

A Summary of the USDA's Prospective Plantings and Grain Stocks Reports, March 31, 2017

Aaron Smith and Chuck Danehower
Department of Agricultural and Resource Economics
University of Tennessee Extension

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Introduction

On Friday, March 31, 2017, the USDA released its annual Prospective Plantings report (<http://usda.mannlib.cornell.edu/usda/current/ProsPlan/ProsPlan-03-31-2017.pdf>) and quarterly Grain Stocks report (<http://usda.mannlib.cornell.edu/usda/current/GraiStoc/GraiStoc-03-31-2017.pdf>). Below is a summary of the reports, both nationally and for Tennessee, and profitability updates for corn, cotton, soybeans, and wheat in Tennessee.

Prospective Plantings

The national planted acreage estimates indicated increased soybean and cotton acreage at the expense of corn and wheat (Table 1). The increase in soybean and cotton acreage was expected due to higher relative prices. For example, the 2017 projected price for crop insurance for corn was \$3.96 (\$3.86 for 2016) and \$10.19 for soybeans (\$8.85 for 2016). As such, the spring crop insurance price ratio (soybean price / corn price) increased from 2.29 in 2016 to 2.57 in 2017. Total U.S. acreage for principle row crops was estimated down 1% at 316.92 million acres.

Tennessee followed the national trend decreasing corn acreage and increasing soybean and cotton acres. Tobacco acreage is estimated up 10% in 2017. Total acreage planted to principle row crops was estimated to increase 1% (Table 1).

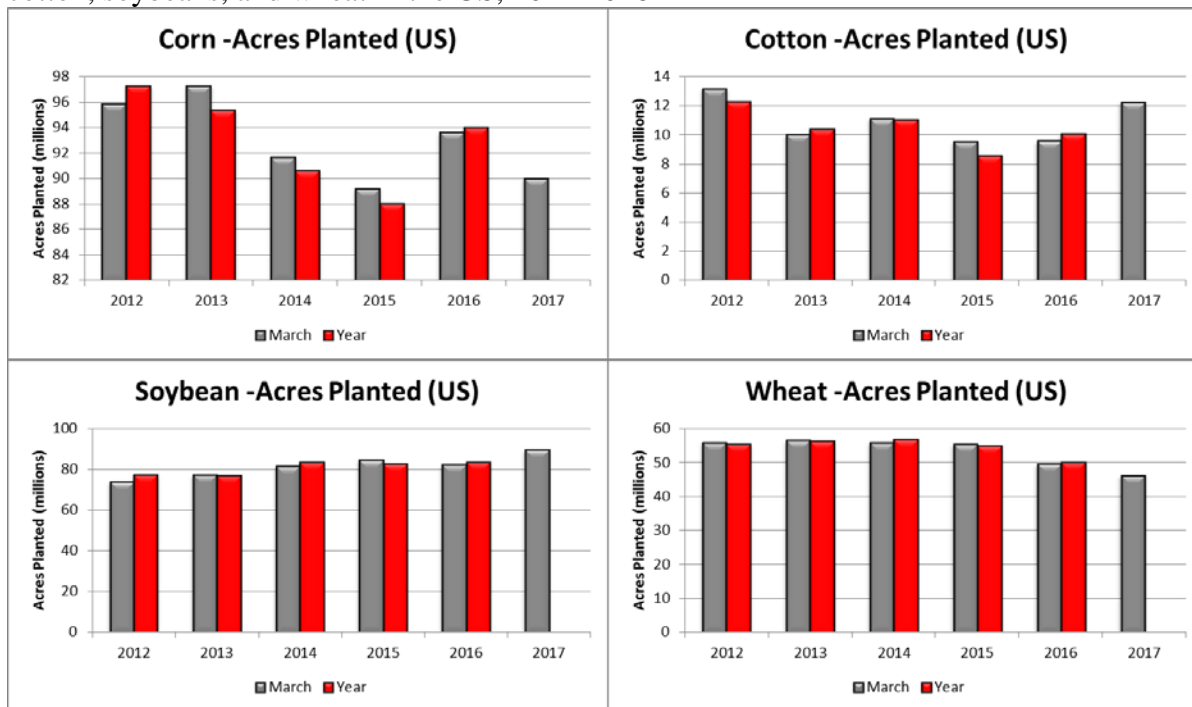
Table 1. Estimated planted acres (millions) in the U.S. and Tennessee for corn, cotton, soybeans, and wheat, 2016-2017

	<u>Tennessee</u>				<u>U.S.</u>		
	2017	2016	% Change	Rank	2017	2016	%Change
Soybean	1.75	1.66	5%	16	89.48	83.43	7%
Corn	0.84	0.88	-5%	19	90.00	94.00	-4%
Wheat	0.39	0.40	-3%	22	46.06	50.15	-8%
Cotton	0.30	0.26	18%	8	12.23	10.07	21%
Hay	1.80	1.82	-1%	10	52.81	53.46	-1%
Tobacco	0.02225	0.02020	10%	4	0.32	0.32	-1%
Total	5.10	5.03	1%	19	316.92	319.24	-1%

Data Source: USDA-NASS

Figures 1 and 2 show the March 31 planted acreage estimates and final planted acreage estimates for corn, cotton, soybeans, and wheat for the U.S. and Tennessee from 2012-2016. Table 2 depicts the annual difference between the March projection and the final estimate for each crop.

Figure 1. March 31 planted acreage projections and final planted acreage estimates for corn, cotton, soybeans, and wheat in the US, 2012-2016



Data Source: USDA-NASS

Figure 2. March 31 planted acreage projections and final planted acreage estimates for corn, cotton, soybeans, and wheat in Tennessee, 2012-2016

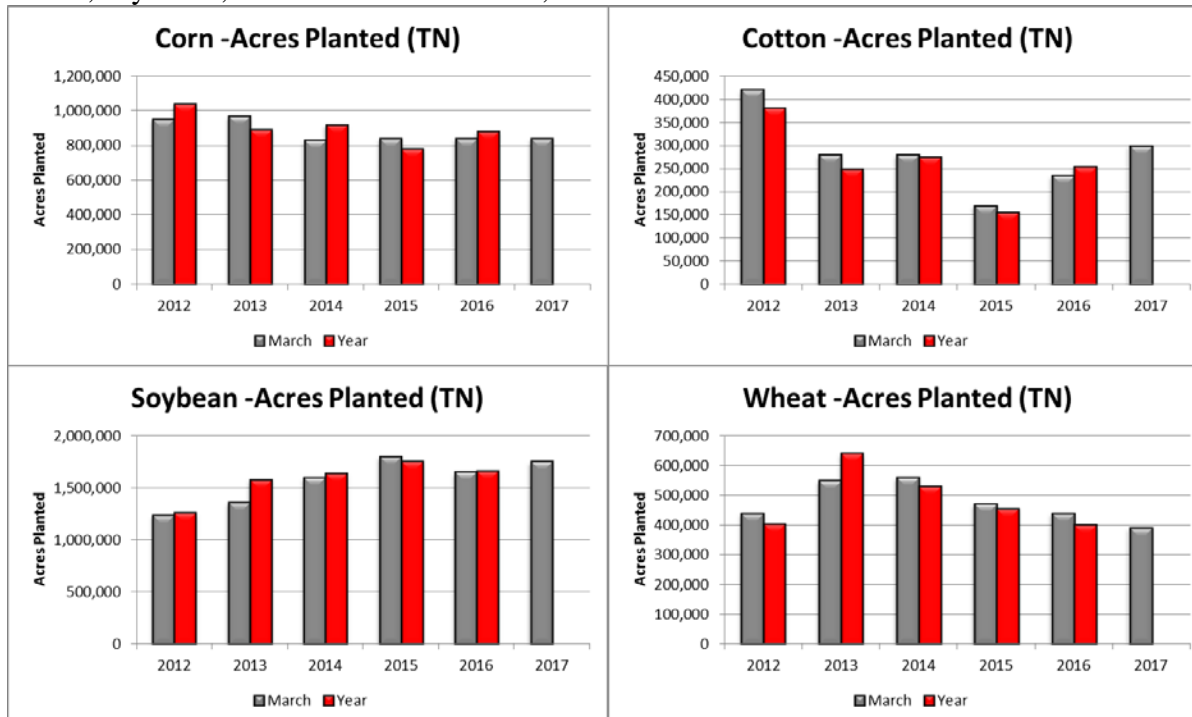


Table 2. Difference (March-final) in March projected planted acres and final acreage estimates for corn, cotton, soybeans, and wheat in the U.S. and Tennessee, 2010-2016.

	Corn	Soybean	Cotton	Wheat
Tennessee				
2012	-90,000	-20,000	40,000	35,000
2013	80,000	-220,000	30,000	-90,000
2014	-90,000	-40,000	5,000	30,000
2015	60,000	50,000	15,000	15,000
2016	-40,000	-10,000	-20,000	40,000
Avg.	-16,000	-48,000	14,000	6,000
U.S.				
2012	-1,427,000	-3,296,000	890,600	614,000
2013	1,917,000	286,000	-381,000	204,000
2014	1,094,000	-1,783,000	63,600	-1,026,000
2015	1,180,000	1,985,000	968,500	368,000
2016	-403,000	-1,197,000	-512,500	-595,000
Avg.	472,200	-801,000	205,840	-87,000

Grain Stocks Report

The other and perhaps more anticipated report released on March 31 was the quarterly Grain Stocks report. Most analysts were anticipating increased corn, soybean, and wheat stocks. Corn stocks were estimated at 8.62 billion, up 794 million bushels; soybeans stocks were estimated at 1.73 billion, up 204 million bushels; and wheat stocks were estimated at 1.66 billion, up 284 million bushels, as of March 1. Figures 3-5 show the March 1 stock estimates for corn, soybeans, and wheat from 2000-2017.

Figure 3. Corn Stocks as of March 1, 2000-2017

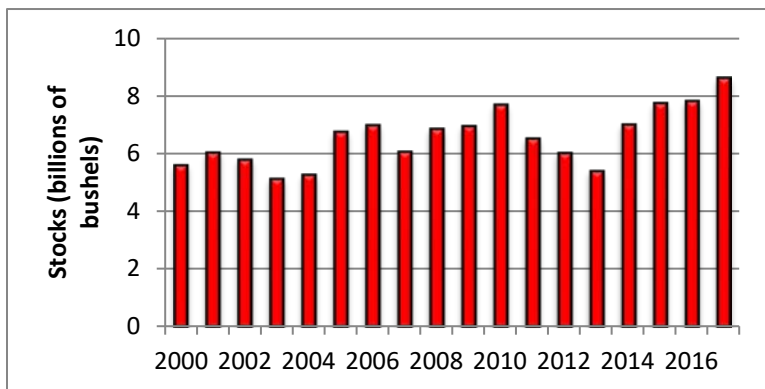


Figure 4. Soybean Stocks as of March 1, 2000-2017

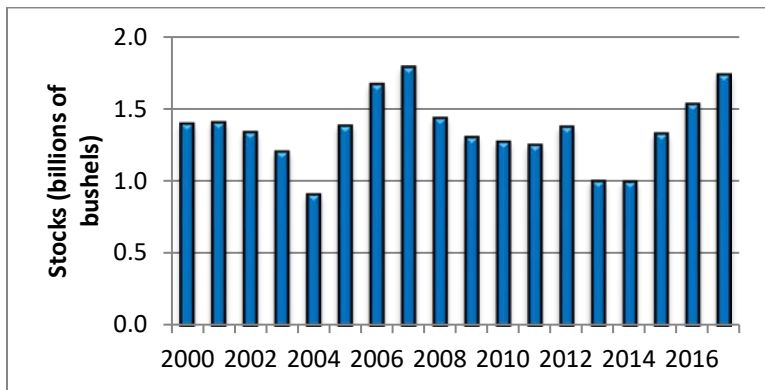
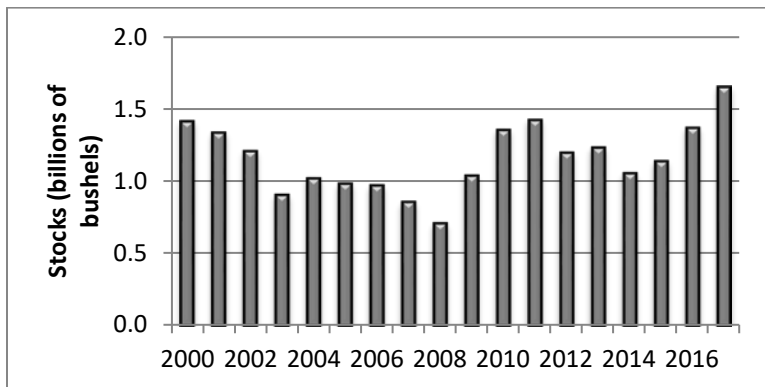


Figure 5. Wheat Stocks as of March 1, 2000-2017



Profitability Update

The profitability outlook has been updated after the release of the March 31, USDA Prospective Plantings and Quarterly Grain Stocks reports. Yields used for non-irrigated estimates are a 5 year Tennessee state average year plugging in the 2016 state average projection of 151 bushels per acre for corn, 45 bushels per acre for soybeans, 1104 pounds per acre cotton, and 73 bushels per acre wheat. Costs are based on the 2017 UT Extension Row Crop budgets with adjustments made based on current input prices. Prices used for 2017 are incorporating forward 2017 harvest prices. Milo prices are an estimate as very few quotes are available. Soybeans and Corn still are showing a profitable Net Return. Profitability has dropped since last month's report as cotton is down \$11 per acre, soybeans down \$28 per acre, and wheat-soybeans down \$24 per acre. Corn, however, is up \$4 per acre. It depends on a producer's situation on what is showing to be the most profitable crop. Producers with cash rent or owned ground will want to look at Returns over Variable Expenses as their land cost will be fixed and if their machinery cost are truly fixed and no equipment changes will be made. Producers with share rent will want to plug in their appropriate share rent if their equipment cost are fixed. Producers who may be making some equipment changes may want to look at Net Returns. This may be an opportunity to review marketing plans and decide whether to lock in a percentage of forward harvest prices. Visit with your supplier on input cost expectations. Please contact your local County Extension office or

Area Specialist – Farm Management for assistance in developing your own budget or farm financial plan. This table below should be used as a guide as yields, prices, and expenses will vary among producers and locations. Expenses will vary among producers and production systems. I would like to point out the cotton price of 72.5 cents that is being used in the profitability outlook. The price of 72.5 cents is made up of a cash price of 67.5 cents and gin rebates (seed & hauling) of 5 cents. The cash price of 67.5 cents is composed of a loan rate of 49.49 cents and a 18 cent equity from the buyer. Note - When prices are low, cotton is redeemed out of the marketing loan program at the Adjusted World Price (AWP). This effect helps create the loan option or equity price that producers receive. Currently, this price is in 18 cent range. Basically, this is a result of the way the cotton marketing loan program works. My observations and discussions with cotton buyers would indicate that when futures move above 70-73 cents, then the prices to the producers would start to move up penny for penny. Producers should look at these returns as what could be if no adjustments are made in their operation and consider it a warning sign that adjustments will need to be made in 2017 to be sustainable. These estimates do not consider any USDA or crop insurance payments from the new farm bill. Please contact your local County Extension office or Area Specialist – Farm Management for assistance in developing your own budget or farm financial plan. This table below should be used as a guide as yields, prices, and expenses will vary among producers and locations. Expenses will vary among producers and production systems. Cotton prices include revenue for cottonseed and hauling. For reference, in variable expenses below, fertilizer expense per acre is estimated as follows: Cotton - \$ 97, Soybeans - \$38, Corn - \$121 (includes 170 units of N), Milo - \$87, and Wheat/Soybeans - \$93. Cost of production will continue to be adjusted as information becomes available. Weed control costs with resistant weeds have also been difficult to estimate. These costs will vary greatly among producers and individual fields. Production costs are estimates based on the 2017 University of Tennessee Crop Budgets with adjustments made where needed. Please visit with your farm supplier on estimated cost in your area. Producers with owned land and or cash rent can use Returns Over Variable as a guide in decision making. Producers with share rent ground should use Returns Over Variable and Land Costs as a guide with their appropriate share rent calculated. A land cost of 25% of revenue minus 25% of crop insurance cost is used in the table as a guide or method of comparison and should not be construed as the appropriate rent for a particular area. Producers who are not making major equipment changes can use UT budgets and this table as a guide in developing their own cropping decision budgets. If equipment changes are being made, then a whole farm financial plan would be better suited as a decision aid.

2017 Estimated Returns					
	Cotton	Soybeans	Corn	Milo	Wheat/Soybeans
Yield	962 lbs.	44 bu.	144 bu.	90 bu.	68 bu./32 bu.
Price (as of 3/31/17)	\$0.725 lb.	\$9.44 bu.	\$3.70 bu.	\$3.40 bu.	\$4.50 bu./\$9.44 bu.
Revenue	\$697	\$415	\$533	\$306	\$608
Variable Expenses	\$403	\$216	\$308	\$229	\$374
Returns Over Variable	\$295	\$199	\$225	\$77	\$234
Land Costs (25% of Revenue-25% crop insurance)	\$172	\$102	\$130	\$74	\$148
Returns Over Variable and Land Costs	\$122	\$97	\$95	\$3	\$85
Fixed Costs Depreciation & interest on machinery	\$130	\$62	\$56	\$62	\$99
Returns Over Specified Costs	-\$8	\$35	\$39	-\$59	-\$13
Breakeven Price at Average Yield and Specified Cost	\$0.73	\$ 8.65	\$3.43	\$4.05	\$5.05/8.73

Considering irrigation, profitability is positive for soybeans considering variable, land and fixed cost. Returns over Variable and Land Costs are positive for cotton, corn, and wheat-soybeans. Producers should look at these returns as what could be if no adjustments are made in their operation and consider that adjustments may need to be made in 2017 to be sustainable. The table below is an estimate of returns for crops under irrigation. Since irrigated yields are not as yet kept separate in Tennessee, yields below are an estimate of irrigated yields. Irrigation fixed costs and energy costs will vary greatly among producers and systems. These projections include in variable expenses energy costs for irrigation of \$28 per acre for corn, \$24 per acre for cotton, and \$18 per acre for soybeans and \$15 per acre of irrigation repairs and maintenance. Fixed costs of \$85 per acre for irrigation equipment are used. Please contact your local County Extension office or Area Specialist – Farm Management for assistance in developing your own budget or farm financial plan. This table below should be used as a guide as yields, prices, and expenses will vary among producers and locations. Expenses will vary among producers and production systems. For reference, in variable expenses below, fertilizer expense per acre is estimated as follows: Cotton - \$101, Soybeans - \$37, Corn - \$159 (includes 240 units of N), Milo - \$103, and Wheat/Soybeans - \$93. Cost of production will continue to be adjusted as information becomes

available. Hopefully, we will see costs reduced or possibly suitable generic products available. Weed control costs with resistant weeds have also been difficult to estimate. These costs will vary greatly among producers and individual fields. Production costs are estimates based on the 2017 University of Tennessee Crop Budgets with adjustments made where needed. Please visit with your farm supplier on estimated cost in your area. Producers with owned land and or cash rent can use Returns over Variable and Fixed IR Costs as a guide in decision making. Producers with share rent ground should use Returns over Variable, Fixed IR Costs and Land Costs as a guide with their appropriate share rent calculated. A land cost of 25% of revenue minus 25% of crop insurance cost minus 25% of the irrigation equipment fixed cost is used in the table as a guide or method of comparison and should not be construed as the appropriate rent for a particular area. A management cost of \$30 per acre is included in Fixed Costs – management labor, depreciation & interest on machinery. This is an additional \$15 above the dryland crop management labor. Producers who are not making major equipment changes can use UT budgets and this table as a guide in developing their own cropping decision budgets. If equipment changes are being made, then a whole farm financial plan would be better suited as a decision aid.

2017 Estimated Returns – Irrigation

	Cotton	Soybeans	Corn	Milo	Wheat/Soybeans
Yield	1100 lbs.	60 bu.	190 bu.	130 bu.	68 bu./45 bu.
Price (as of 3/31/17)	\$0.725 lb.	\$9.44 bu.	\$3.70 bu.	\$3.40 bu.	\$4.50 bu./\$9.44 bu.
Revenue	\$798	\$566	\$703	\$442	\$731
Variable Expenses(include energy cost)	\$450	\$250	\$402	\$291	\$409
Fixed Irrigation Costs per Acre	\$85	\$85	\$85	\$85	\$85
Returns Over Variable & Fixed IR Costs	\$262	\$231	\$216	\$66	\$237
Land Costs (25% of Revenue-25% crop insurance-25% fixed irrigation costs)	\$176	\$118	\$151	\$86	\$158
Returns Over Variable, IR Fixed Cost and Land Costs	\$87	\$113	\$65	-\$20	\$79
Fixed Costs- management labor, depreciation & interest on machinery	\$145	\$77	\$71	\$77	\$114
Returns Over Specified Costs	-\$59	\$36	-\$7	-\$98	-\$34
Breakeven Price at Average Yield and Specified Cost	\$0.78	\$8.85	\$3.73	\$4.15	\$5.05/\$9.58

Conclusions

The March 31, 2017, Prospective Plantings and Grain Stocks reports provided further insight into the planting intentions of farmers for 2017 and the estimated carryover of stocks into the next marketing year. Stocks for corn, soybeans, and wheat continue to build which will likely limit any dramatic price improvements, barring a major weather event. For 2017, at current prices, Tennessee row crop producers will once again face tight profit margins.