

## A Summary of the USDA's Prospective Planting and Grain Stocks Report March 29, 2018

On March 29, 2018, the USDA released the Prospective Plantings and Grain Stocks reports. The Prospective Plantings report provides projections for planted acreage for specified commodities. The projections provide an initial estimate of planted acreage (and potential production) for primary row crops. Below is a summary of the 2018 report projections and 2012-2017 March projections and final planted acreage estimates for corn, soybeans, cotton, and wheat, nationally and for Tennessee.

**Table 1.** U.S. Planted Acres – USDA March Projection and Final Estimate (millions of acres), 2012-2018

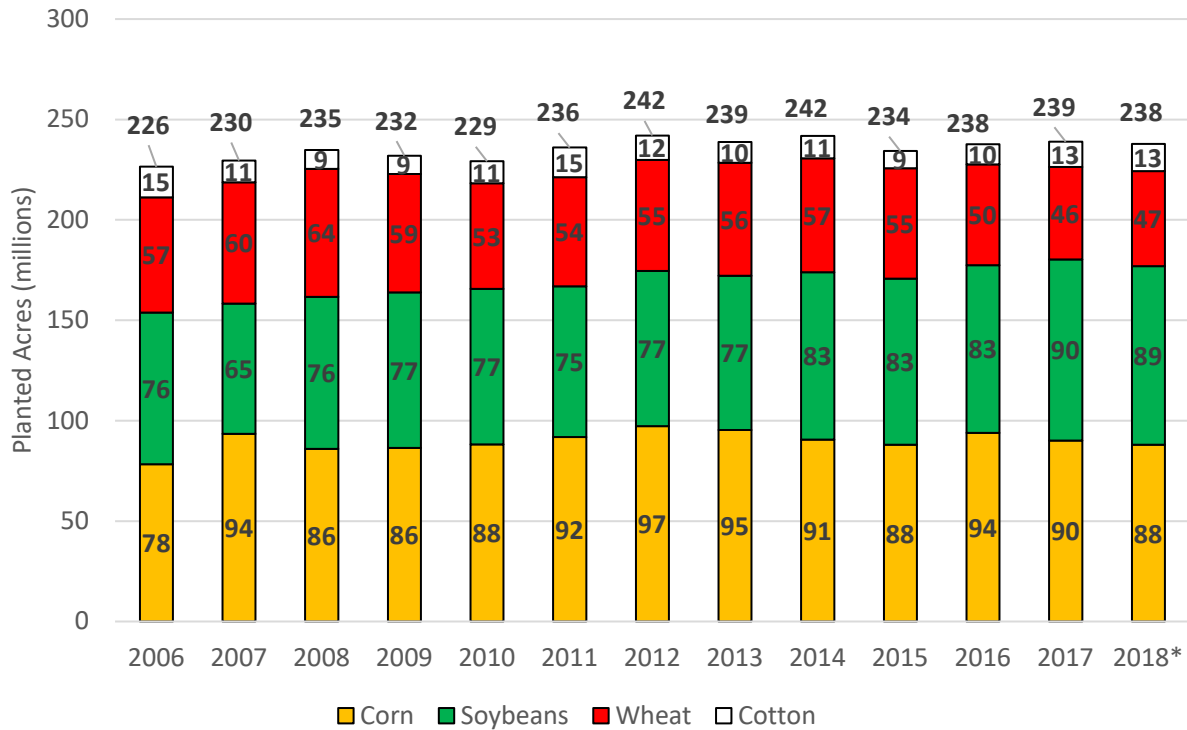
|      | <u>Corn</u> |        |           | <u>Cotton</u> |        |           |
|------|-------------|--------|-----------|---------------|--------|-----------|
|      | Mar         | Final  | Final-Mar | Mar           | Final  | Final-Mar |
| 2012 | 95.864      | 97.291 | 1.427     | 13.155        | 12.264 | (0.891)   |
| 2013 | 97.282      | 95.365 | (1.917)   | 10.026        | 10.407 | 0.381     |
| 2014 | 91.691      | 90.597 | (1.094)   | 11.101        | 11.037 | (0.064)   |
| 2015 | 89.199      | 88.019 | (1.180)   | 9.549         | 8.581  | (0.969)   |
| 2016 | 93.601      | 94.004 | 0.403     | 9.562         | 10.073 | 0.511     |
| 2017 | 89.996      | 90.167 | 0.171     | 12.233        | 12.612 | 0.379     |
| 2018 | 88.026      | -      | -         | 13.469        | -      | -         |

|      | <u>Soybeans</u> |        |           | <u>Wheat</u> |        |           |
|------|-----------------|--------|-----------|--------------|--------|-----------|
|      | Mar             | Final  | Final-Mar | Mar          | Final  | Final-Mar |
| 2012 | 73.902          | 77.198 | 3.296     | 55.908       | 55.294 | (0.614)   |
| 2013 | 77.126          | 76.840 | (0.286)   | 56.440       | 56.236 | (0.204)   |
| 2014 | 81.493          | 83.276 | 1.783     | 55.815       | 56.841 | 1.026     |
| 2015 | 84.635          | 82.650 | (1.985)   | 55.367       | 54.999 | (0.368)   |
| 2016 | 82.236          | 83.433 | 1.197     | 49.559       | 50.119 | 0.560     |
| 2017 | 89.482          | 90.142 | 0.660     | 46.059       | 46.012 | (0.047)   |
| 2018 | 88.982          | -      | -         | 47.339       | -      | -         |

Corn planted acreage was projected at 88 million acres, down 2% compared to last year; soybean planted acreage was projected at 89 million acres, down 1% compared to last year, wheat planted acreage was projected at 47.3 million acres, up 3% compared to last year; and cotton planted acreage was projected at 13.5 million acres, up 4% compared to last year. Overall, net planted acreage for the four commodities was projected down 1.115 million acres. This almost makes up all of USDA's projected decrease in principle crop area planted (16 commodities) of 1.158 million acres (317.989 in 2018 compared to 319.147 in 2017). For comparison, the decrease in principle crop acreage planted between 2016 and 2017 was 91,000 acres (319.238 to 319.147). Having projected corn and soybean acres planted simultaneously decrease was a surprise as typically acreage decreases for corn are partially offset by increases in soybeans and vice versa. It remains to be seen, but adding some additional acreage back to corn and soybeans seems probable.

**Figure 1.** U.S. Planted Acres of Corn, Soybeans, Cotton, and Wheat, 2012-2018



\* March 29, 2018 Prospective Planting Projection

**Table 2.** Tennessee Planted Acres – USDA March Projection and Final Estimate, 2012-2018

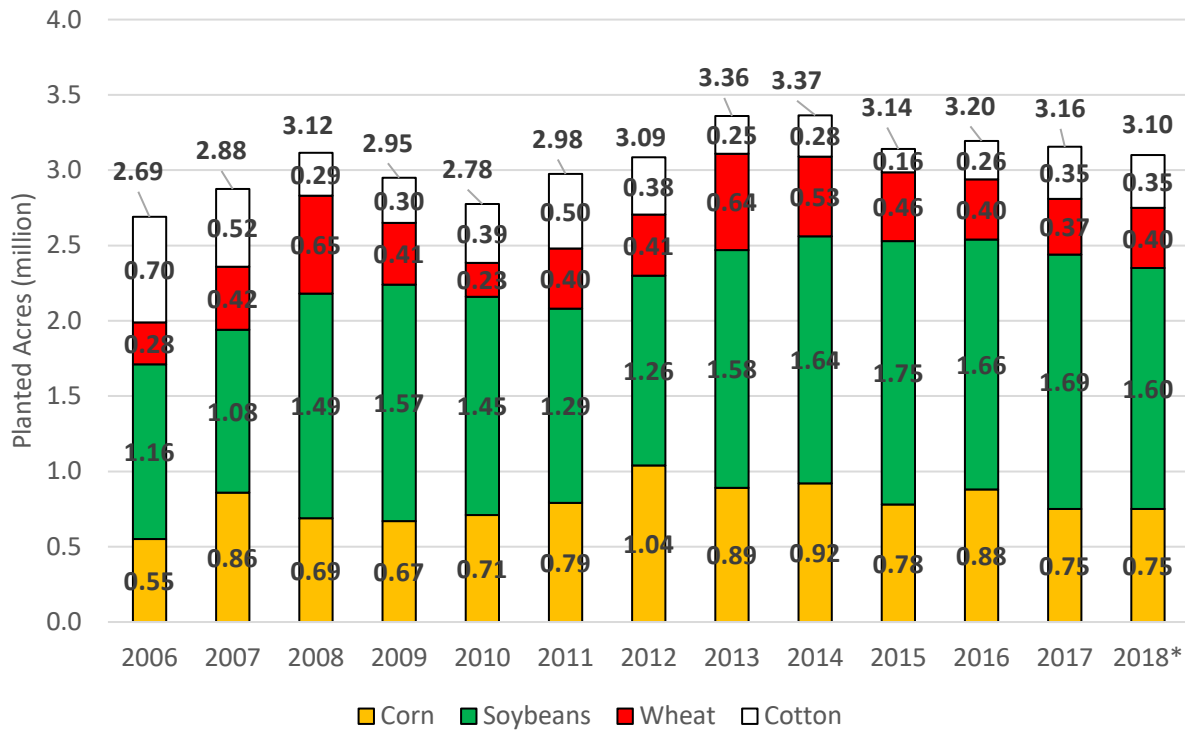
|      | <u>Corn</u> |           | <u>Cotton</u> |         |         |          |
|------|-------------|-----------|---------------|---------|---------|----------|
|      | Mar         | Final     | Mar           | Final   |         |          |
| 2012 | 950,000     | 1,040,000 | 90,000        | 420,000 | 380,000 | (40,000) |
| 2013 | 970,000     | 890,000   | (80,000)      | 280,000 | 250,000 | (30,000) |
| 2014 | 830,000     | 920,000   | 90,000        | 280,000 | 275,000 | (5,000)  |
| 2015 | 840,000     | 780,000   | (60,000)      | 170,000 | 155,000 | (15,000) |
| 2016 | 840,000     | 880,000   | 40,000        | 235,000 | 255,000 | 20,000   |
| 2017 | 840,000     | 750,000   | (90,000)      | 300,000 | 345,000 | 45,000   |
| 2018 | 750,000     | -         | -             | 350,000 | -       | -        |

|      | <u>Soybeans</u> |           | <u>Wheat</u> |         |         |          |
|------|-----------------|-----------|--------------|---------|---------|----------|
|      | Mar             | Final     | Mar          | Final   |         |          |
| 2012 | 1,240,000       | 1,260,000 | 20,000       | 440,000 | 405,000 | (35,000) |
| 2013 | 1,360,000       | 1,580,000 | 220,000      | 550,000 | 640,000 | 90,000   |
| 2014 | 1,600,000       | 1,640,000 | 40,000       | 560,000 | 530,000 | (30,000) |
| 2015 | 1,800,000       | 1,750,000 | (50,000)     | 470,000 | 455,000 | (15,000) |
| 2016 | 1,650,000       | 1,660,000 | 10,000       | 440,000 | 400,000 | (40,000) |
| 2017 | 1,750,000       | 1,690,000 | (60,000)     | 390,000 | 370,000 | (20,000) |
| 2018 | 1,600,000       | -         | -            | 400,000 | -       | -        |

In Tennessee, planted acres were projected at: corn - 750,000 acres, unchanged compared to last year; soybeans – 1.6 million, down 90,000 compared to last year; cotton – 350,000, up 5,000 compared to last year; and wheat 400,000, up 30,000 compared to last year. It was a little surprising that cotton acres weren't projected up more than 5,000, as harvest prices above 77 cents have been readily available in the futures market. However, this may highlight the concern over investing long term in harvest equipment and/or ginning capacity.

**Figure 2.** U.S. Planted Acres of Corn, Soybeans, Cotton, and Wheat, 2012-2018

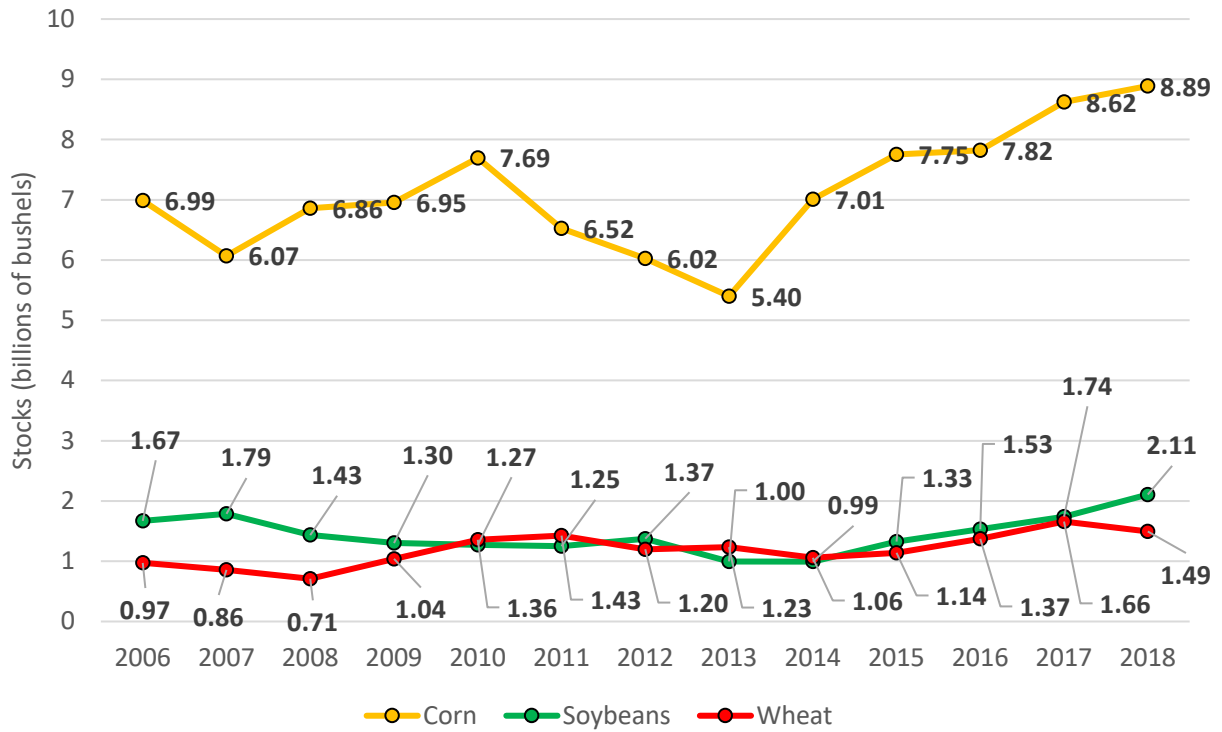


\* March 29, 2018 Prospective Planting Projection

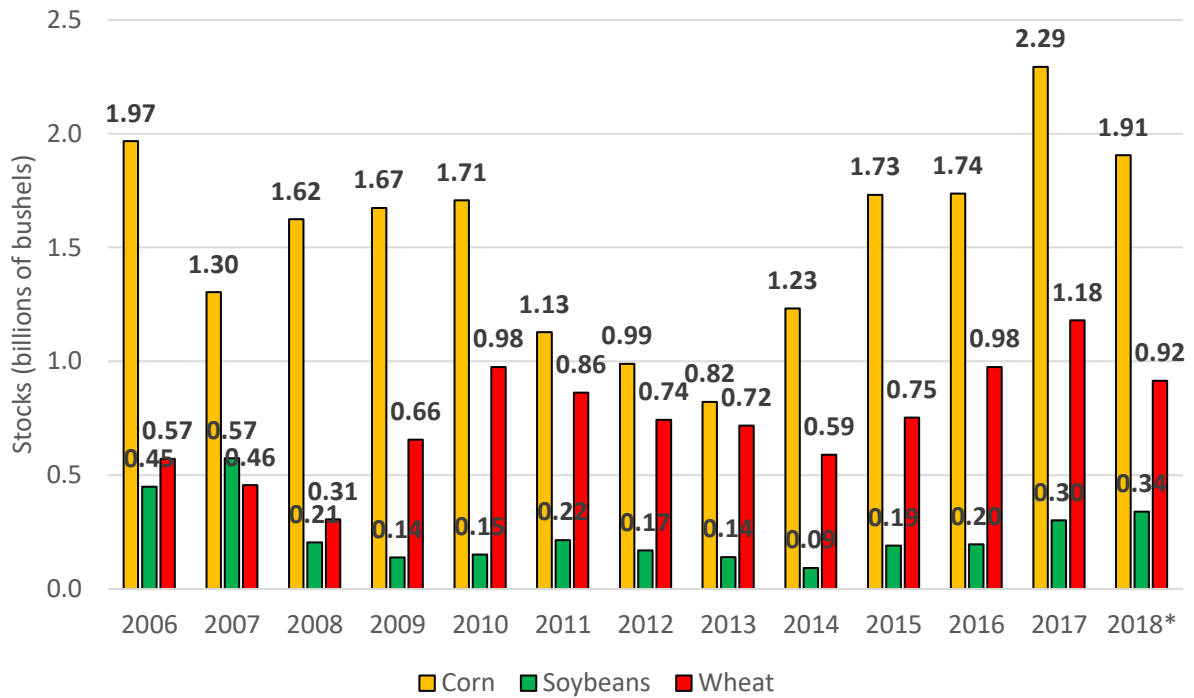
### **Grain Stocks Report**

The USDA Grain Stocks report is released quarterly (as of the 1<sup>st</sup> of March, June, September, and December). The report provides an estimate of the stocks of corn, soybeans, and wheat in the U.S. Corn stocks were 266 million bushels greater than the previous marketing year, up 3%. Soybean stocks were 368 million bushels greater than the previous year, up 21%. Wheat stocks were 164 million bushels lower compared to the previous year, down 10%.

**Figure 3. U.S. Corn, Soybean, and Wheat Stocks as of March 1<sup>st</sup>, 2006-2018**



**Figure 4. U.S. Corn, Soybean, and Wheat Marketing Year Ending Stocks, 2006-2018**



\* March 1, 2018 Grain Stocks Adjusted for Average Use to the Marketing Year End.

## 2018 Estimated Returns – Non-Irrigated

The profitability outlook has been updated after the release of the March 29, 2018 USDA Prospective Plantings and Grain Stocks reports. Yields used for non-irrigated estimates are a 5 year Tennessee state average year plugging in the 2017 state average projection of 171 bushels per acre for corn, 51 bushels per acre for soybeans, 1031 pounds per acre cotton, and 71 bushels per acre wheat. Prices used for 2018 are current forward prices for 2018 harvest. Although prices have been volatile the last 3 weeks for the grains, cash forward prices for corn and soybeans are at the same level they were on March 8. Cotton prices are also the same as three weeks ago while wheat cash forward prices have dropped 47 cents causing wheat/soybean net returns to drop \$25 per acre. Based on these yields and prices, corn and soybeans, are projected to have positive net returns over variable, land, and fixed costs. Cotton and wheat/soybeans are projected to have positive returns over variable and land costs and to be breakeven considering estimated fixed costs. Costs are based on the 2018 UT Extension Row Crop budgets with adjustments made where warranted. Milo prices are an estimate as very few quotes are available. 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. 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 76 cents that is being used in the profitability outlook. The price of 74 cents is made up of a cash price of 72 cents and gin rebates (seed & hauling) of 4 cents. Gin rebates for seed and hauling are an estimate as those are generally not known until harvest time and could be in the range of 0 -5 cents. 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 2018 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 - \$ 94, Soybeans - \$35, Corn - \$128 (includes 170 units of N), Milo - \$86, and Wheat/Soybeans - \$94. 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 2018 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.

| <b>2018 Estimated Returns – Non-Irrigated</b>       |                 |                 |                |               |                        |
|---|-----------------|-----------------|----------------|---------------|------------------------|
|   | <b>Cotton</b>   | <b>Soybeans</b> | <b>Corn</b>    | <b>Milo</b>   | <b>Wheat/Soybeans</b>  |
| Yield   | <b>982 lbs.</b> | <b>47 bu.</b>   | <b>161 bu.</b> | <b>90 bu.</b> | <b>70 bu./35 bu.</b>   |
| Price (as of 3/29/18)                               | \$0.76 lb.      | \$10.38 bu.     | \$3.93 bu.     | \$3.63 bu.    | \$4.79 bu./\$10.38 bu. |
| Revenue   | \$746           | \$488           | \$633          | \$327         | \$699                  |
| Variable Expenses                                   | \$428           | \$224           | \$347          | \$239         | \$417                  |
| Returns Over Variable                               | <b>\$318</b>    | <b>\$264</b>    | <b>\$286</b>   | <b>\$88</b>   | <b>\$282</b>           |
| Land Costs (25% of Revenue-25% crop insurance)      | \$184           | \$120           | \$155          | \$81          | \$171                  |
| Returns Over Variable and Land Costs                | <b>\$134</b>    | <b>\$144</b>    | <b>\$131</b>   | <b>\$17</b>   | <b>\$111</b>           |
| Fixed Costs<br>Depreciation & interest on machinery | \$134           | \$64            | \$57           | \$64          | \$111                  |
| Returns Over Specified Costs                        | \$0             | \$81            | \$74           | -\$56         | \$0                    |
| Breakeven Price at Average Yield and Specified Cost | \$0.76          | \$8.66          | \$3.47         | \$4.26        | \$5.26/\$9.49          |

## 2018 Estimated Returns - Irrigation

Considering irrigation, profitability is positive for corn and soybeans over variable, land and fixed cost. Returns Over Variable and Land Costs are positive for cotton, and wheat/soybeans, but not enough to cover fixed costs. An individual producer's machinery and equipment costs will have a strong influence on profitability. Since the March 8<sup>th</sup> report, wheat/soybeans net returns have dropped \$25 per acre, while corn, soybeans, and cotton have stayed the same. 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 2018 to be sustainable. The table below is an estimate of returns for crops under irrigation. Since irrigated yields are not as of yet kept separate in Tennessee, yields below are an estimate of irrigated yields. Note that due to an increase in dryland cotton and corn 5 year state average yields, irrigated yields have been increased in this projection. Irrigation fixed costs and energy costs will vary greatly among producers and systems. These projections include in variable expenses energy costs for irrigation of \$30 per acre for corn, \$26 per acre for cotton, and \$20 per acre for soybeans. Irrigation repairs and maintenance are estimated at \$16 per acre for corn, \$14 per acre for cotton and milo, and \$10 per acre for soybeans. Fixed costs of \$86 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 2018 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.

### 2018 Estimated Returns – Irrigation

|   | Cotton       | Soybeans     | Corn         | Milo        | Wheat/Soybeans         |
|---|--------------|--------------|--------------|-------------|------------------------|
| Yield   | 1200 lbs.    | 60 bu.       | 210 bu.      | 130 bu.     | 70 bu./45 bu.          |
| Price (as of 3/29/18)   | \$0.76 lb.   | \$10.38 bu.  | \$3.93 bu.   | \$3.63 bu.  | \$4.79 bu./\$10.38 bu. |
| Revenue   | \$912        | \$623        | \$825        | \$472       | \$802                  |
| Variable Expenses( include energy cost)                                   | \$477        | \$255        | \$445        | \$298       | \$447                  |
| Fixed Irrigation Costs per Acre   | <b>\$86</b>  | <b>\$86</b>  | <b>\$86</b>  | <b>\$86</b> | <b>\$86</b>            |
| Returns Over Variable & Fixed IR Costs                                    | <b>\$349</b> | <b>\$282</b> | <b>\$294</b> | <b>\$88</b> | <b>\$269</b>           |
| Land Costs (25% of Revenue-25% crop insurance-25% fixed irrigation costs) | \$204        | \$132        | \$182        | \$95        | \$175                  |
| Returns Over Variable, IR Fixed Cost and Land Costs                       | <b>\$145</b> | <b>\$150</b> | <b>\$112</b> | <b>-\$7</b> | <b>\$94</b>            |
| Fixed Costs- management labor, depreciation & interest on machinery       | \$149        | \$79         | \$72         | \$79        | \$126                  |
| Returns Over Specified Costs  | -\$4         | \$72         | \$40         | -\$86       | -\$32                  |
| Breakeven Price at Average Yield and Specified Cost                       | \$0.76       | \$9.19       | \$3.74       | \$4.29      | \$5.26/\$10.58         |