



# Cotton, Corn and Soybean Net Return Comparison Decision Aid

*A Farm Planning/Decision Tool for Louisiana Growers*

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The Cotton, Corn and Soybean Net Return Comparison Decision Aid is a spreadsheet-based decision tool developed to assist row crop producers in Louisiana in making production decisions based on expected net return comparisons between production of cotton, corn and soybeans, using alternative expectations related to variable production costs, expected crop yields and expected crop market prices. The decision tool contains five Excel worksheets which compares net returns above variable production costs for three alternative sets of crop production choices: (1) cotton versus corn, (2) cotton versus soybeans, and (3) corn versus soybeans.

Net returns above variable production costs are the appropriate values to use in making production decision comparisons among crops in the short run period of one crop year. For a given crop production year, fixed production expenses, including primarily equipment depreciation and interest, would not change as a result of which crops are produced in that year. Variable production costs are defined as those production expenses which would change based upon which crops are planted for production in that year. Land rent, if applicable, would also be included as a production cost in the net return calculation, due to the fact the many of the cropland leases are on a crop share basis and would change in value based upon the level of crop yield and market price. Therefore, net returns above variable production costs and land rent charges are calculated and the differences between these values gives an estimate of the net return advantage of one crop over the other at assumed levels of cost, yield and price.

Information required to be entered by the user for each crop includes: (a) variable production cost per acre, (b) expected crop yield per acre, and (c) crop share rent percentage or cash rent payment per acre. Data values which can be entered/changed by the user are in blue text. In addition, the user can change the range of cotton prices, cotton yields, corn prices and soybean prices evaluated by changing the first value (highlighted in blue) listed for each crop in the worksheet. The worksheet calculates net returns above variable costs and land rent for each crop and shows the difference between the two net returns in the table. Therefore, the values shown in the table can be interpreted as the advantage in net returns per acre for one crop (whose market prices are listed along the left side of the table) compared to the other crop (whose market prices are listed along the top of the table. For the range of market price combinations for which the crop on the left has a net return advantage over the other crop, those cell values with positive net return differences will be shaded in yellow. As values for variable cost, yield and rent are changed, the corresponding net return differences and highlighted cells with a net return advantage will change accordingly.

## Worksheet 1 – Cotton versus Corn Net Return Comparison - 1

Cotton Net Return Advantage Compared to Corn Net Returns										
Cotton Variable Costs =	\$613	per acre		Corn Price =	\$3.85	per bushel				
Cotton Share Rent =	20%	crop share		Corn Variable Costs =	\$447	per acre				
Cotton Cash Rent =	\$0	per acre		Corn Expected Yield =	160	bushels per acre				
				Corn Share Rent =	20%	crop share				
				Corn Cash Rent =	\$0	per acre				
Cotton Yield (lbs/acre)										
Cotton Price (\$/lb)	1,000	1,050	1,100	1,150	1,200	1,250	1,300	1,350	1,400	
\$0.55	-219	-197	-175	-153	-131	-109	-87	-65	-43	
\$0.57	-203	-180	-157	-134	-112	-89	-66	-43	-20	
\$0.59	-187	-163	-140	-116	-92	-69	-45	-22	\$2	
\$0.61	-171	-146	-122	-98	-73	-49	-24	\$0	\$24	
\$0.63	-155	-130	-104	-79	-54	-29	-4	\$22	\$47	
\$0.65	-139	-113	-87	-61	-35	-9	\$17	\$43	\$69	
\$0.67	-123	-96	-69	-42	-16	\$11	\$38	\$65	\$92	
\$0.69	-107	-79	-52	-24	\$4	\$31	\$59	\$86	\$114	
\$0.71	-91	-62	-34	-6	\$23	\$51	\$80	\$108	\$136	
\$0.73	-75	-46	-16	\$13	\$42	\$71	\$100	\$130	\$159	
\$0.75	-59	-29	\$1	\$31	\$61	\$91	\$121	\$151	\$181	
\$0.77	-43	-12	\$19	\$50	\$80	\$111	\$142	\$173	\$204	
\$0.79	-27	\$5	\$36	\$68	\$100	\$131	\$163	\$194	\$226	
\$0.81	-11	\$22	\$54	\$86	\$119	\$151	\$184	\$216	\$248	
\$0.83	\$5	\$38	\$72	\$105	\$138	\$171	\$204	\$238	\$271	
\$0.85	\$21	\$55	\$89	\$123	\$157	\$191	\$225	\$259	\$293	
<i>Values in table equal to cotton net returns minus corn net returns above variable costs</i>										

**Data to be Entered:**

- Cell F8            Cotton variable cost, in dollars per acre
- Cell F10          Cotton share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell F11          Cotton cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell L7            Corn price, in dollars per bushel
- Cell L8            Corn variable cost, in dollars per acre
- Cell L9            Corn expected yield, in bushels per acre
- Cell L10          Corn share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell L11          Corn cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell D18          Minimum range of cotton price, in dollars per pound of lint
- Cell E17          Minimum range of cotton yield, in pounds of lint per acre

## Worksheet 2 – Cotton versus Corn Net Return Comparison - 2

Cotton Net Return Advantage Compared to Corn Net Returns											
Cotton Variable Costs =	\$613 per acre					Corn Variable Costs =	\$447 per acre				
Cotton Expected Yield =	1,050 pounds per acre					Corn Expected Yield =	160 bushels per acre				
Cotton Share Rent =	20% crop share					Corn Share Rent =	20% crop share				
Cotton Cash Rent =	\$0 per acre					Corn Cash Rent =	\$0 per acre				
<b>Corn Price (\$/bu)</b>											
<b>Cotton Price (\$/lb)</b>	<b>\$3.00</b>	<b>\$3.25</b>	<b>\$3.50</b>	<b>\$3.75</b>	<b>\$4.00</b>	<b>\$4.25</b>	<b>\$4.50</b>	<b>\$4.75</b>	<b>\$5.00</b>		
\$0.55	-88	-120	-152	-184	-216	-248	-280	-312	-344		
\$0.57	-71	-103	-135	-167	-199	-231	-263	-295	-327		
\$0.59	-54	-86	-118	-150	-182	-214	-246	-278	-310		
\$0.61	-38	-70	-102	-134	-166	-198	-230	-262	-294		
\$0.63	-21	-53	-85	-117	-149	-181	-213	-245	-277		
\$0.65	-4	-36	-68	-100	-132	-164	-196	-228	-260		
\$0.67	\$13	-19	-51	-83	-115	-147	-179	-211	-243		
\$0.69	\$30	-2	-34	-66	-98	-130	-162	-194	-226		
\$0.71	\$46	\$14	-18	-50	-82	-114	-146	-178	-210		
\$0.73	\$63	\$31	-1	-33	-65	-97	-129	-161	-193		
\$0.75	\$80	\$48	\$16	-16	-48	-80	-112	-144	-176		
\$0.77	\$97	\$65	\$33	\$1	-31	-63	-95	-127	-159		
\$0.79	\$114	\$82	\$50	\$18	-14	-46	-78	-110	-142		
\$0.81	\$130	\$98	\$66	\$34	\$2	-30	-62	-94	-126		
\$0.83	\$147	\$115	\$83	\$51	\$19	-13	-45	-77	-109		
\$0.85	\$164	\$132	\$100	\$68	\$36	\$4	-28	-60	-92		
Values in table equal to cotton net returns minus corn net returns above variable costs											

**Data to be Entered:**

- Cell F8            Cotton variable cost, in dollars per acre
- Cell F9            Cotton expected yield, in pounds of lint per acre
- Cell F10           Cotton share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell F11           Cotton cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell L8            Corn variable cost, in dollars per acre
- Cell L9            Corn expected yield, in bushels per acre
- Cell L10           Corn share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell L11           Corn cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell D18           Minimum range of cotton price, in dollars per pound of lint
- Cell E17           Minimum range of corn price, in dollars per bushel

**Worksheet 3 – Cotton versus Soybean Net Return Comparison - 1**

<b>Cotton Net Return Advantage Compared to Soybean Net Returns</b>									
Cotton Variable Costs =	\$613	per acre	Soybean Price =	\$9.20	per bushel				
Cotton Share Rent =	20%	crop share	Soybean Variable Costs =	\$350	per acre				
Cotton Cash Rent =	\$0	per acre	Soybean Expected Yield =	50	bushels per acre				
			Soybean Share Rent =	20%	crop share				
			Soybean Cash Rent =	\$0	per acre				
<b>Cotton Yield (lbs/acre)</b>									
<b>Cotton Price (\$/lb)</b>	<b>1,000</b>	<b>1,050</b>	<b>1,100</b>	<b>1,150</b>	<b>1,200</b>	<b>1,250</b>	<b>1,300</b>	<b>1,350</b>	<b>1,400</b>
\$0.55	-191	-169	-147	-125	-103	-81	-59	-37	-15
\$0.57	-175	-152	-129	-107	-84	-61	-38	-15	\$7
\$0.59	-159	-135	-112	-88	-65	-41	-17	\$6	\$30
\$0.61	-143	-119	-94	-70	-45	-21	\$3	\$28	\$52
\$0.63	-127	-102	-77	-51	-26	-1	\$24	\$49	\$75
\$0.65	-111	-85	-59	-33	-7	\$19	\$45	\$71	\$97
\$0.67	-95	-68	-41	-15	\$12	\$39	\$66	\$93	\$119
\$0.69	-79	-51	-24	\$4	\$31	\$59	\$87	\$114	\$142
\$0.71	-63	-35	-6	\$22	\$51	\$79	\$107	\$136	\$164
\$0.73	-47	-18	\$11	\$41	\$70	\$99	\$128	\$157	\$187
\$0.75	-31	-1	\$29	\$59	\$89	\$119	\$149	\$179	\$209
\$0.77	-15	\$16	\$47	\$77	\$108	\$139	\$170	\$201	\$231
\$0.79	\$1	\$33	\$64	\$96	\$127	\$159	\$191	\$222	\$254
\$0.81	\$17	\$49	\$82	\$114	\$147	\$179	\$211	\$244	\$276
\$0.83	\$33	\$66	\$99	\$133	\$166	\$199	\$232	\$265	\$299
\$0.85	\$49	\$83	\$117	\$151	\$185	\$219	\$253	\$287	\$321
<i>Values in table equal to cotton net returns minus soybean net returns above variable costs</i>									

**Data to be Entered:**

- Cell F8 Cotton variable cost, in dollars per acre
- Cell F10 Cotton share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell F11 Cotton cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell L7 Soybean price, in dollars per bushel
- Cell L8 Soybean variable cost, in dollars per acre
- Cell L9 Soybean expected yield, in bushels per acre
- Cell L10 Soybean share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell L11 Soybean cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell D18 Minimum range of cotton price, in dollars per pound of lint
- Cell E17 Minimum range of cotton yield, in pounds of lint per acre

**Worksheet 4 – Cotton versus Soybean Net Return Comparison - 2**

Cotton Net Return Advantage Compared to Soybean Net Returns																			
Cotton Variable Costs =	\$613	per acre								Soybean Variable Costs =	\$350	per acre							
Cotton Expected Yield =	1,050	pounds per acre								Soybean Expected Yield =	50	bushels per acre							
Cotton Share Rent =	20%	crop share								Soybean Share Rent =	20%	crop share							
Cotton Cash Rent =	\$0	per acre								Soybean Cash Rent =	\$0	per acre							
		<b>Soybean Price (\$/bu)</b>																	
<b>Cotton Price (\$/lb)</b>		<b>\$9.00</b>	<b>\$9.25</b>	<b>\$9.50</b>	<b>\$9.75</b>	<b>\$10.00</b>	<b>\$10.25</b>	<b>\$10.50</b>	<b>\$10.75</b>	<b>\$11.00</b>									
\$0.55		-161	-171	-181	-191	-201	-211	-221	-231	-241									
\$0.57		-144	-154	-164	-174	-184	-194	-204	-214	-224									
\$0.59		-127	-137	-147	-157	-167	-177	-187	-197	-207									
\$0.61		-111	-121	-131	-141	-151	-161	-171	-181	-191									
\$0.63		-94	-104	-114	-124	-134	-144	-154	-164	-174									
\$0.65		-77	-87	-97	-107	-117	-127	-137	-147	-157									
\$0.67		-60	-70	-80	-90	-100	-110	-120	-130	-140									
\$0.69		-43	-53	-63	-73	-83	-93	-103	-113	-123									
\$0.71		-27	-37	-47	-57	-67	-77	-87	-97	-107									
\$0.73		-10	-20	-30	-40	-50	-60	-70	-80	-90									
\$0.75		\$7	-3	-13	-23	-33	-43	-53	-63	-73									
\$0.77		\$24	\$14	\$4	-6	-16	-26	-36	-46	-56									
\$0.79		\$41	\$31	\$21	\$11	\$1	-9	-19	-29	-39									
\$0.81		\$57	\$47	\$37	\$27	\$17	\$7	-3	-13	-23									
\$0.83		\$74	\$64	\$54	\$44	\$34	\$24	\$14	\$4	-6									
\$0.85		\$91	\$81	\$71	\$61	\$51	\$41	\$31	\$21	\$11									
<i>Values in table equal to cotton net returns minus soybean net returns above variable costs</i>																			

**Data to be Entered:**

- Cell F8            Cotton variable cost, in dollars per acre
- Cell F9            Cotton expected yield, in pounds of lint per acre
- Cell F10           Cotton share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell F11           Cotton cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell L8            Soybean variable cost, in dollars per acre
- Cell L9            Soybean expected yield, in bushels per acre
- Cell L10           Soybean share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell L11           Soybean cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell D18           Minimum range of cotton price, in dollars per pound of lint
- Cell E17           Minimum range of soybean price, in dollars per bushel

## Worksheet 5 – Corn versus Soybean Net Return Comparison

<b>Corn Net Return Advantage Compared to Soybean Net Returns</b>									
Corn Variable Costs = <b>\$447</b> per acre					Soybean Variable Costs = <b>\$350</b> per acre				
Corn Expected Yield = <b>160</b> bushels per acre					Soybean Expected Yield = <b>50</b> bushels per acre				
Corn Share Rent = <b>20%</b> crop share					Soybean Share Rent = <b>20%</b> crop share				
Corn Cash Rent = <b>\$0</b> per acre					Soybean Cash Rent = <b>\$0</b> per acre				
		<u>Soybean Price (\$/bu)</u>							
<u>Corn Price (\$/bu)</u>	<b>\$9.00</b>	<b>\$9.25</b>	<b>\$9.50</b>	<b>\$9.75</b>	<b>\$10.00</b>	<b>\$10.25</b>	<b>\$10.50</b>	<b>\$10.75</b>	<b>\$11.00</b>
<b>\$3.00</b>	-73	-83	-93	-103	-113	-123	-133	-143	-153
<b>\$3.25</b>	-41	-51	-61	-71	-81	-91	-101	-111	-121
<b>\$3.50</b>	-9	-19	-29	-39	-49	-59	-69	-79	-89
<b>\$3.75</b>	<b>\$23</b>	<b>\$13</b>	<b>\$3</b>	<b>-7</b>	<b>-17</b>	<b>-27</b>	<b>-37</b>	<b>-47</b>	<b>-57</b>
<b>\$4.00</b>	<b>\$55</b>	<b>\$45</b>	<b>\$35</b>	<b>\$25</b>	<b>\$15</b>	<b>\$5</b>	<b>-5</b>	<b>-15</b>	<b>-25</b>
<b>\$4.25</b>	<b>\$87</b>	<b>\$77</b>	<b>\$67</b>	<b>\$57</b>	<b>\$47</b>	<b>\$37</b>	<b>\$27</b>	<b>\$17</b>	<b>\$7</b>
<b>\$4.50</b>	<b>\$119</b>	<b>\$109</b>	<b>\$99</b>	<b>\$89</b>	<b>\$79</b>	<b>\$69</b>	<b>\$59</b>	<b>\$49</b>	<b>\$39</b>
<b>\$4.75</b>	<b>\$151</b>	<b>\$141</b>	<b>\$131</b>	<b>\$121</b>	<b>\$111</b>	<b>\$101</b>	<b>\$91</b>	<b>\$81</b>	<b>\$71</b>
<b>\$5.00</b>	<b>\$183</b>	<b>\$173</b>	<b>\$163</b>	<b>\$153</b>	<b>\$143</b>	<b>\$133</b>	<b>\$123</b>	<b>\$113</b>	<b>\$103</b>
<b>\$5.25</b>	<b>\$215</b>	<b>\$205</b>	<b>\$195</b>	<b>\$185</b>	<b>\$175</b>	<b>\$165</b>	<b>\$155</b>	<b>\$145</b>	<b>\$135</b>
<b>\$5.50</b>	<b>\$247</b>	<b>\$237</b>	<b>\$227</b>	<b>\$217</b>	<b>\$207</b>	<b>\$197</b>	<b>\$187</b>	<b>\$177</b>	<b>\$167</b>
<b>\$5.75</b>	<b>\$279</b>	<b>\$269</b>	<b>\$259</b>	<b>\$249</b>	<b>\$239</b>	<b>\$229</b>	<b>\$219</b>	<b>\$209</b>	<b>\$199</b>
<b>\$6.00</b>	<b>\$311</b>	<b>\$301</b>	<b>\$291</b>	<b>\$281</b>	<b>\$271</b>	<b>\$261</b>	<b>\$251</b>	<b>\$241</b>	<b>\$231</b>
<b>\$6.25</b>	<b>\$343</b>	<b>\$333</b>	<b>\$323</b>	<b>\$313</b>	<b>\$303</b>	<b>\$293</b>	<b>\$283</b>	<b>\$273</b>	<b>\$263</b>
<b>\$6.50</b>	<b>\$375</b>	<b>\$365</b>	<b>\$355</b>	<b>\$345</b>	<b>\$335</b>	<b>\$325</b>	<b>\$315</b>	<b>\$305</b>	<b>\$295</b>
<b>\$6.75</b>	<b>\$407</b>	<b>\$397</b>	<b>\$387</b>	<b>\$377</b>	<b>\$367</b>	<b>\$357</b>	<b>\$347</b>	<b>\$337</b>	<b>\$327</b>
<i>Values in table equal to corn net returns minus soybean net returns above variable costs</i>									

### Data to be Entered:

- Cell F8            Corn variable cost, in dollars per acre
- Cell F9            Corn expected yield, in pounds of lint per acre
- Cell F10           Corn share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell F11           Corn cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell L8            Soybean variable cost, in dollars per acre
- Cell L9            Soybean expected yield, in bushels per acre
- Cell L10           Soybean share rent, in percent of crop share (if owned or cash rented, enter zero)
- Cell L11           Soybean cash rent, in dollars per acre (if owned or share rented, enter zero)
- Cell D18           Minimum range of corn price, in dollars per bushel
- Cell E17           Minimum range of soybean price, in dollars per bushel



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