai		Expenses	•	
		Return Above	All Specified	Expenses	-\$86.65	

Breakeven Price For Selected Yield

Breakeven Yield for Selected Price

Yield (lb)	Variable Cost (\$/lb)	Total Specified Cost (\$/lb)	Price (\$/I	b) Variable Cost (lb)	Total Specified Cost (lb)
850	\$0.76	\$1.03	\$0.47	1,379	1,869
900	\$0.72	\$0.98	\$0.52	1,246	1,690
950	\$0.68	\$0.92	\$0.57	1,137	1,541
1,000	\$0.65	\$0.88	\$0.62	1,045	1,417
1,050	\$0.62	\$0.84	\$0.67	967	1,311
1,100	\$0.59	\$0.80	\$0.72	900	1,220
1,150	\$0.56	\$0.76	\$0.77	842	1,141
1,200	\$0.54	\$0.73	\$0.82	790	1,072
1,250	\$0.52	\$0.70	\$0.87	745	1,010
1,300	\$0.50	\$0.68	\$0.92	704	955
1,350	\$0.48	\$0.65	\$0.97	668	906

Table 1. Fertilizer & Lime

Fertilizer	Description	Quantity (lbs)	Price (\$)	Price (\$) Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	06	\$0.36	\$32.09	
Phosphorous	P_2O_5	09	\$0.34	\$20.44	
Potassium	K_20	06	\$0.26	\$23.70	
Sulfur ¹⁷	Elemental	10	\$0.35	\$3.50	
Boron		0.5	\$5.33	\$2.67	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$100.64	

Table 2. Chemicals^{6,7,8,9,10**}

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Total (\$/Acre) Your Farm (\$/Acre)
Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Clarity EC	pt.	Н	0.5	\$11.48	\$5.74	
	Pre-Emerge	Cotoran 4L	pt.	Т	2	\$4.99	\$6.98	
		Liberty 280 SL	.zo	2	29	\$0.46	\$26.83	
	Post-Emerge	Dual Magnum	pt.	Т	1	\$12.50	\$12.50	
		Roundup Power Max	qt.	₽		\$4.49	\$4.49	
	Hooded Sprayer	Surfactant	pt.	П	0.2	\$3.52	\$0.70	
		Valor	.zo	₽	1	\$6.11	\$6.11	
							\$0.00	
Growth Regulator		Mepex (Mepiquat Chloride)	pt.	П	2	\$1.00	\$2.00	
Defoliant			.zo	Н	12	\$0.46	\$5.52	
Boll Opener		Ethephon	.zo	Т	32	\$0.18	\$5.76	
Insecticides		Seed Treatment	acre	₽		\$9.00	\$9.00	
		In-Season	acre	Н	1	\$35.00	\$35.00	
Fungicides		Seed Treatment	acre	Н	П	\$7.50	\$7.50	
Total							\$135.62	

Table 3. Machinery	ery **								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chop Stalks	Tractor, 215 hp Rotary Mower	Rotary Mower	15'	\$3.50	\$3.68	\$1.65	\$1.23	\$10.06	
Burndown	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Plant	Tractor, 215 hp	Planter	12-row	\$7.25	\$3.76	\$1.42	\$1.06	\$13.50	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Tractor, 215 hp	Hooded Sprayer		\$7.55	\$1.07	\$0.39	\$0.29	\$9.31	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Picker/Module Builder (Round)	ilder (Round)	6-row	\$60.51	\$11.45	\$5.75	\$1.56	\$79.27	
Harvest	Tractor, 215 hp	Fractor, 215 hp Module Handler		\$1.46	\$0.17	\$1.05	\$0.78	\$3.46	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total				\$115.48	\$24.11	\$12.99	\$7.04	\$159.61	

- 1) Most ginning arrangements provide producers cottonseed revenue net ginning costs.
- 2) A second harvest may add as much as \$25/acre to variable costs.
- 3) Cotton price estimate includes the loan rate plus an estimated loan equity payment and seed and hauling allowance.
- 4) Assumes 3.5 seeds per foot. Tech fees have been included in seed cost. Seed and tech fees can be separated at the users discretion. Seed cost varies per variety and seed size. Tech fees had not been set at time of printing and are estimates. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 5) Bale wrap is estimated at \$0.02 per lb of lint.
- 6) Additional sprays may be necessary for specific insects.
- 7) In-season per-acre cost includes boll weevil eradication fees and chemical expenses for control of plant bugs, bollworm, and other insect pests.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Do not tank mix Dual Magnum and Liberty when applying on widestrike cotton.
- 10) Use alternative chemicals on non-Liberty tolerant cotton varieties.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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 wheat in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Center-pivot irrigation costs are estimated using the following assumptions: purchase price and installation cost of \$80,000; useful life of 20 years; and an irrigated acreage of 125 acres. Irrigation rates should be adjusted to meet commodity- and farm-specific applications.
- 16) Management labor for irrigated acreage is assumed to be double that of dryland acres.
- 17) Current University of Tennessee recommendations do not include sulfur. However, in west Tennessee, sulfur is commonly applied at a rate of 10-15 lbs/acre.
- * For Xtend cotton seed prices may be \$6-15 per unit higher.
- ** Xtend cotton requires alternative chemical applications and should be used according to product specifications. Additional costs for applicator training may be required. Cost estimates are provided in the Preliminary 2017 Cotton, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget.

	2017 Grain Sorghum	, No-Till,	Non-Irrig	ated Bu	dget	
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm
Revenue			<u>G</u>	ross Reven	ue (\$/Acre	<u>e)</u>
	Grain Sorghum ¹	Bu	90	\$3.55	\$319.50	
			Tota	l Revenue	\$319.50	
Variable	Expenses					
	Seed ²	Thous.	85	\$0.24	\$20.19	
	Fertilizer & Lime (Table 1)	Acre	1	\$86.57	\$86.57	
	Chemical (Table 2) ³	Acre	1	\$74.87	\$74.87	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3) 4	Acre	1	\$18.33	\$18.33	
	Fuel, Oil & Filter (Table 3) 4	Acre	1	\$8.49	\$8.49	
	Operator Labor (Table 3) 4	Acre	1	\$5.10	\$5.10	
	Machinery Rental	Acre	0	\$0.00	\$0.00	
	Custom Work	Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	90	\$0.00	\$0.00	
	Cash Rent ⁵	Acre	1	\$94.00	\$94.00	
	Crop Insurance ⁶	Acre	1	\$11.53	\$11.53	
	Operating Interest ⁷	%	\$325.08	6.00%	\$9.75	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		Т	otal Variable	Expenses	\$334.84	
		Return Ab	ove Variable	Expenses	-\$15.34	
Fixed Exp	enses					
	Machinery ⁴					
	Capital Recovery (Table 3)	Acre	1	\$47.33	\$47.33	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
	D.o.	tura Abaua	Total Fixed	-		
	Re	turn Above	All Specified	Expenses	-\$//.6/	
	Breakeven Price For Selected Yield		Br	reakeven Y	<u>ield for Se</u>	elected Price
Yield	Variable Cost Total Specified Cost	_	Price			Total Specified Cost
(bu)	(\$/bu) (\$/bu)		(\$/bu)	Variable (Lost (bu)	(bu)

<u> </u>	Breakeven Price Fo	<u>r Selected Yield</u>	<u>B</u>	reakeven Yield for So	<u>elected Price</u>
Yield	Variable Cost	Total Specified Cost	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	(\$/bu)	variable Cost (bu)	(bu)
70	\$4.78	\$5.67	\$3.35	100	119
75	\$4.46	\$5.30	\$3.40	98	117
80	\$4.19	\$4.96	\$3.45	97	115
85	\$3.94	\$4.67	\$3.50	96	113
90	\$3.72	\$4.41	\$3.55	94	112
95	\$3.52	\$4.18	\$3.60	93	110
100	\$3.35	\$3.97	\$3.65	92	109
105	\$3.19	\$3.78	\$3.70	90	107
110	\$3.04	\$3.61	\$3.75	89	106

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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	06	\$0.36	\$32.09	
Phosphorous	P_2O_5	09	\$0.34	\$20.44	
Potassium	K_20	09	\$0.26	\$15.80	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$86.57	

Fable 2. Chemicals ³	cals³							
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Herbicides	Burndown	Gramoxone SL	.zo	1	40	\$0.14	\$5.50	
		Surfactant	pt.	1	0.2	\$3.52	\$0.70	
	Pre-Emerge	Bicep II Magnum	d :	1	2.1	\$12.62	\$26.50	
		Atrazine 4L	qt.	1	1	\$3.33	\$3.33	
		Crop Oil	pt.	1	2	\$3.25	\$6.50	
	Post-Emerge	Atrazine 4L	qt.	1	Т	\$3.33	\$3.33	
nsecticides		Seed Treatment	acre	1	1	\$8.00	\$8.00	
		Foliar	acre	П	1	\$10.00	\$10.00	
		Foliar (Aphids)	acre	1	1	\$11.00	\$11.00	
Total							\$74.87	

$_{\odot}$ Table 3. Machinery 4	ery 4								
4	Power Unit Implement	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp Planter	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Burndown	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Insecticide	SP Boom Sprayer		06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Insecticide	SP Boom Sprayer		06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Combine	Grain Head	30,	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer	er	800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Total				\$47.33	\$18.33	\$8.49	\$5.10	\$79.26	

- 1) Sorghum price is estimated at 10 cents under the price of corn.
- 2) Seed cost includes fungicide treatment. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 3) Do not use Dual Mangum unless you plant seed that has been safened with Concep or Screen. Do not use Lariat, Bullet, or Lasso Pre unless you plant seed that has been safened with a seed safener containing the active ingredient Flurzole. Late-planted sorghum is susceptible to sorghum midge and must be scouted for possible treatment. An insecticide application for sugarcane aphids in addition to an insecticide application for other pests is assumed.
- 4) 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.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 grain sorghum in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.

	2017 Grain Sorghum,	Conventional	Tillage,	Non-Irriga	ited Budget	
		<u>Unit</u>	Quantity	<u>/ Price</u>	<u>Total</u>	Your Farm
Revenue				Gross Reven	<u>ue (\$/Acre)</u>	
	Grain Sorghum ¹	Bu	90	\$3.55	\$319.50	
			To	tal Revenue	\$319.50	
Variable	Expenses					
	Seed ²	Thous.	85	\$0.24	\$20.19	
	Fertilizer & Lime (Table 1)	Acre	1	\$86.57	\$86.57	
	Chemical (Table 2) ³	Acre	1	\$62.16	\$62.16	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3) 4	Acre	1	\$25.27	\$25.27	
	Fuel, Oil & Filter (Table 3) 4	Acre	1	\$12.40	\$12.40	
	Operator Labor (Table 3) 4	Acre	1	\$8.00	\$8.00	
	Machinery Rental	Acre	1	\$0.00	\$0.00	
	Custom Work	Acre	1	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	90	\$0.00	\$0.00	
	Cash Rent 5	Acre	1	\$94.00	\$94.00	
	Crop Insurance ⁶	Acre	1	\$11.53	\$11.53	
	Operating Interest ⁷	%	\$326.13	6.00%	\$9.78	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
				ole Expenses	-	
		Return A	bove Varial	ole Expenses	-\$16.41	
Fixed Exp						
	Machinery ⁴					
	Capital Recovery (Table 3)	Acre	1	\$51.95	\$51.95	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
		Datum Alass		ed Expenses	\$66.95	
		Return Above	e Ali Specifi	eu expenses	->83.36	

<u> </u>	Breakeven Price Fo	r Selected Yield		Breakeven Yield for	Selected Price
Yield	Variable Cost	Total Specified Cost	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	(\$/bu) variable cost (bu)	(bu)
70	\$4.80	\$5.76	\$3.35	5 100	120
75	\$4.48	\$5.37	\$3.40	99	118
80	\$4.20	\$5.04	\$3.45	5 97	117
85	\$3.95	\$4.74	\$3.50	96	115
90	\$3.73	\$4.48	\$3.55	95	113
95	\$3.54	\$4.24	\$3.60	93	112
100	\$3.36	\$4.03	\$3.65	92	110
105	\$3.20	\$3.84	\$3.70	91	109
110	\$3.05	\$3.66	\$3.75	5 90	107

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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	06	\$0.36	\$32.09	
Phosphorous	P_2O_5	09	\$0.34	\$20.44	
Potassium	K_20	09	\$0.26	\$15.80	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$86.57	

Table 2. Chemicals³

Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Total (\$/Acre) Your Farm (\$/Acre)
Herbicides	Pre-Emerge	Bicep II Magnum	qt.	1	2.1	\$12.62	\$26.50	
	Post-Emerge	Atrazine	qt.	П	2	\$3.33	\$6.66	
Insecticides		Seed Treatment	acre	Н	П	\$8.00	\$8.00	
		Foliar	acre	П	1	\$10.00	\$10.00	
		Foliar (Aphids)	acre	1	1	\$11.00	\$11.00	
Total							\$62.16	

o 3 Machinery 4

lable 3. Machinery	Á								
	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.9\$	
Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Prepare Seedbed Tractor, 215 hp	Tractor, 215 hp	Do-All	26.5'	\$2.43	\$2.21	\$1.31	\$0.97	\$6.92	
4 Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Insect Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Insect Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Combine	Grain Head	30,	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer	er	800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Total				ÇE1 0E	¢3Ε37	¢12 A0	Ç6 00	¢9205	

- 1) Sorghum price is estimated at 10 cents under the price of corn.
- 2) Seed cost includes fungicide treatment. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 3) Do not use Dual Mangum unless you plant seed that has been safened with Concep or Screen. Do not use Lariat, Bullet, or Lasso Pre unless you plant seed that has been safened with a seed safener containing the active ingredient Flurzole. Late-planted sorghum is susceptible to sorghum midge and must be scouted for possible treatment. An insecticide application for sugarcane aphids in addition to an insecticide application for other pests is assumed.
- 4) 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.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 wheat in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.

	2017 Canola, Conventional Tillage, Non-Irrigated Budget							
		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm		
Revenue			<u>G</u>	Gross Reven	ue (\$/Acre)			
	Canola ¹	Bu	50	\$8.05	\$402.50			
			Tota	l Revenue	\$402.50			
Variable	•							
	Seed ²	lbs	5	\$6.30	\$31.50			
	Fertilizer & Lime (Table 1)	Acre	1	\$146.44	\$146.44			
	Chemical (Table 2) ³	Acre	1	\$59.00	\$59.00			
	Crop Scout	Acre	1	\$6.00	\$6.00			
	Repair & Maintenance (Table 3) 4	Acre	1	\$28.01	\$28.01			
	Fuel, Oil & Filter (Table 3) 4	Acre	1	\$12.33	\$12.33			
	Operator Labor (Table 3) 4	Acre	1	\$7.94	\$7.94			
	Machinery Rental	Acre	1	\$0.00	\$0.00			
	Custom Work	Acre	1	\$0.00	\$0.00			
	Drying (Fuel/Electric)	Bu	50	\$0.00	\$0.00			
	Cash Rent ⁵	Acre	1	\$94.00	\$94.00			
	Crop Insurance ⁶	Acre	1	\$16.32	\$16.32			
	Operating Interest ⁷	%	\$401.54	6.00%	\$12.05			
	Other Variable Costs	Acre	1	\$0.00	\$0.00			
		Te	otal Variable	Expenses	\$413.58			
		Return Ab	ove Variable	Expenses	-\$11.08			
Fixed Exp	penses							
	Machinery ⁴							
	Capital Recovery (Table 3)	Acre	1	\$45.40	\$45.40			
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00			
	Property Taxes	Acre	1	\$0.00	\$0.00			
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00			
	Management Labor ⁸	Acre	2	\$15.00	\$30.00			
	Other Fixed Costs ⁹	Acre	1	\$0.00	\$0.00			
			Total Fixed	•	\$75.40			
		Return Above	All Specified	l Expenses	-\$86.48			

<u> </u>	Breakeven Price Fo	r Selected Yield		<u>E</u>	Breakeven Yield for Se	elected Price
Yield	Variable Cost	Total Specified Cost	•	Price	Variable Cost (bu)	Total Specified Cost
(bu)	(\$/bu)	(\$/bu)	_	(\$/bu)	variable Cost (bu)	(bu)
30	\$13.79	\$16.30	-	\$7.05	59	69
35	\$11.82	\$13.97		\$7.30	57	67
40	\$10.34	\$12.22		\$7.55	55	65
45	\$9.19	\$10.87		\$7.80	53	63
50	\$8.27	\$9.78		\$8.05	51	61
55	\$7.52	\$8.89		\$8.30	50	59
60	\$6.89	\$8.15		\$8.55	48	57
65	\$6.36	\$7.52		\$8.80	47	56
70	\$5.91	\$6.99		\$9.05	46	54

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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	160	\$0.36	\$57.04	
Phosphorous	P ₂ O ₅	80	\$0.34	\$27.25	
Potassium	K ₂ 0	130	\$0.26	\$34.23	
	Limestone	1,000	\$36.50	\$18.25	
Other	Sulfur	20	\$0.35	\$7.00	
Other	Boron	0.5	\$5.33	\$2.67	
Total				\$146.44	

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Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre) Your Farm (\$	Your Farm (\$/Acre)
Herbicides	Pre-plant	Herbicide	pt.	1	1	\$27.50	\$27.50	
	Harvest	Desiccant	acre	1	1	\$17.50	\$17.50	
						\$0.00	\$0.00	
						\$0.00	\$0.00	
						\$0.00	\$0.00	
						\$0.00	\$0.00	
Insecticides		Seed Treatment	acre	1	П	\$5.00	\$5.00	
Fungicides		Foliar	acre	1	1	\$9.00	\$9.00	
Total							\$59.00	

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lable 3. Machinery	ery								
4	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
O Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.9\$	
Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25	
Plant	Tractor, 215 hp	Grain Drill	20 ft	\$4.69	\$7.26	\$1.98	\$1.47	\$15.40	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Desiccant	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fungicide	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Haul	Semi Tractor/Trailer		800 bu	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
Chop Stalks	Tractor, 215 hp	Rotary Mower	15'	\$3.50	\$3.68	\$1.65	\$1.23	\$10.06	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total				\$45.40	\$28.01	\$12.33	\$7.94	\$93.68	

- 1) Includes seed treatment. Canola prices will vary across regions. Additionally, access to markets in Tennessee may be problematic. Should a producer consider adding canola to their rotation, a production contract and/or marketing strategy should be fully explored prior to the planting decision, as limited buyers are available.
- 2) Seed cost varies by variety and seeding rate. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 3) Chemical application will vary by region: Check seed supplier or production specialist for best alternatives. Since only a few herbicides are available for weed control for canola in Tennessee, producers should follow crop production recommendations. Producers should be aware that many chemicals used in the production of other row-crops in Tennessee may have a detrimental impact on canola.
- 4) 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.
- 5) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 6) 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 canola in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 7) Operating interest is assumed to be charged on half of all variable expenses.
- 8) Management labor is anticipated to be double what it is for conventional Tennessee row-crops.
- 9) Additional costs may be incurred due to specialized equipment required in the handling, hauling, and storage of canola.

		<u>Unit</u>	Quantity	<u>Price</u>	<u>Total</u>	Your Farm
Revenue				Gross Re	venue (\$/Acre)	
	Soybeans ¹	Bu	45	\$9.80	\$441.00	
			Tota	l Revenue	\$441.00	
Variable E	xpenses ²					
	Seed ³	Thous.	140	\$0.49	\$68.00	
	Fertilizer & Lime (Table 1) 4	Acre	1	\$38.26	\$38.26	
	Chemical (Table 2) 5,6,7,8,9,10	Acre	1	\$105.02	\$105.02	
	Crop Scout	Acre	1	\$6.00	\$6.00	
	Repair & Maintenance (Table 3) 11	Acre	1	\$18.58	\$18.58	
	Fuel, Oil & Filter (Table 3) 11	Acre	1	\$8.69	\$8.69	
	Operator Labor (Table 3) 11	Acre	1	\$5.26	\$5.26	
	Machinery Rental	Acre	0	\$0.00	\$0.00	
	Custom Work	Acre	0	\$0.00	\$0.00	
	Drying (Fuel/Electric)	Bu	45	\$0.00	\$0.00	
	Cash Rent ¹²	Acre	1	\$94.00	\$94.00	
	Crop Insurance 13	Acre	1	\$7.94	\$7.94	
	Operating Interest 14	%	\$351.75	6.00%	\$10.55	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		То	tal Variable	Expenses	\$362.31	
		Return Abo	ve Variable	Expenses	\$78.69	
Fixed Expe	enses					
	Machinery ¹¹					
	Capital Recovery (Table 3)	Acre	1	\$51.52	\$51.52	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	Expenses	\$66.52	
		Return Above A	All Specified	Expenses	\$12.17	

Breakeven	Price	For	Sel	ected	Vield
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Breakeven	Viold for	· Salactad	Drico
Breakeven	Yield for	Selected	Price

Yield (bu)	Variable Cost (\$/bu)	Total Specified Cost (\$/bu)		Price (\$/bu)	Variable Cost (bu)	Total Specified Cost (bu)
25	\$14.49	\$17.15	•	\$7.80	46	55
30	\$12.08	\$14.29		\$8.30	44	52
35	\$10.35	\$12.25		\$8.80	41	49
40	\$9.06	\$10.72		\$9.30	39	46
45	\$8.05	\$9.53		\$9.80	37	44
50	\$7.25	\$8.58		\$10.30	35	42
55	\$6.59	\$7.80		\$10.80	34	40
60	\$6.04	\$7.15		\$11.30	32	38
65	\$5.57	\$6.60	_	\$11.80	31	36
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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	0	\$0.36	\$0.00	
Phosphorous	P_2O_5	20	\$0.47	\$9.48	
Potassium	K ₂ 0	40	\$0.26	\$10.53	
Lime 4	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$38.26	

Table 2. Chemicals 5,6,7,8,9,10

Chemical Function Description Unit Number of Apps. Quantity Price Tol Herbicides Burndown Roundup Power Max qt. 1 1 \$4.49 \$4.49 Herbicides Burndown Krendimax with VaporGrip oz. 1 2 \$6.11 \$6.11 \$6.14 \$6.15 \$6.45 \$6.15 \$6.45 \$6.15 \$6.45 \$6.15 \$6.45 \$6.15 \$6.45 \$6.15 \$6.45 \$6.15 \$6.45 \$6.1		200							
cides Burndown Roundup Power Max qt. 1 1 Pre-Emerge Xtendimax with VaporGrip oz. 1 22 Gramoxone SL oz. 1 40 Boundary pt. 1 2 Flexstar GT pt. 1 3 Flexstar GT pt. 1 3 Roundup Power Max qt. 1 1 ticide/Fungicide Seed Treatment acre 1 1 cides Foliar Foliar acre 1 1 cides Foliar Foliar 0 0	Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Farm (\$/Acre)
Valor Oz. 1 2 Gramoxone SL 0z 1 22 Gramoxone SL 0z 1 40 Boundary pt. 1 2 Rost-Emerge Xtendimax with VaporGrip 0z 1 22 Flexstar GT pt. 1 3 Roundup Power Max qt. 1 1 ricide/Fungicide Seed Treatment acre 1 1 ricides Foliar Foliar acre 1 1 cides Foliar Foliar 0 0	Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
Pre-Emerge Xtendimax with VaporGrip Oz. 1 40 40 Gramoxone SL Oz. 1 40 40 Boundary pt. 1 22 Flexstar GT pt. 1 3 3 Flexstar GT pt. 1 3 Flexstar GT pt. 1 1 Flexstar GT pt. pt. 1 1 Foliar Foliar acre 1 1 Foliar Foliar acre 1 1 Foliar Foliar pt. pt. 1 Foliar Foliar pt. pt. pt. pt. Foliar Foliar Foliar pt. pt. pt. Foliar Foliar Foliar pt. pt. pt. Foliar Foliar pt. pt. pt. pt. Foliar Pt. pt. pt. pt. pt. pt. Foliar Pt. pt. pt. pt. pt. pt. pt. Foliar Pt. pt. pt. pt. pt. pt. pt. Foliar Pt. pt. pt. pt. pt. pt. pt. pt. pt. Foliar Pt. pt.			Valor	OZ.	Н	2	\$6.11	\$12.22	
Gramoxone SL 0.2. 1 40		Pre-Emerge	Xtendimax with VaporGrip	Z0	Н	22	\$0.45	\$10.00	
Boundary pt. 1 2 Flexstar GT oz 1 22 Flexstar GT pt. 1 3 Roundup Power Max qt. 1 1 cide/Fungicide Seed Treatment acre 1 1 cides Foliar acre 1 1 cides Foliar acre 1 1 cides Foliar 0 0			Gramoxone SL	.zo	Н	40	\$0.14	\$5.50	
Post-Emerge Xtendimax with VaporGrip oz 1 22 Flexstar GT pt. 1 3 Roundup Power Max qt. 1 1 cide/Fungicide Seed Treatment acre 1 1 cides Foliar acre 1 1 cides Foliar acre 1 1 cides Foliar 0 0			Boundary	pt.	Н	2	\$10.26	\$20.52	
Flexstar GT pt. 1 3 Roundup Power Max qt. 1 1 Icide/Fungicide Seed Treatment acre 1 1 Icides Foliar Foliar 1 1 cides Foliar Foliar 0 0		Post-Emerge	Xtendimax with VaporGrip	Z0	Н	22	\$0.45	\$10.00	
Roundup Power Max qt. 1 rcide/Fungicide Seed Treatment acre 1 ticides Foliar acre 1 cides Foliar acre 1 . 0 0			Flexstar GT	pt.	Н	8	\$4.10	\$12.30	
icide/Fungicide Seed Treatment acre 1 1 1 ticides Foliar Foliar acre 1 1 1 cides Foliar Foliar 0 0			Roundup Power Max	qt.	1	П	\$4.49	\$4.49	
lcide/Fungicide Seed Treatment acre 1 1 1 ticides Foliar Foliar acre 1 1 1 Cides Foliar Foliar acre 1 0 0								\$0.00	
ticides Foliar Foliar acre 1 1 1 cides Foliar Foliar acre 1 0 0	Insecticide/Fungi	cide	Seed Treatment	acre	П	1	\$8.50	\$8.50	
cides Foliar Foliar acre 1 1 1	Insecticides	Foliar	Foliar	acre	П	1	\$5.00	\$5.00	
0 0 .	Fungicides	Foliar	Foliar	acre	П	1	\$12.00	\$12.00	
Total	Other				0	0	\$0.00	\$0.00	
	Total							\$105.02	

Table 3. Machinery 11

lable 3. Machinery	nery								
	Power Unit Implement	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel, Oil & Filter	Labor	Total	Your Farm (\$/Acre)
Plant	Tractor, 215 hp Planter	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03	
Burndown	SP Boom Sprayer	er	, OB	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Pre-Emerge	SP Boom Sprayer	er	-06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Pre-Emerge	SP Boom Sprayer	er	-06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Post-Emerge	SP Boom Sprayer	er) 	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Post-Emerge	SP Boom Sprayer	er	206	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fungicide	SP Boom Sprayer	er	S -06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Fertilize	Tractor, 215 hp	Fractor, 215 hp Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59	
Haul	Tractor, 215 hp Grain Cart	Grain Cart		\$2.31	\$1.06	\$0.69	\$0.52	\$4.57	
Hanl	Semi Tractor/Trailer	railer	800 pn	\$4.83	\$0.52	\$1.16	\$0.93	\$7.44	
								\$0.00	
Total				\$51.52	\$18.58	\$8.69	\$5.26	\$84.06	

- 1) Soybean price was estimated using weighted average futures prices from November 2017 to July 2018 on December 30, 2016, adjusted by average monthly basis in Tennessee.
- 2) Assumes a normal crop rotation with minimal weed infestation. A continuous soybean system may require additional expenses for chemicals and/or land preparation.
- 3) Seed price includes technology fee.
- 4) Assumes 2 tons of lime applied every four years.
- 5) Seed treatments, such as some nematicide treatments, are optional and costs vary depending on product used.
- 6) Weed control chemicals should be selected for specific weed or grass problems that are present. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 7) Limited price information is available about the current technology. Maximum application rates for XtendiMax with VaporGrip are: combined total per year for all applications of 88 fluid ounces per acre; total of all pre-planting, at-planting, and pre-emerge applications of 44 fluid ounces per acre; and maximum in-crop single application of 22 fluid ounces per acre. Alternatively, Engenia at 12.8 fl oz/acre per single application with a maximum of two pre-emerge applications, four post-emerge applications, and a season total maximum of four applications. Always follow labels and consult a qualified herbicide professional.
- 8) Due to prevalence of herbicide resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Alternative weed control options are available in the University of Tennessee 2017 Weed Control Manual for Tennessee.
- 10) Generic chemicals may be a cost-effective option. Contact your chemical supplier, qualified consultant, or weed control specialist.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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 soybeans in Tennessee for the previous production year as reported by USDA RMA's Summary of Business Report.
- 14) Operating interest is assumed to be charged on half of all variable expenses.

Preliminary 2017 Cotton, Roundup Ready 2 Xtend, No-Till, Non-Irrigated Budget

		. I Init	Ouantitu	Drico	Total	Your Farm
Revenue		<u>Unit</u>	Quantity	Price	Total ue (\$/Acre)	
Kevellue	Cotton ^{1,2,3}	lb	950	\$0.72	\$684.00	
	Cotton	ID		•	·	
			Iota	l Revenue	\$684.00	
Variable Exp						
	Seed ⁴	Thous.	48.15	\$2.35	\$113.14	
	Fertilizer & Lime (Table 1)	Acre	1	\$96.91	\$96.91	
	Chemical (Table 2) ^{6,7,8,9,10}	Acre	1	\$149.73	\$149.73	
	Crop Scout	Acre	1	\$9.50	\$9.50	
	Repair & Maintenance (Table 3) 11	Acre	1	\$24.60	\$24.60	
	Fuel, Oil & Filter (Table 3) ¹¹	Acre	1	\$13.38	\$13.38	
	Operator Labor (Table 3) 11	Acre	1	\$7.35	\$7.35	
	Wrap ⁵	lb	950	\$0.02	\$19.00	
	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	
	Cash Rent 12	Acre	1	\$94.00	\$94.00	
	Crop Insurance 13	Acre	1	\$9.05	\$9.05	
	Operating Interest 14	%	\$536.67	6.00%	\$16.10	
	Other Variable Costs	Acre	1	\$0.00	\$0.00	
		To	tal Variable	Expenses	\$552.77	
		Return Abo	ve Variable	Expenses	\$131.23	
Fixed Expen						
	Machinery ¹¹					
	Capital Recovery (Table 3)	Acre	1	\$123.87	\$123.87	
	Other Fixed Machinery Costs	Acre	1	\$0.00	\$0.00	
	Property Taxes	Acre	1	\$0.00	\$0.00	
	Insurance (Non-Machinery)	Acre	1	\$0.00	\$0.00	
	Management Labor	Acre	1	\$15.00	\$15.00	
	Other Fixed Costs	Acre	1	\$0.00	\$0.00	
			Total Fixed	-	•	
	F	Return Above A	II Specified	Expenses	-\$7.64	

Breakeven Price For Selected Yield

Total Specified Cost

(\$/lb)

\$0.84

\$0.81

\$0.79

\$0.77

\$0.75

\$0.73

\$0.71

\$0.69

\$0.67

\$0.66

\$0.64

Variable Cost

(\$/lb)

\$0.67

\$0.65

\$0.63

\$0.61

\$0.60

\$0.58

\$0.57

\$0.55

\$0.54

\$0.53

\$0.51

Yield (lb)

825

850

875

900

925

950

975

1,000

1,025

1,050

1,075

Price	Variable Cost (lb)	Total Specified
(\$/lb)	variable Cost (ib)	Cost (lb)
\$0.47	1,176	1,472
\$0.52	1,063	1,330
\$0.57	970	1,213
\$0.62	892	1,116
\$0.67	825	1,032
\$0.72	768	961
\$0.77	718	898
\$0.82	674	843
\$0.87	635	795

601

570

752

713

Breakeven Yield for Selected Price

\$0.92

\$0.97

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Fertilizer	Description	Quantity (lbs)	Price (\$)	Total (\$/Acre)	Your Farm (\$/Acre)
Nitrogen	Urea	80	\$0.36	\$28.52	
Phosphorous	P_2O_5	09	\$0.34	\$20.44	
Potassium	K_20	06	\$0.26	\$23.70	
Sulfur ¹⁵	Elemental	10	\$0.35	\$3.50	
Boron		0.5	\$5.00	\$2.50	
Lime	Limestone	1,000	\$36.50	\$18.25	
Other		0	\$0.00	\$0.00	
Total				\$96.91	
Table 2. Chemicals ^{6,7,8,9,10}	als ^{6,7,8,9,10}				
Chemical	Function	Description	Unit	Unit Number of Apps.	Quantity

able 2. Circilicals	ais							
Chemical	Function	Description	Unit	Number of Apps.	Quantity	Price	Total (\$/Acre)	Your Fa
Herbicides	Burndown	Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
	Pre-Emerge	Cotoran 4L	pt.		2	\$4.99	\$6.6\$	
		Liberty 280 SL	.zo	2	29	\$0.46	\$26.68	
		Xtendimax with VaporGrip	.zo	1	22	\$0.45	\$10.00	
	Post-Emerge	Dual Magnum	pt.	1	1	\$12.50	\$12.50	
		Roundup Power Max	qt.	1	1	\$4.49	\$4.49	
		Xtendimax with VaporGrip	.zo	1	22	\$0.45	\$10.00	
	Hooded Sprayer	Surfactant	pt.	1	0.2	\$3.52	\$0.70	
		Valor	.zo	1	1	\$6.11	\$6.11	1
Growth Regulator	٦.	Mepex (Mepiquat Chloride)	pt.	1	2	\$1.00	\$2.00	
Defoliant			.zo	1	12	\$0.46	\$5.52	1
Boll Opener		Ethephon	.zo	1	32	\$0.18	\$5.76	
Insecticides		Seed Treatment	acre	1	1	\$9.00	\$9.00	
		In-Season	acre	1	1	\$35.00	\$35.00	
Fungicides		Seed Treatment	acre	1	1	\$7.50	\$7.50	
							\$0.00	
Total							\$149.73	
Table 3. Machinery 11	ery ¹¹							

	Power Unit	Implement	Size	Capital Recovery	Repairs & Maintenance	Fuel Oil & Filter	Labor	Total	Your Farm (\$/Acre)
مالحيان	Tractor 71E ha	Doctor Married		42 50	89 63	\$1.65	¢4.72	\$10.06	
CIIOD Stalks	11 dct01, 213 lip	notally intowel	15'	06.6¢	93.00	CO.T¢	5T.75	910.00	
Burndown	SP Boom Sprayer		j.06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Plant	Tractor, 215 hp	Planter	12, 70, 11	\$7.25	\$3.76	\$1.42	\$1.06	\$13.50	
Weed Control	SP Boom Sprayer		90,	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		jub	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	SP Boom Sprayer		0 0	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Weed Control	Tractor, 215 hp	Hooded Sprayer	2	\$7.55	\$1.07	\$0.39	\$0.29	\$9.31	
Fertilize	Tractor, 215 hp	Fertilize Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66	
Weed Control	SP Boom Sprayer		90,	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		-06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Spray	SP Boom Sprayer		-06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79	
Harvest	Picker/Module Builder (Round)	(pund	oc -9	\$60.51	\$11.45	\$5.75	\$1.56	\$79.27	
Harvest	Tractor, 215 hp	Module Handler	:	\$1.46	\$0.17	\$1.05	\$0.78	\$3.46	
Other				\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	
Total				\$123.87	\$24.60	\$13.38	\$7.35	\$169.20	

- 1) Most ginning arrangements provide producers cottonseed revenue net ginning costs.
- 2) A second harvest may add as much as \$25/acre to variable costs.
- 3) Cotton price estimate includes the loan rate plus an estimated loan equity payment and seed and hauling allowance.
- 4) Assumes 3.5 seeds per foot. Tech fees have been included in seed cost. Seed and tech fees can be separated at the users discretion. Seed cost varies per variety and seed size. Tech fees had not been set at time of printing and are estimates. Check with farm suppliers for rebates, discounts, and incentives for seed and chemicals. Substantial cost savings may be available.
- 5) Bale wrap is estimated at \$0.02 per lb of lint.
- 6) Limited price information is available about the current technology. Maximum application rates for XtendiMax with VaporGrip are: combined total per year for all applications of 88 fluid ounces per acre; total of all pre-planting, at-planting, and pre-emerge applications of 44 fluid ounces per acre; and maximum in-crop single application of 22 fluid ounces per acre. Alternatively, Engenia at 12.8 fl oz/acre per single application with a maximum of two pre-emerge applications, four post-emerge applications, and a season total maximum of four applications. Always follow labels and consult a qualified herbicide professional.
- 7) 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.
- 8) Due to prevalence of Glyphosate resistant weeds, if weeds are not controlled, hand chopping may be necessary.
- 9) Do not tank mix Dual Magnum and Liberty when applying on Widestrike cotton.
- 10) Use alternative chemicals on non-Liberty tolerant cotton varieties.
- 11) 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.
- 12) Cash rental rates are the 2016 USDA-NASS reported cash rental rates for cropland in Tennessee. Substantial differences may exist in cash rental rates reported by NASS and the prevailing rate in your location.
- 13) 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.
- 14) Operating interest is assumed to be charged on half of all variable expenses.
- 15) Current University of Tennessee recommendations do not include sulfur. However, in west Tennessee, sulfur is commonly applied at a rate of 10-15 lbs/acre.

Appendix 1: Ir	nput Summary Ta	able
Commodity Prices Recei	ved by Producer	·c
Corn	\$3.65	<u>s</u> bu
Soybeans	\$9.80	bu
Wheat	\$4.25	bu
Cotton	\$0.72	lb
Cotton-Tech Fee	\$1.22	'000 Seeds
Grain Sorghum	\$3.55	bu
Canola	\$8.05	bu
		_
Fuel, Interest Rates, Pumpi		
Diesel Fuel (\$/gal)	\$1.55	\$/gal
Electricity (\$/Kwh)	\$0.071	\$/Kwh
Operator Labor (\$/hr)	\$10.00	\$/hr
Management Labor (\$/hr)	\$15.00	\$/hr
Operating Interest (%)	6.00%	%
Fixed Capital Interest (%)	5.00%	%
Pump Lift Distance (Irrigation)	200	ft
Crop Scout, Consulting, Cash R	ent and Crop Ins	surance
Crop Scout / Consulting Fee	\$6.00	acre
Crop Scouting-Cotton	\$9.50	acre
Drying (\$/bu)	\$0.00	bu
Irrigated Cropland Cash Rent Non-	\$165.00	acre
Irrigated Cropland Cash Rent Crop	\$94.00	acre
Insurance-Corn	\$12.85	acre
Crop Insurance-Soybean	\$7.94	acre
Crop Insurance-Wheat	\$6.84	acre
Crop Insurance-Cotton	\$9.05	acre
Crop Insurance-Grain Sorghum	\$11.53	acre
Crop Insurance-Canola	\$16.32	acre
Property Taxes, Non-Machinery Insu	ranco and Mana	goment Labor
Property Taxes	\$0.00	\$/acre
' '	•	• •
Insurance (non-machinery and non-crop)	\$0.00	\$/acre
Management Labor	\$15.00	\$/acre
<u>Seed</u>		
Corn	\$3.56	\$/Thousand Seeds
Soybean	\$0.43	\$/Thousand Seeds
Canola	\$6.30	\$/lb
Wheat	\$17.50	\$/bu
Cotton (Seed + Tech Fee)	\$2.16	\$/Thousand Seeds
Crain Sorghum	¢0.24	¢/Thousand Soods

\$0.24

\$/Thousand Seeds

Grain Sorghum

<u>Fertilize</u>	_	
Urea	\$0.36	\$/lb
Ammonium Nitrate	\$0.48	\$/lb
UAN 28%	\$0.39	\$/lb
UAN 32%	\$0.40	\$/lb
P_2O_5	\$0.41	\$/lb
DAP (18-46-0) - Soybeans	\$0.47	\$/lb
DAP (18-46-0) - Corn	\$0.34	\$/lb
K ₂ O	\$0.26	\$/lb
Lime	\$36.50	\$/ton
Boron	\$5.33	\$/lb
Elemental Sulfur	\$0.35	\$/lb

Fungicide Treatments and	Other Chemica	al Inputs
Tilt	\$5.00	\$/oz.
Soybean-Foliar	\$12.00	\$/acre
Soybean-Seed Treatment	\$3.75	\$/acre
Cotton-Seed Treatment	\$7.50	\$/acre
Wheat-Seed Treatment	\$8.40	\$/acre
Wheat-Foliar	\$12.00	\$/acre
Crop Oil Concentrate	\$3.25	\$/pint
Canola	\$9.00	\$/acre
Corn-Foliar	\$15.00	\$/acre
Surfactant	\$3.52	\$/pint

Insecticide Treatments		
Soybean -Foliar	\$5.00	\$/acre
Grain Sorghum-Foliar	\$10.00	\$/acre
Grain Sorghum-Seed Treatment	\$8.00	\$/acre
Grain Sorghum (Sugar Cane Aphid)	\$11.00	\$/acre
Soybean-Seed Treatment	\$8.50	\$/acre
Cotton-Seed Treatment	\$9.00	\$/acre
Cotton-Foliar	\$35.00	\$/acre
Wheat-Seed Treatment	\$11.00	\$/acre
Wheat- Foliar	\$3.00	\$/acre
Maintenance Fee (Boll Weevil Eradication)	\$1.50	\$/acre
Canola	\$5.00	\$/acre

<u> </u>	<u>erbicides</u>	
2.45	Price/Unit	<u>Unit</u>
2, 4-D	\$2.22	\$/pt.
Accent Q	\$32.81	\$/oz.
Aim EQ	\$8.12	\$/oz.
Assure II	\$0.96	\$/oz.
Atrazine	\$3.33	\$/qt.
Authority First	\$5.37	\$/oz.
Authority MTZ	\$1.41	\$/oz.
Authority XL	\$3.89	\$/oz.
Axial XL	\$1.07	\$/oz.
Axiom	\$1.89	\$/oz.
Basagran	\$13.53	\$/pt.
Bicep II Magnum	\$12.62	\$/qt.
Boll Opener (Ethephon)	\$0.18	\$/oz.
Boundary	\$10.26	\$/pt.
Callisto	\$1.43	\$/oz.
Canopy DF	\$2.56	\$/oz.
Canopy EX	\$8.20	\$/oz.
Cinch ATZ	\$16.79	\$/pt.
Clarity 4EC	\$11.48	\$/pt.
Classic	\$17.00	\$/oz.
Cobra	\$1.57	\$/oz.
Command 3ME	\$19.45	\$/pt.
Cotoran 4L	\$4.99	\$/pt.
Defoliant	\$0.46	\$/oz.
Degree Xtra	\$11.52	\$/qt.
Desiccant	\$17.50	acre
Distinct DF	\$2.32	\$/oz.
Dual Magnum	\$12.50	\$/pt.
Dual II Magnum	\$16.98	\$/pt.
Envive	\$5.23	\$/oz.
Fierce	\$6.14	\$/oz.
Finesse	\$16.00	\$/oz.
Firstrate	\$41.82	\$/oz.
Flexstar GT	\$4.10	\$/pt.
Fusilade	\$1.27	\$/pt. \$/oz.
Gramoxone SL	\$0.14	\$/oz. \$/oz.
Guardsman Max	\$14.80	\$/qt.
Halex GT	\$5.25	\$/qt. \$/pt.
Harmony Extra	\$14.03	\$/pt. \$/oz.
Harness	\$13.76	\$/02. \$/qt.
Hornet	\$4.83	\$/գւ. \$/oz.
Instigate	\$2.84	\$/02. \$/oz.
msugate	γ2.04	ې ۵۷،

<u>Herbicides</u>	s (continued)	
Leadoff	\$8.50	\$/oz.
Liberty 280 SL	\$0.46	\$/oz.
Mepex (Mepiquat Chloride)	\$1.00	\$/pt.
Metribuzin	\$0.86	\$/oz.
Outlook	\$1.01	\$/oz.
Permit	\$20.67	\$/oz.
Poast/Poast Plus	\$12.54	\$/pt.
Prefix	\$14.64	\$/qt.
Prowl H20	\$4.53	\$/pt.
Pursuit	\$3.40	\$/oz.
Python WPG	\$14.12	\$/oz.
Raptor	\$4.28	\$/oz.
Realm Q	\$4.93	\$/oz.
Reflex	\$16.80	\$/pt.
Regione	\$0.48	\$/pt.
Resource	\$1.79	\$/oz.
Roundup Power Max	\$4.49	\$/qt.
Scepter	\$4.80	\$/oz.
Select Max	\$0.83	\$/oz.
Sequence	\$5.99	\$/pt.
Sharpen	\$5.86	\$/oz.
Steadfast Q	\$12.07	\$/oz.
Storm	\$11.18	\$/pt.
Surfactant	\$3.52	\$/pt.
Treflan	\$3.38	\$/pt.
Ultra Blazer	\$9.85	\$/pt.
Valor	\$6.11	\$/oz.
Verdict	\$1.75	\$/oz.
Warrant	\$4.43	\$/pt.

Commodity	Process	Power Unit	Implement	Size	Capital Recovery	Repair & Maintenance	Fuel	Labor	Total
All	Chisel	Tractor, 215 hp	Chisel Plow	21'	\$1.90	\$2.38	\$1.55	\$1.16	\$6.9\$
	Disk	Tractor, 215 hp	Tandem Disk	29'	\$4.48	\$2.59	\$1.25	\$0.93	\$9.25
	Prepare Seedbed	Tractor, 215 hp	Do-All	26.5'	\$2.43	\$2.21	\$1.31	\$0.97	\$6.92
	Prepare Seedbed	Tractor, 215 hp	Cultimulcher	20,	\$2.73	\$3.00	\$1.73	\$1.29	\$8.75
	Plant	Tractor, 215 hp	Planter	16-row	\$6.46	\$3.71	\$1.07	\$0.79	\$12.03
	Plant	Tractor, 215 hp	Grain Drill	20 ft	\$4.69	\$7.26	\$1.98	\$1.47	\$15.40
	Fertilize	Tractor, 215 hp	Fertilizer Spreader	#006	\$1.65	\$2.03	\$1.13	\$0.84	\$5.66
	Spray	SP Boom Sprayer		,06	\$4.19	\$0.24	\$0.20	\$0.16	\$4.79
	Harvest	Combine	Corn Head	8-row	\$13.30	\$13.13	\$4.60	\$1.64	\$32.67
	Harvest	Combine	Grain Head	30 ft	\$11.11	\$9.80	\$3.45	\$1.23	\$25.59
	Haul	Tractor, 215 hp	Grain Cart	800 pn	\$2.31	\$1.06	\$0.69	\$0.52	\$4.57
	Haul	Semi Tractor/Trailer			\$4.83	\$0.52	\$1.16	\$0.93	\$7.44
Cotton	Chop Stalks	Tractor, 215 hp	Rotary Mower	15'	\$3.50	\$3.68	\$1.65	\$1.23	\$10.06
	Plant	Tractor, 215 hp	Planter	12-row	\$7.25	\$3.76	\$1.42	\$1.06	\$13.50
	Weed Control	Tractor, 215 hp	Hooded Sprayer	06	\$7.55	\$1.07	\$0.39	\$0.29	\$9.31
	Harvest	SP Cotton Picker		6-row	\$23.93	\$6.16	\$5.18	\$1.84	\$37.11
	Harvest	Tractor, 215 hp	Boll Buggy		\$3.72	\$0.99	\$1.73	\$1.29	\$7.73
	Harvest	Tractor, 215 hp	Module Builder	32'	\$4.10	\$1.03	\$1.55	\$1.15	\$7.82
	Harvest	Picker/Module Builder (Round)	er (Round)	6-row	\$60.51	\$11.45	\$5.75	\$1.56	\$79.27
	Harvest	Tractor, 215 hp	Module Handler		\$1.46	\$0.17	\$1.05	\$0.78	\$3.46

Field Operations

Summary of Revenue, Variable and Fixed Expenses, and Profit or Loss for each Commodity and Production Method

Commodity & Production Process	Revenue (\$/Acre)	Variable Expenses (\$/Acre)	Fixed Expenses (\$/Acre)	Profit (Loss)
Corn NT Non-Irr	\$547.50	\$435.21	\$56.13	\$56.16
Corn CT Non-Irr	\$547.50	\$442.98	\$60.75	\$43.77
Corn Irr	\$821.25	\$605.66	\$156.28	\$59.30
Soybeans NT Non-Irr	\$441.00	\$344.67	\$62.33	\$33.99
Soybeans Irr	\$588.00	\$451.98	\$162.48	(\$26.46)
Wheat & Soybean DC	\$668.25	\$501.12	\$98.58	\$68.55
Wheat	\$276.25	\$348.76	\$65.17	(\$137.68)
Cotton CT	\$684.00	\$537.85	\$139.88	\$6.27
Cotton NT	\$684.00	\$527.74	\$130.48	\$25.78
Cotton IRR	\$792.00	\$648.02	\$230.63	(\$86.65)
G. Sorghum NT	\$319.50	\$334.84	\$62.33	(\$77.67)
G. Sorghum CT	\$319.50	\$335.91	\$66.95	(\$83.36)
Canola	\$402.50	\$413.58	\$75.40	(\$86.48)



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