

**A COTTON YIELD MONITOR INVESTMENT DECISION AID**  
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**Abstract**

The Cotton Yield Monitor Investment Decision Aid (CYMIDA) is an interactive computerized decision aid that is designed to help producers evaluate the yield gains and input savings required to pay for investment in a cotton yield monitoring system. Using partial budgeting and breakeven analysis, CYMIDA allows producers to develop a custom analysis of the purchase decision based on their farm situation. CYMIDA has the following features: 1) a printable user's guide, 2) easy point and click operation, 3) context sensitive help, 3) default yield monitor purchase costs to serve as a starting point for the user, and 4) sensitivity analysis for changes in cotton and crop input prices. CYMIDA calculates annual and per acre cotton yield monitor ownership costs based on crop acreage, picker size, and yield monitor purchase costs (Figure 1). CYMIDA gives producers a risk-free opportunity to evaluate the lint yield gains and input cost savings needed to pay for a yield monitoring information system before actually investing in the technology (Figure 2). Required yield gains and input savings to pay for investment in the information system can be evaluated for the following crop input decisions: seed, nitrogen, phosphorus, potassium, lime, growth regulators, fungicides, herbicides, insecticides, harvest aids, and drainage. CYMIDA also has a yield gain – input savings two-way sensitivity graph that allows the user the opportunity to adjust the lint and input prices to see how changing prices influence the yield monitor investment decision (Figure 3). Any changes made to the input or lint prices are reflected in the graph. Contact James A. Larson (jl Larson2@utk.edu), Burton C. English (benglish@utk.edu), Roland K. Roberts (rrobert3@utk.edu), or Rebecca L. Cochran (rcohra2@utk.edu) at the University of Tennessee [http://economics.ag.utk.edu; phone: (865) 974-7231] to receive a copy of CYMIDA.

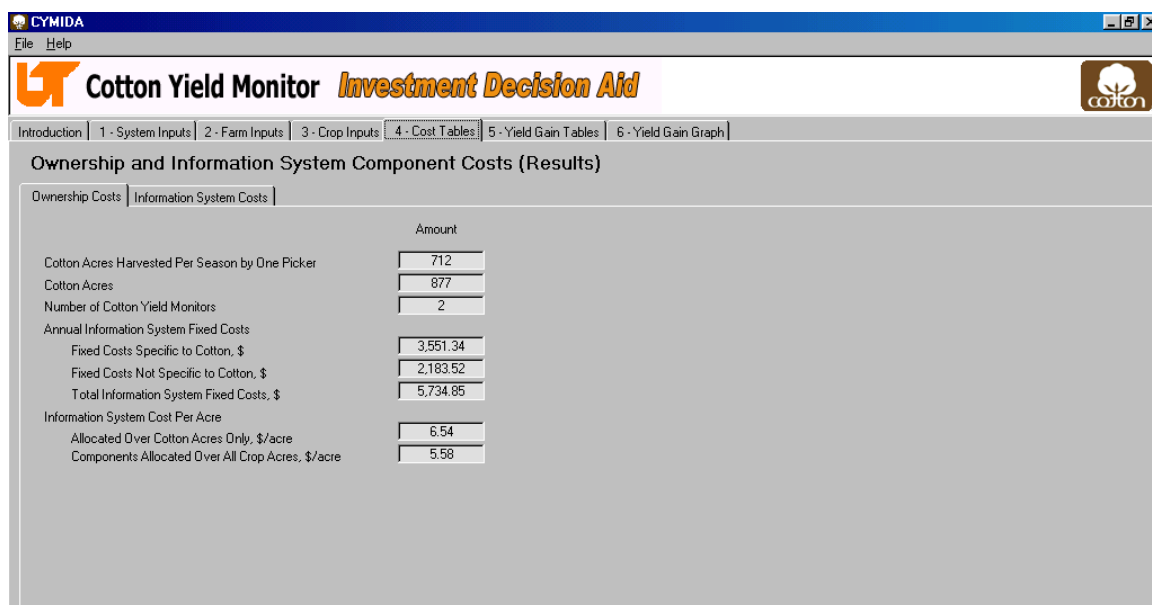


Figure 1. Cotton yield monitor ownership cost screen.

CYMIDA

File Help

**Cotton Yield Monitor Investment Decision Aid**

Introduction | 1 - System Inputs | 2 - Farm Inputs | 3 - Crop Inputs | 4 - Cost Tables | 5 - Yield Gain Tables | 6 - Yield Gain Graph

### Lint Yield Gains and Input Savings (Results)

Alternative VRT Decisions | Totals and Averages

	Seed	Nitrogen	Phosphorus	Potassium	Lime	Fungicide	Insecticide	Herbicide	Growth Reg	Harv Aid	Drainage
Input Units	lb/acre	lb/acre	lb/acre	lb/acre	ton/acre	lb/acre	lb/acre	pt/acre	pt/acre	oz/acre	\$/acre
Base Lint Yield, lb/acre	656	656	656	656	656	656	656	656	656	656	656
Base Input Application Rate, unit/acre	12	80	60	90	1	10	4	6	10	36	
Yield Gain-Costs Allocated to Cotton											
Change, lb/acre	13	15	16	14	14	13	14	22	14	14	71
Change, %	2.04%	2.34%	2.44%	2.18%	2.17%	2.02%	2.16%	3.38%	2.19%	2.12%	10.86%
Yield Gain-Costs Allocated to All Crops											
Change, lb/acre	12	14	14	13	13	12	12	20	13	12	70
Change, %	1.78%	2.07%	2.18%	1.92%	1.91%	1.76%	1.90%	3.11%	1.93%	1.86%	10.60%
Input Savings											
Change, unit/acre	-0.60	-4.00	-3.00	-4.50	-0.03	-0.50	-0.18	-0.29	-0.50	-1.80	
Change, \$/acre	-2.05	-0.96	-0.48	-0.54	-0.45	-1.11	-0.61	-1.14	-0.50	-0.76	
Change, %	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	-5.00%	
Change Total Production Cost, \$/acre											
Monitor Costs Allocated to Cotton	7.49	8.58	8.96	8.00	7.99	7.43	7.93	12.40	8.04	7.78	39.91
Monitor Costs Allocated to All Crops	6.53	7.62	8.00	7.04	7.03	6.47	6.97	11.44	7.08	6.82	38.95

Figure 2. Required annual yield gains and input savings to pay for investment in a cotton yield monitoring information system for alternative crop inputs.

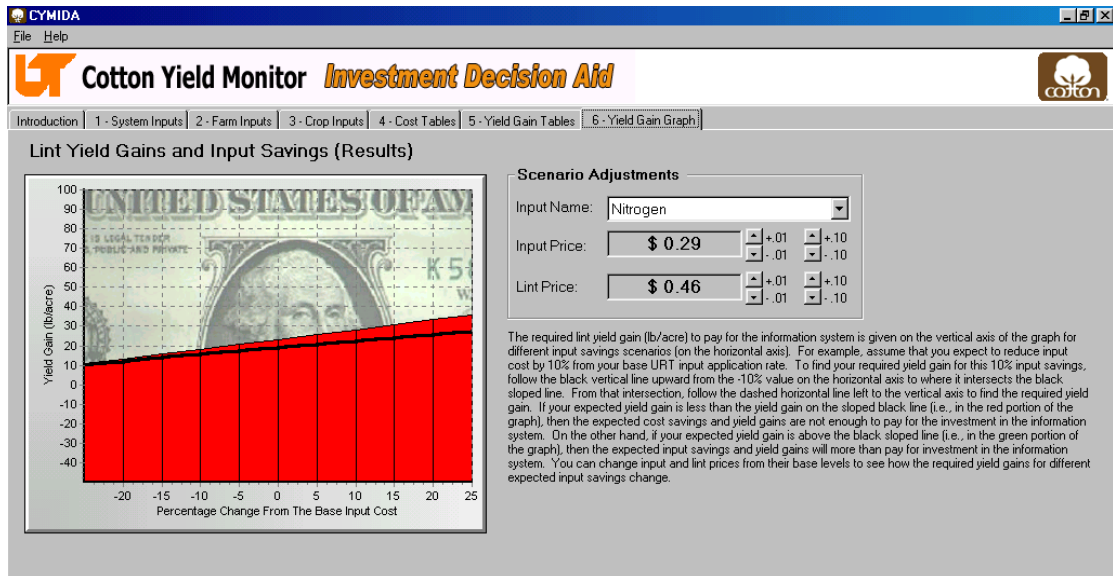


Figure 3. Two-way yield gain and input savings sensitivity results.